# 1. Getting Started

## Table of Contents

# 1.1 Introduction



Idea & overall design: Tom N1MM
Overall programming: Tom N1MM
Programming: John K3CT, Nick NA3M, Rick N2AMG, Steve N2IC, Terry AB5K, Andy KU7T
Documentation/Help: Larry K8UT, Pete N4ZR, Rich VE3KI, Thomas PA1M
N1MM Logger logo artist: Julio, LU5MT

Testing and proposals: Members Yahoo groups - Thanks!!!

This revised documentation is based on that for N1MM Logger Classic, which was initially released in wiki form in May of 2011, and is organized in three main sections:

**Table of contents**

## 1. Getting Started Description

Getting Started is intended to guide the new user of N1MM Logger+, or a user making the transition from N1MM Logger classic, in chronological order to the point where he/she has a correctly installed version of N1MM Logger+ with basic logging functionality.

The experienced N1MM Logger user may want to refer to ((What's_New_in_N1MM_Logger_Plus|this page)) for a complete, window-by-window, function-by-function discussion of what's new and different in N1MM Logger+



## 2. Digging Deeper Description

The Digging Deeper section will provide in-depth information for configuring and operating N1MM Logger+, beyond what is covered in Getting Started. The information in Digging Deeper is arranged by topic areas.



## 3. References Description

The purpose of the Reference section is to provide a location for information not directly related to supporting the N1MM Logger+ software - but still information that users will find useful.

# 1. PC Requirements

## 1.1. Minimum Hardware Requirements

[Click Here](#) for the section of Getting Started that describes the minimum hardware requirements.

## 1.2. Supported Operating Systems

- Windows XP SP3 - if you wish to continue to use Windows XP past the April 2014 end of Microsoft support
- Windows Vista 32/64
- Windows 7 32/64
- Windows 8 32/64

Windows 10 32/64

Linux and other Operating Systems will not be supported.

---

# 1.1.1 PC Requirements

**Table of contents**

## 1. Minimum Hardware Requirements

N1MM Logger+ incorporates the latest multi-threading technology, and will take full advantage of multi-core CPUs. It's difficult to set an absolute minimum configuration that will work under all circumstances. A single-core 1.6 GHz processor is probably the minimum required, but the CPU requirements depend quite heavily on which program options, modes, etc. are selected, so this may not be adequate depending on how you use the program. The program itself does not require a large amount of memory, but the more memory you have, the more smoothly Windows multitasking works.

The recommended minimum graphical resolution is 1024 by 768 (SVGA), or 1366 x 768 (720P) for wide-screen monitors, with many hams running higher resolutions and dual screens. At vertical resolutions of less than 768 pixels, like many netbooks, several of the larger windows will not fit entirely on the screen.

Radio control can be done through serial ports or through a USB-to-serial adapter. CW keying, FSK RTTY and PTT can be done through serial or parallel ports, through a USB-to-serial adapter, or through K1EL's Winkeyer (an excellent solution which offloads CW processing entirely). For PTT with MMTTY, an extra serial port is needed. For

AFSK, PSK31 and other modes requiring audio interfacing, the same methods described for phone interfacing can be applied.

SO2R "boxes" may be controlled through a hardware LPT port under 32-bit operating systems or 64-bit operating systems. Alternatively, the MicroHam USB SO2R Control Protocol and the K1XM Open Two Radio Support Protocol are both supported, for use with devices that accommodate them.

USB-to-**serial** converters and USB interface devices are supported through virtual serial ports provided by their associated driver software. USB-to-**LPT** converters cannot be used for either SO2R control or CW/PTT functions, except for the PIEXX SO2RXLAT ☑ (which is specifically designed for this purpose).

For more information see the Interfacing section.

## 2. Supported Operating Systems

- Windows XP SP3 - if you wish to continue to use Windows XP past the April 2014 end of Microsoft support
- Windows Vista 32/64
- Windows 7 32/64
- Windows 8 32/64

Linux and other Operating Systems will not be supported.

---

# 1.2 Downloading the Software

## 1. Download site

Download links:

- Full Install: >Files >Full Install
- Latest Update: >Files >N1MMplus Latest Updates

To download a brief video tutorial on downloading and installing the N1MM Logger Classic program (the instructions for Plus are broadly similar), click the icon below

Download video

## 2. Full Installer

Installing N1MM Logger+ for the first time requires that you download two files - the Full Installer and the Latest Update. Except during beta testing, he Full Installer file will change infrequently, whereas the Latest Update file changes often, sometimes more than once per week (daily during beta testing).

Locate the Full Installer file on the download site under the menu selection >Files >Full Install. Save the file, named **N1MM Logger+ FullInstaller [version number].exe**, to your download directory or the desktop of your PC.

✕

 **You only need to do one Full Install!**

During beta testing, new Full Installers will be posted frequently. If the first part of the version number (initally 0.18) is the same on the latest Full Installer as it is on your already-installed copy of the program, you do NOT need to run the new Full Installer. To update the program, just download and install the latest Update.

## 3. Latest Update

Locate the Latest Update file on the download site under the menu selection >Files >Latest Update. Save the file to the same location where you saved the Full Install file. (Exception: if the version number on the Full Install file is the same as the version number on the Latest Update, there is no need to install the Latest Update over the Full Install.)

✕

 **You only need one Latest Update file!**

Each Latest Update file includes the improvements and fixes from all of the preceding files. It is only necessary to download and install one Latest Update file — usually the most recent — to create a completely up-to-date version of N1MM Logger

✕

 **Filename Convention for Latest Updates**

The syntax for naming Latest Update files is **N1MM Logger+ Update [version number].exe.** The version number is in the format x.yy.zzzz, where x is a major revision

number (initially 0, and likely to change only rarely), yy is the major version number, and zzzz is the minor version number. Changes to the major version number yy indicate that there has been a change in the system files needed to support the program. Update installers whose yy is different from the installed version's yy will not install over the existing version. Therefore any time yy changes, users will have to download a new Full Installer program with the new yy number and go through the Full Install process before updating. On the other hand, if the yy number on the current Full Installer is the same as the yy number on your already-installed copy of the program, you do *not* need to do a new Full Install; just download and run the latest update installer. The minor version number zzzz changes every time a member of the development team makes changes to the program. New update installers are not created every time this happens; therefore, there may be gaps in the zzzz numbers. This is not a problem; unless there is a specific reason to revert to an older version, just install the latest update (the one with the highest zzzz number).

---

# 1.3 Installing and Upgrading N1MM Logger

## 1. First-Time Installation Instructions

**Please Note** - These instructions apply both for first-time users and for experienced users of N1MM Logger Classic starting out with N1MM Logger+. Note that you can leave N1MM Logger Classic on your PC, and even continue to run it **alternatively** with N1MM Logger+. **Just don't try to run the two simultaneously.**

### 1.1. Installing

N1MM Logger+ has adopted the Windows convention for file locations, so you should be able to install **program files** in the default locations provided by the Installer:

**C:\Program Files** for 32-bit systems, and **C:\Program Files (X86)** for 64-bit systems. Program files will be installed in one or the other as appropriate, and all user data files will be installed elsewhere. By default the user files location will be in your **My Documents** folder, in a sub-folder titled **N1MM Logger+**. **We strongly recommend accepting the default locations, and installing for a single Windows logon. If you have to have more than one, your options are** here.

Here are the contents of the user data/user files folder:

📁 CallHistoryFiles
📁 Databases
📁 ExportFiles
📁 FunctionKeyMessages
📁 GoalFiles
📁 QsoRecording
📁 SkinsAndLayouts
📁 SupportFiles
📁 SystemFiles
📁 UserDefinedContests
📁 Wav
📄 lastinit_donotedit.txt
⚙️ N1MM Logger.ini
⚙️ N1MMGrayLine.ini
⚙️ realtimescorereport.ini
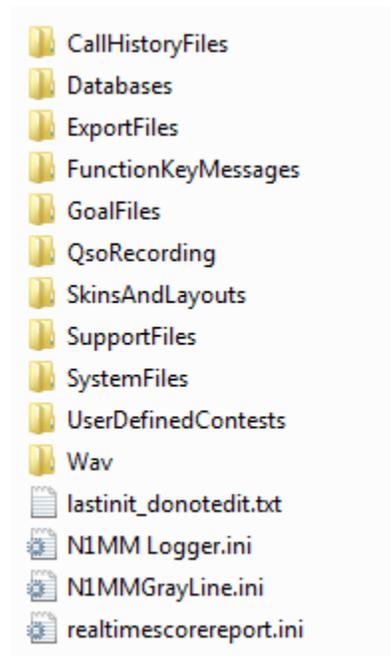
This folder is important, because the program looks in these sub-folders for support files that it needs - things like your stored message files, call history files, and so on. When created or modified by N1MM Logger+, files are placed in their correct folders, but if you want to move files from your N1MM Classic installation, you need to move them to the appropriate Document folder. Any .wav files used for SSB contests should be stored in the Wav folder; if you use the {OPERATOR} macro for wave files in individual operators' voices, those wave files should be stored under sub-folders within the Wav folder titled with the operator's callsign.

**Be sure not to delete the four files below the folders.**

**During a Full Install, the installer downloads so-called "prerequisite" files from the Internet. For this reason, please be sure you are connected to the Internet when doing a Full Install. Also, make sure that other programs that might be using system components that are part of the install (such as digital mode programs) are not running when you do the Full Install.**

×

**Avoiding Security Problems During Installation**

N1MM Logger+ uses a number of .dll and .ocx files - for example, inpout32.dll is used as its interface to LPT ports, and n1mmv5wav.ocx powers the audio recording and playback functions. Various security provisions in Windows, as well as various after-market security software, can prevent the installation or registration of these files. A few simple steps can work around these problems. First, download the Full Installer and Latest Update installers to a regular (non-temporary) directory on your hard drive. Then when you run the Full Install, right-click on the filename and select "Run as Administrator". This may be necessary even if your User account has Administrator privileges.

Once you run the Full and Latest Update installers as an Administrator, the needed .dll and .ocx files should all be properly registered. If you are using the parallel (LPT) port for CW, PTT or antenna selection, you will also need to run the program itself for the first time by right-clicking and selecting "Run as Administrator", so that some internal file-shuffling can take place. This should not be necessary thereafter - just run as usual from a desktop icon or shortcut.

## 1.2. Windows Settings that may affect program operation

There are some default settings in Windows that can affect the way the program operates. To avoid problems, it is suggested that you change these settings. Note that these changes are in Windows, not in N1MM Logger+.

The first has to do with USB hubs (ports). The Windows default behavior for USB hubs is to shut them down to save power after a period of inactivity. Unfortunately, the only activity Windows appears to be aware of is keyboard or mouse activity. A USB port that is being used for something else, such as a USB-to-serial adapter, looks to Windows as if it is inactive, and Windows shuts that USB hub down after a few minutes. This will cause the port to stop working, and if you go into the Configurer to make changes, the program will be unable to open the port when you exit the Configurer.

The solution to this comes in two steps, but first, **be sure that the USB device you're having trouble with is connected to its port.** Now open Device Manager, expand the section on Universal Serial Bus controllers, and then open each entry labelled either "Generic USB Hub" or "USB Root Hub", open its Properties dialog, select the Power Management tab, and uncheck the check box called "Allow the computer to turn off this device to save power".

The second involves Power Options on the Control Panel. You will not necessarily find all of these settings on every system, but every system running N1MM Logger+ or any other logging software should be set to minimize Windows "power saving".

Open the Control Panel and select Power Options. One of the "Plans" will be "High Performance" - select it. Then click "Change plan settings" and set "put the computer to sleep" to "never". If found, also select "Change advanced power settings" and set "Sleep | "Hibernate after" to "Never" and "Allow hybrid sleep" to "Off". In "USB Settings" set "USB selective suspend setting" to "Disabled" and under "PCI Express" set "Link

State Power Management" to "Off". Also set "Wireless adapter Settings" to "Maximum Performance".

These settings should prevent the computer from going to sleep, shutting down USB ports and disabling the network interface when it is plugged in - when you want to keep background tasks running.

Here is another tip that has nothing to do with power management, and does not actually affect program operation, but may have an impact on your ability to find some of the N1MM Logger+ files. In Windows Explorer, under the Tools option, select Folder Options. Click on the View tab, and look down the list for a check box called "Hide extensions for known file types". The default for this option is checked, requiring you to identify file types by their icons alone. If you leave it at the default, you may have trouble finding files referred to either in the documentation or by people giving help instructions on the user group. If there are files with similar file names except for different extensions, you may have trouble telling which is which. Unchecking this option will make the full file names visible in Windows Explorer.

Regarding Windows time settings, you do not have to set your computer to UTC in order to get UTC times in your log, though you can of course do so. If you set your computer to your correct time zone including the correct DST setting, set the computer's time to match your local time, Windows and N1MM Logger+ between them will take care of the rest.

You can even operate straight through the daylight savings time switch in March or November (e.g. during Sweepstakes CW) and while you will see your computer's time display change by an hour at 2 am if you look closely, N1MM Logger+ will not skip a beat; it will log all of your contacts with the correct UTC time.

## 1.3. Beginning the Installation

These instructions are specifically for the first installation on a computer. See the section below on Installing the Latest Update for instructions on subsequent updates.

Download the Full Install from the Files area on the n1mmplus website here.

The full installer will be a file with a name in the form N1MM Logger+ FullInstaller x.yy.zzzz.exe . First, if you are running other programs that use the same system components (including digital-mode programs like 2Tone and WinWarbler), shut those programs down. Now run the full installer program. Windows will give you the standard installation prompt asking whether you want to allow the program to make changes - answer "Yes". You should then see the following welcome dialog:
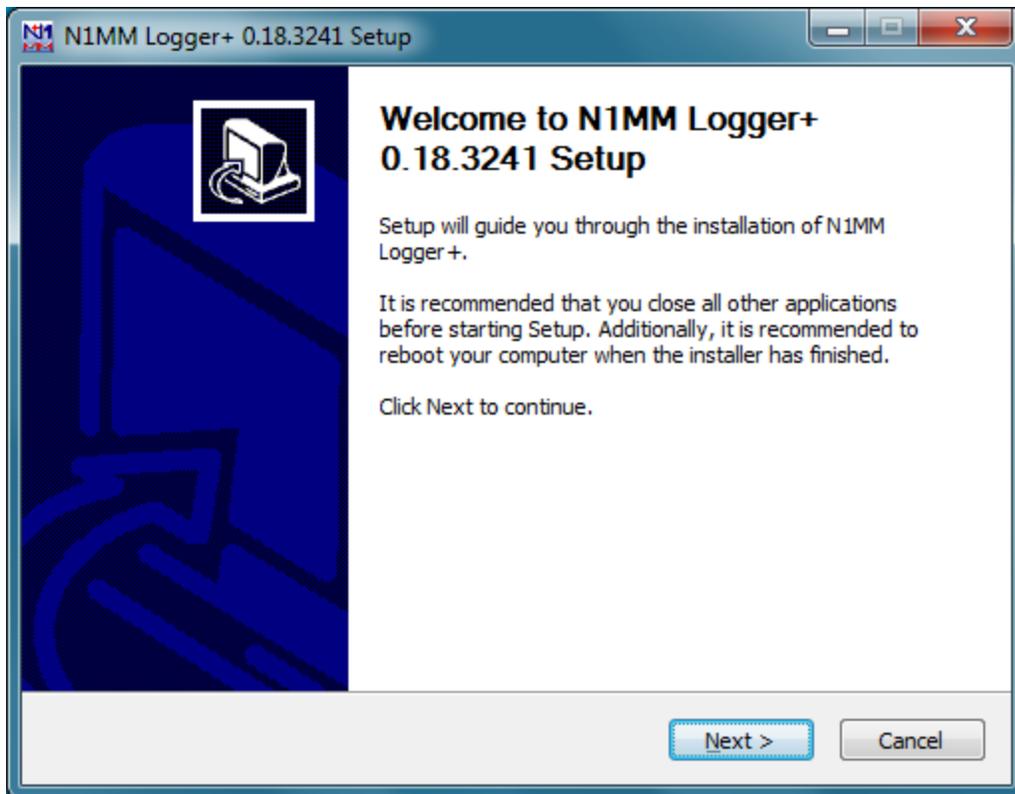
Click on Next. You will be asked to agree to a straightforward freeware license:
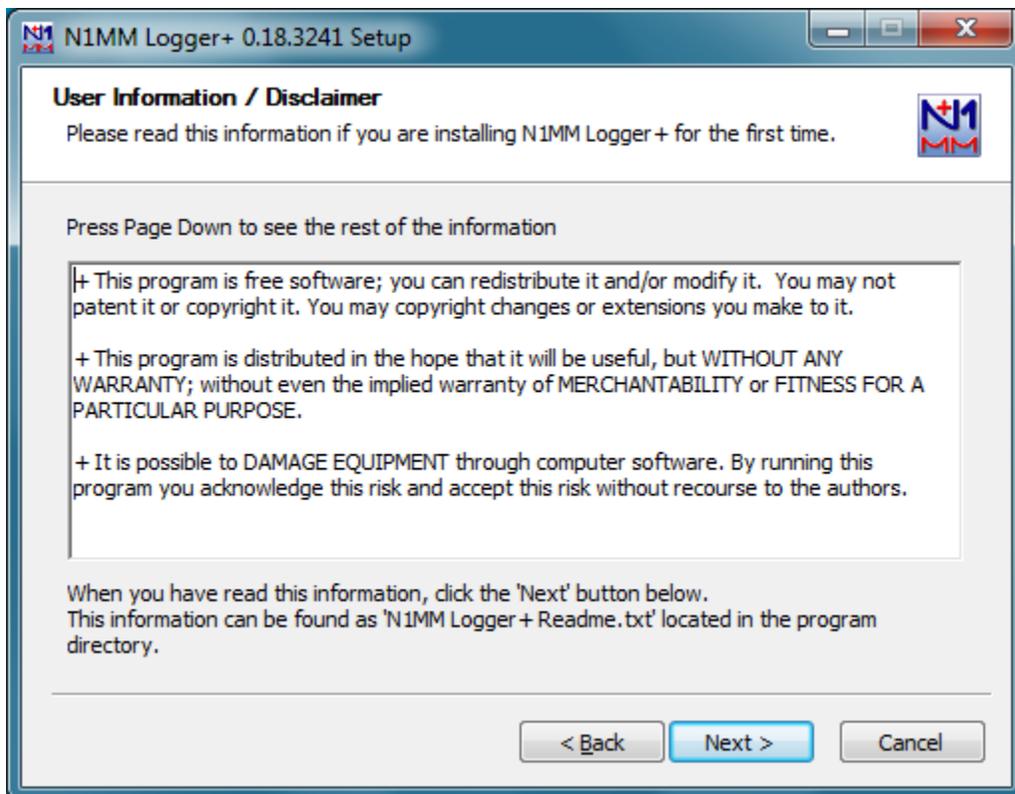
Click on Next. You will be given a choice of files to install. At the time of initial release, there is only one option, but at some future date other optional components may be added, and this dialog will be where you choose the options to be installed:
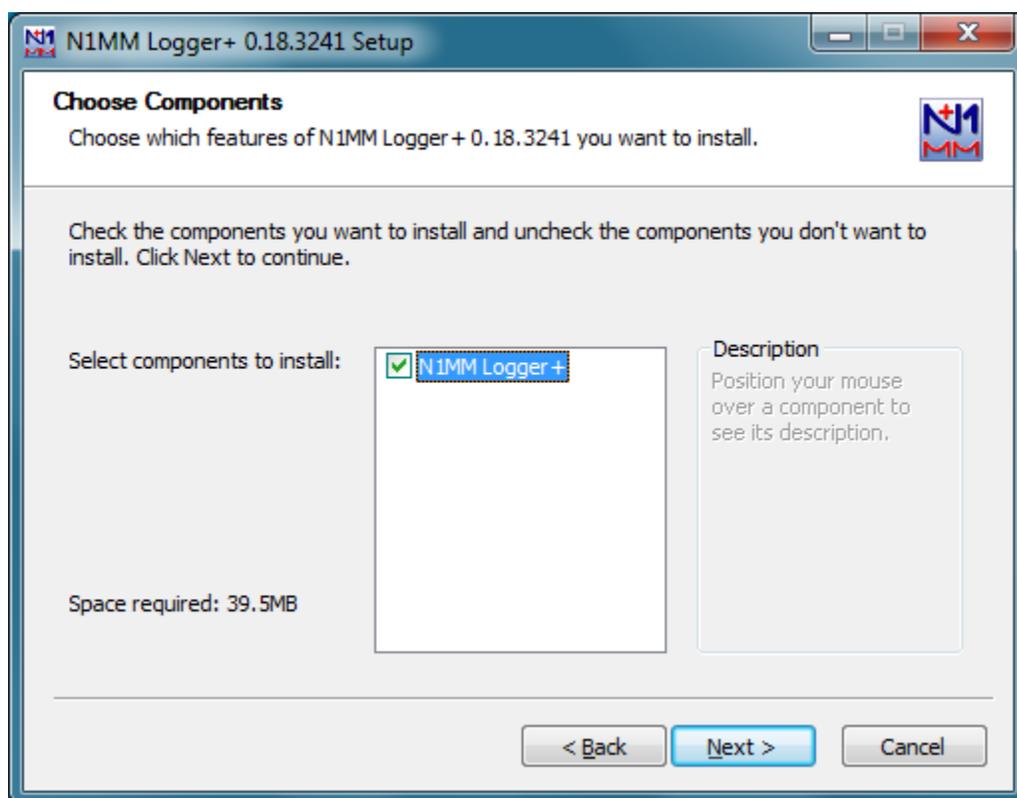


N1MM Logger+ requires two separate installation locations. One is for the program itself, plus support files that are never changed except by the update installer. The other location is for all files that may be written to either by the program during operation or by the user, to store user-defined preferences and support information; these include the databases, ini files, error logs, function key message files, call history files, country files, super check partial files, wav files, qso recordings, user-defined contest (UDC) files, and so on and so on.

The first location, for the program itself, defaults to **C:\Program Files\N1MM Logger+** on 32-bit systems, or **C:\Program Files(x86)\N1MM Logger+** on 64-bit systems. For 99% of users, this default location is suitable and should not be changed. The dialog window in which this location is specified looks like this:
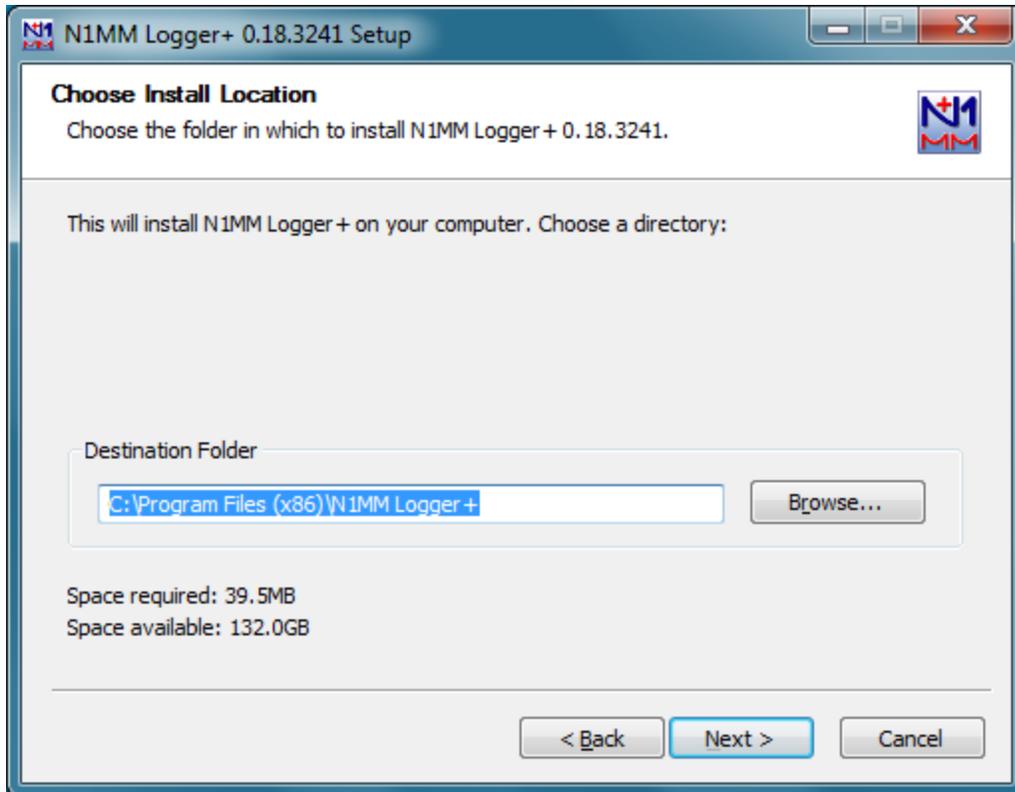
The second location, for user-modifiable or program-modifiable files, defaults to a location inside your **My Documents** folder. In Windows Vista, Windows 7 and newer systems, this is at **C:\Users\[Your Windows Username]\Documents\N1MM Logger+** (in Windows XP SP3, this would be **C:\Documents and Settings\[Your Windows Username]\Documents\N1MM Logger+**). For a typical single-user system, this default is appropriate, and even on multiple-user systems it is suggested that you accept the default for the initial install.
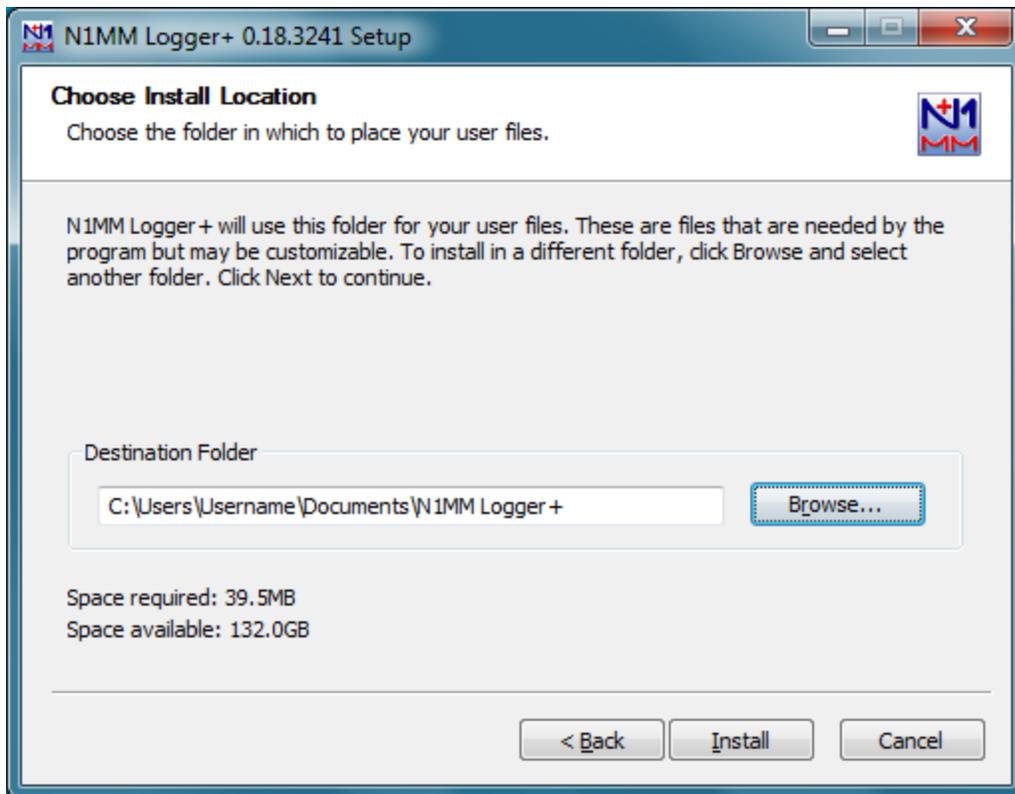
When you click Install, the Full Installer will

- Install all needed files on your computer to run N1MM Logger+
- Update your system files where needed

You will find that certain parts of the Full Installer installation routine take quite a long time. The installation program has **not** failed, so just let it run to completion. Subsequent updates are much faster. Once the installation has completed, you should see the following window:

×
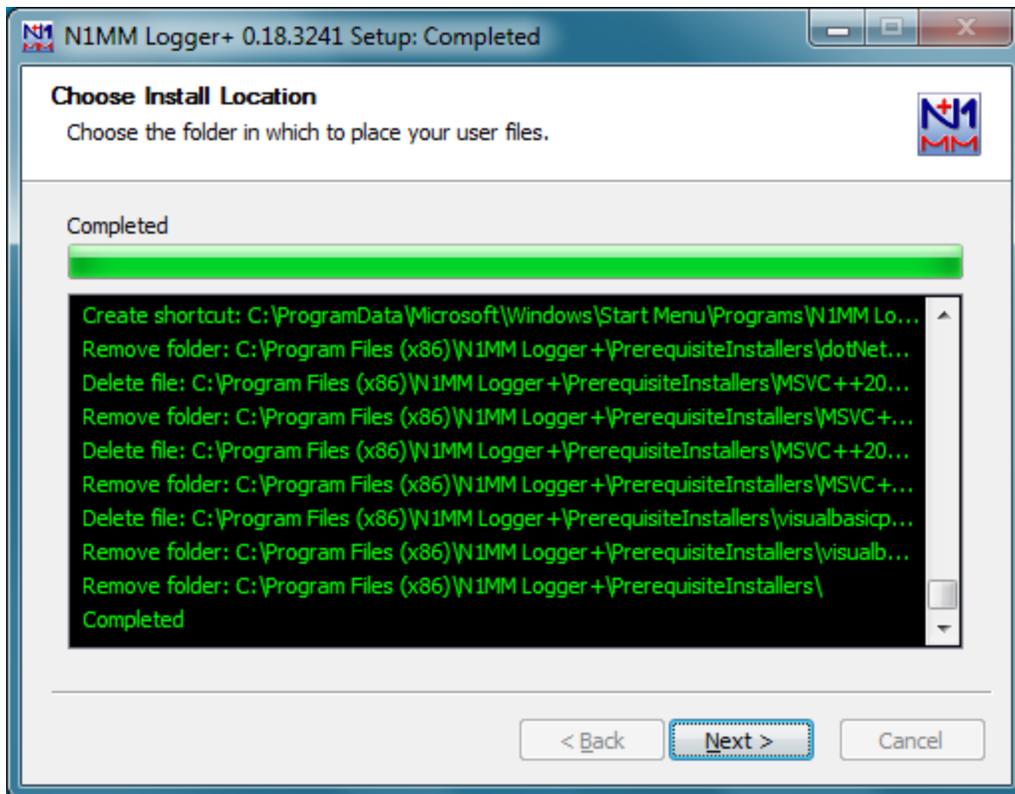
**Do Not Overwrite Newer System Files**

When running the Full Installer your computer may report that certain system files are already installed on your system and are newer than the ones you are trying to install. If it asks if you want to replace a newer, existing file with an older file in the Full Install, select 'No'. You do not want to overwrite newer system files.

After you click on the Next button, you will see the following window:
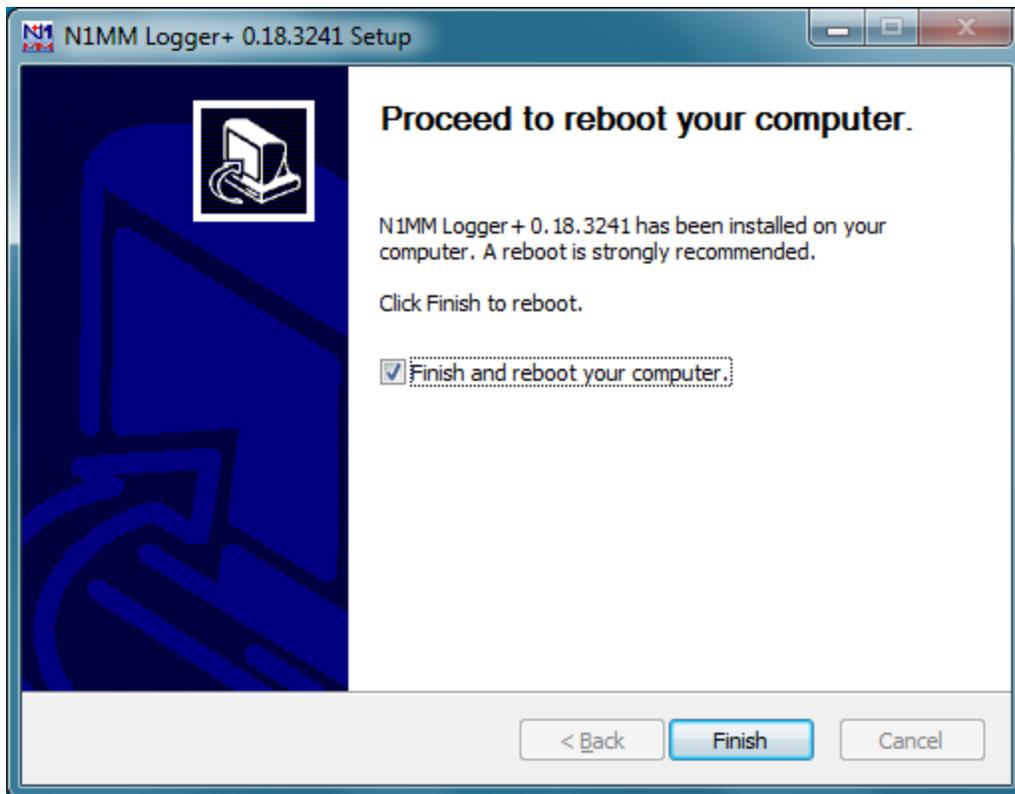
The installation process requires that the computer be rebooted in order to finalize the installation of some system files (you should be familiar with this from Windows Update and from other program installation processes). This only happens with the Full Installer, not on incremental updates. Leave the "Finish and reboot the computer" check box checked and click on Finish. You will be prompted one more time to confirm:
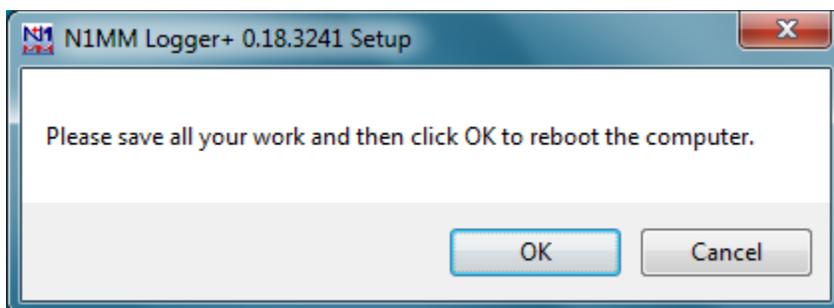


After the computer reboots, if this is the first time N1MM Logger+ has been installed on your computer, the installer will ask you to set up an initial empty database and enter your station information into that database. If the installer asks you to browse for the folder in which user files will be placed, make sure that this is the same folder that was specified as the User Files folder earlier in the installation process:
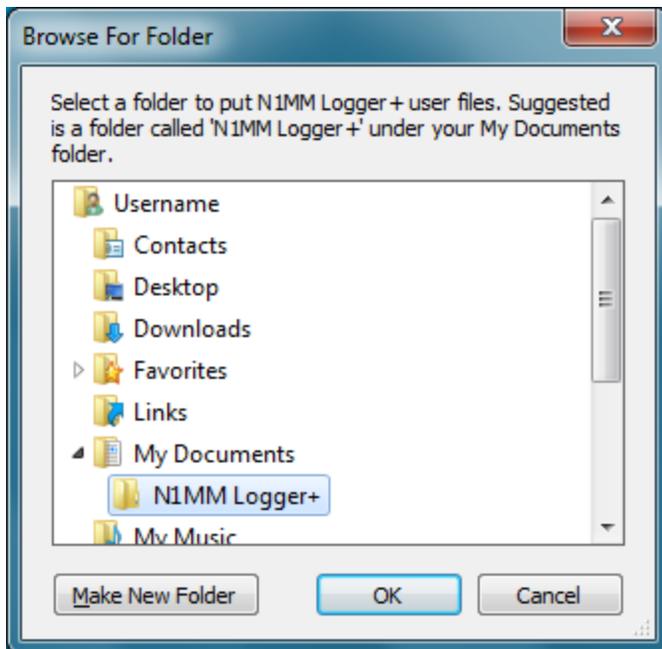
The next dialog will ask you to create a new database. You will notice that this dialog also offers the option of converting an existing N1MM Logger Classic mdb database. Because there is a possibility that an existing database may have minor problems that don't stop it from working in Classic but may cause the conversion routines to stumble, it is strongly suggested that at this point you create a new database. There is a menu option in Logger+ to convert Classic databases to Plus which you can use later, but on the initial install it is safest to ensure that you have a known-good new empty database to work from.
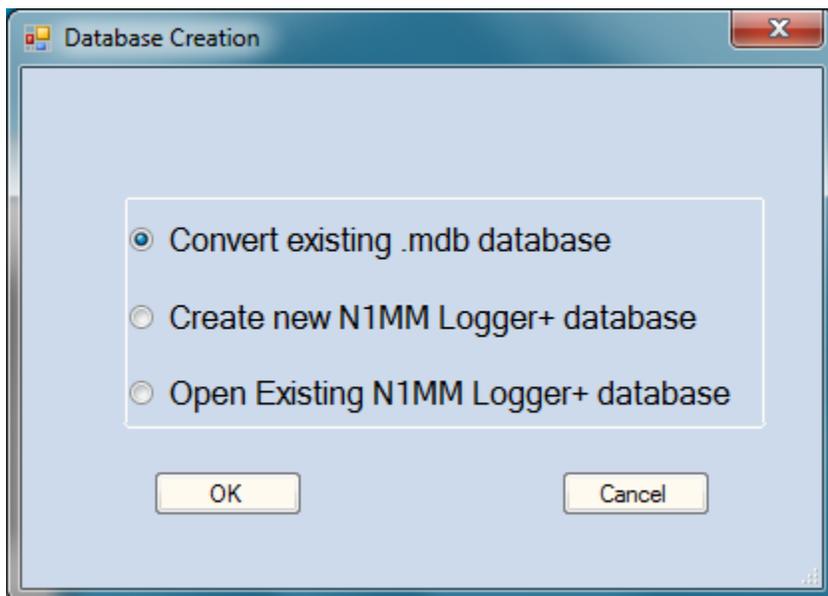


Choose the "Create new N1MM Logger+ database" option and click on OK. You will be presented with a new file dialog in which you can specify the name of the new database; the default file name is ham.s3db . You can change the "ham" to something

else, but do not change the filename extension. Do not delete any of the three files that were placed there by the Installer; the program needs these files in addition to the new database you are creating.
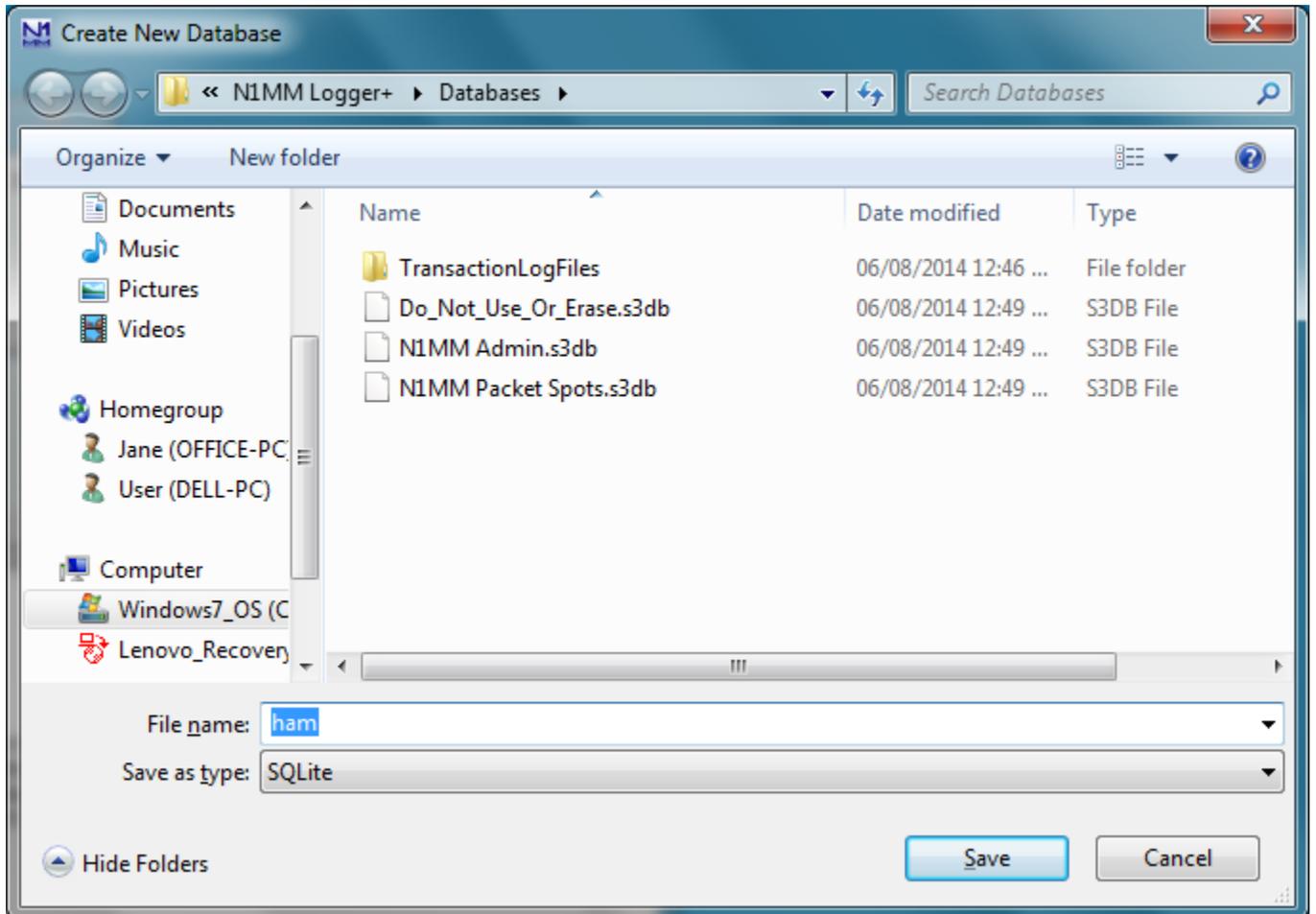


Finally, the program will present you with the Edit Station Information dialog:

Fill in the information in this dialog. At an absolute minimum, you will need to fill in the Call box and the ARRL Section box.

The Call box contains the station callsign that will be used for all contest logs in this database; this is the callsign that is output in every QSO line in exported Cabrillo files. It is also the callsign that is inserted into function key messages using the {MYCALL} and * macros.

The ARRL Section box contains the ARRL/RAC section for stations in the US, US possessions and Canada; all other stations must fill in this box with the letters DX . This box is used in many contests, not just ARRL contests, so even if you don't plan to enter any ARRL contests you should fill it in.

If you want the program to display correct beam headings to stations you work, you should also fill in the Grid Square box with the correct grid square for the location you are operating from. Doing so will automatically fill in your Latitude and Longitude; alternatively you can fill in the Lat and Long and the program will compute your Grid Square.

The name and address boxes are output in the header of Cabrillo files, so it is recommended that these be filled in as well. Note that this is your mailing address, not necessarily the address from which you operate.

The Club box denotes the club towards which your scores will be counted in club competitions in those contests that support this.

Once your station information has been entered and stored in the database, the initial installation process is complete.

### 1.3.1. Installing the Latest Update

After you have completed the initial install, you should go back to the n1mmplus web site and find the update file for the latest version you find there. The updated version installer will have a file name in the form N1MM Logger+ Update x.yy.zzzz.exe . If the version number zzzz is different from (higher than) the version number of the full (or your most recent) install, you should download this file, start it, and follow its simple steps (essentially the same as the first few steps of the full install process) to get fully up to date. The update will take a much shorter time to install than the full install did.

Note that updates are cumulative; you do not need to install all of the updates you find on the web site, just the latest one. During the initial beta testing phase, new update installers will be uploaded frequently (probably daily, at least initially). Always make sure you have the latest update installed before reporting bugs or problems.

There may also be new full installer versions uploaded frequently during beta testing. If there is a new full installer with a newer version number than the one you originally installed, but the first part of the version number (the x.yy part) is the same as before, you do NOT need to download or run this newer full installer. Just download the update with the new version number and run it. The only time you need to run a new full installer after the first time is when the first part of the version number (x.yy) changes.

✕

**A Note on N1MM Logger+ Version Numbers**

The version number for N1MM Logger+ releases contains three components x.yy.zzzz (as in 0.18.3241). The first component, x, denotes major program revisions or status changes (e.g. "production" vs. "beta") and is not expected to change often. The second component, yy, denotes a major update level. When you are doing updates, the "yy" in the update installer must agree with the "yy" in the already-installed version. If yy has been changed, you will have to go through the Full Installation process again with a new Full Installer before you can install updates with the new yy version number. The third number, zzzz, is the minor update number. This number may change as often as several times in a single day as members of the development team make changes. There will not be a new update installer created every time this number changes, so don't be surprised if the numbers on consecutive updates differ by more than 1. Changes at this level are always cumulative, i.e. you don't need to worry about intermediate updates, just download and install the latest update (highest minor update number) over the existing program, as long as the major update level is the same.

## 1.4. Using the Program the First Time

### 1.4.1. Edit Station Information

The first thing to do after starting the program is to enter your station information if you have not already done so. This dialog will open automatically with your first launch of N1MM Logger+. For subsequent changes, select Change Your Station Data from the Config menu in the Entry window.

Your Station Data dialog will be similar to this one. **Note: a "dialog" is simply a window in which you can enter information. The term is often used interchangeably with "window".**



The information in this dialog is self-explanatory, but it is very important that it be accurate. The ARRL Section is used to distinguish between in-state and out-of-state status for QSO parties, and between W/VE and DX in a number of ARRL contests. CQ and ITU zones are essential for some contests. Your full mailing address is inserted in the Cabrillo file header, and tells contest organizers where to send your certificate. In order for the program to calculate accurate beam headings, you will need to put your longitude and latitude into the appropriate textboxes; you can do this simply by entering your grid square into the grid square box.

Also make sure that you enter your call as the station call sign, as this will be the call sign that appears in every QSO line in your Cabrillo files. **Don't leave any example entries that may be in these fields at start-up.**

Many of the textboxes in this dialog are used when creating contests or during contests.

- **ARRL Section** and State textboxes are used in some contests and QSO parties to determine if you are in or outside a state or province. **Non-US/VE stations should enter "DX" here.**
- **Latitude** and **Longitude** are used to calculate the distance and bearing to another station/country (for HF contests)
- For **VHF contests** (those with VHF in the contest name) the **Grid Square** textbox (4 or 6 digit) in the Station dialog is used to determine bearings, rather than latitude and longitude.
- Contents of the Latitude and Longitude textboxes update when the Grid Square textbox is changed and vice versa.
- **Club** normally has to be spelled out completely in order for it to be accepted by contest organizers in contests with a club competition, so for example enter Yankee Clipper Contest Club rather than YCCC.

## 2. Adding Users

This seemingly innocuous title actually addresses an area in which there are fairly significant changes from N1MM Logger Classic, in particular because of the adoption of Windows user file storage standards, described above. Because user files are linked to the log-on username currently in use, User A's files - not just databases, but all the types of files stored in the My Documents folder - will not be seen when User B logs onto the computer under a different Windows user name, or by using the Windows "Switch User" command. There are a number of ways of dealing with this:

- Use one Windows logon identity for all operators, and use the OPON (Ctrl+O) function to identify the operator for any given operation. This way all of the user files will be shared, except for the .wav files used for stored phone messages, which will follow the operator's callsign. Operators can set up individual Window layouts with the Tools > Save Window Positions and Restore Window Positions functions. If desired, operators can also set up their own databases and switch manually from the File menu. This is the method that will be most familiar to users of N1MM Logger Classic.

- Use individual Windows logon identities for each operator. When the new operator runs N1MM Logger+ for the first time, it will create a new user files area for the Logger in that user's My Documents folder. During the process, it will ask the user to create a new database and enter the station data. Once this has been done, each operator is free to edit anything in their personal user files area to suit. However, the new operator will not have access to any of the databases

created by other operators under separate logons. In effect, each user will have their own independent copy of the Logger, except that all of them will always have the same version of the program.

- Use a shared document folder for user files for all logon identities. This method can be combined with the previous one. You can do this by creating a copy of the initial user file area in the first user's Documents folder in a publicly-accessible location. In Windows 7, 8 and 8.1, the logical location to do this would be C:\Users\Public\Documents\N1MMLogger+. In Windows XP, it would be C:\Documents and Settings\All Users\N1MMLogger+. Once this user file area has been created, all users on that computer will have access to it. Each user can then set up a second desktop icon for the program that uses a command-line option to allow the program to use a user file area that is different from the initial user-specific area. With a setup like this, users can choose either to use their own individual file areas or to use the shared user file area simply by choosing which desktop icon to run the program from. This is described in more detail in the Digging Deeper part of the manual.

## 3. Subsequent Installation of the Latest Update of the Software

✕

 **Update philosophy**

Many of us are used to always being "one version behind" in the software we use, in order to avoid bugs that may have been introduced in the latest version. But because N1MM Logger+ is updated frequently, the opposite is true. You are always encouraged to use the latest version — in general, bug reports and feature requests should only be made after checking to make sure the latest version does not already include the bug fix or feature that you want, and also after checking the user group to see whether the request has already been made by someone else (please refrain from "me too" posts and requests).

When it is started, the Logger checks the web site for new versions. If a new version has been released since the last time the program was run, the program will offer to download and install the newer version. It is not necessary to accept the offer, although it is recommended that you do so. This check will only be done once per new version, i.e. if you do not accept the offer to download and install a new version, you will not be informed again about that version. The next offer to update will be displayed only after an even newer version has been made available.

An e-mail will also be sent out periodically to announce new versions (updates) of the program to the Yahoo reflector members. If you wish to do an update manually, download **only** the Latest Update installer. Use the link contained in the announcement e-mail to the Yahoo group, or open this web page ⬈ and select the update you want. If you have not updated for a while, you do not need to install any of the intermediate

versions - just go right to the latest. The only exception might be updates that are marked as "Experimental" or otherwise explicitly marked as not for general use. These are very rare.

The Latest Update installer contains the latest .exes and other necessary files. Run this installer and it will quickly overwrite any old versions in the program directory.

Note that it is usually not necessary to run a new Full Installer. The only time this is necessary is when the major version number (the x.yy part of the x.yy.zzzz version number) changes. If the only change in version numbers is in the minor version number (the zzzz part), simply runnning the latest Update installer is all you need to do to upgrade to the latest version.

If you attempt to run an update installer whose major revision number is different from the previously-installed version on your computer (e.g. if the installed version number on your computer is 0.18.zzzz and the version number of the new update installer is 0.19.zzzz), you will see a message similar to the following:
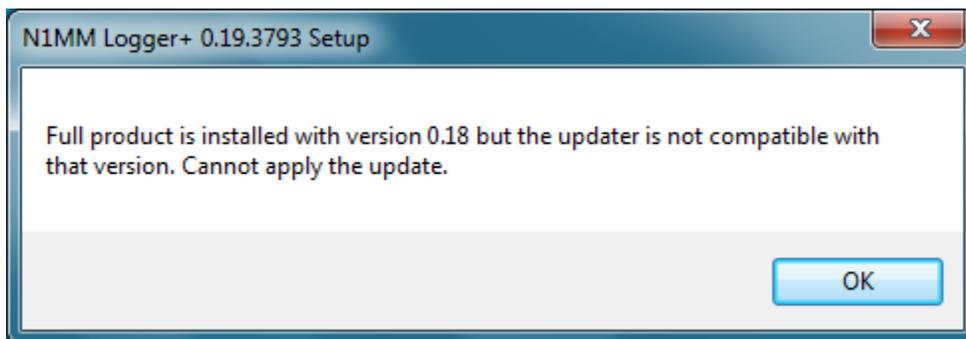


If you see this message, download the latest Full installer and install it. You do not need to uninstall the previous version; the new full installer will overwrite any old versions that need to be updated. After the full installer has run, you will be asked to restart your computer in order to complete the process of updating system files; this only happens with the full installer, not with normal updates using the latest Update installer. After the full install has completed and your computer has been restarted, you may proceed to install the latest update if its minor revision number is different from the minor revision number of the full installer you just ran.

## 4. Moving N1MM Logger+ to a New Computer

The easiest and best approach is simply to run the Full Installer and Latest Update to install the program on the new computer. Now copy your **My Documents\N1MM Logger+** folder and subfolders from the old machine to the same location on the new one. Overwrite any "starter" versions of files and folders that are already there.

We recommend deleting or renaming your old **N1MMLogger.ini** file, so that the program will create a new one. You can try it, but you will probably find that your old .ini file won't work properly, because port numbers, port addresses, sound card numbers and other hardware-related items in the .ini file will probably be different on the new

machine. It is a lot easier to make those changes in the Configurer than using Notepad and editing the old.ini file.

## 5. Moving Data from an N1MM Logger Classic Installation to N1MM Logger+

As mentioned above, N1MM Logger+ stores all user-created data, including databases, Function key message files, .wav files, Call History files, and User Defined Contest files in the N1MM Logger+ Documents folder. You will need to copy each type of file to the appropriate folder from wherever you were storing them in N1MM Logger Classic.

Since N1MM Logger+ uses an entirely different database scheme, there is an option on the File menu in the Entry window to import and convert databases for use with N1MM Logger+. Click on Convert N1MM database to N1MM Logger+, select your old database, and a converted version will be placed in the right folder, ready for use. This only applies to databases, though - configuration information that was stored in N1MM Logger.ini cannot be converted automatically. You will have to configure these items using the N1MM Logger+ Configurer. Some other supporting files, such as function key message (.mc) files, User Defined Contest (.udc) files, Call History files, etc. will work directly; you can simply copy them from our N1MM Logger Classic program folder and copy them into the appropriate subfolder in the N1MM Logger+ user files area.

×

 **Converting Old N1MM Logger Classic Databases**

There have been various changes to the N1MM Logger Classic database structure over the years. N1MM Logger Classic contained code to update its databases automatically if an older database was opened with a newer version of the code. This automatic upgrading code was not incorporated in the database conversion routines in N1MM Logger+. **The only database format supported in the conversion routines is that used in N1MM Logger Classic version 14.0.0 (and newer).** Therefore, if you wish to convert a database that was created in an older version of N1MM Logger Classic and that has never been opened by a program version 14.0.0 or newer, you need to perform the conversion in two steps: 1. Open the database in N1MM Logger Classic version 14.0.0 or newer and then close N1MM Logger Classic (this will automatically update the database structure); and 2. Use the N1MM Logger+ File menu option mentioned above to convert the updated database to the .s3db format used by N1MM Logger+.

**Another common situation - you have more than one database in Classic, and you want to save them all together in one N1MM+ database.** This detailed explanation from Rich, VE3KI:

For safety, first shut down N1MM+ and make a backup copy of your existing N1MM+ database. It's in My Documents\N1MM Logger+\Databases, with the name you gave it when you converted it. The file extension will be s3db - for example, ham.s3db or Contests2014.s3db, or whatever you called it.s3db. There will also be some other s3db files in the same folder - just leave them alone.

Start up N1MM Classic. Open the Classic database you want to convert. Do the following steps for each contest in that database: Open the contest and do an export to ADIF. **Do not try to short cut by exporting all the contests at once.** Each contest has to be exported separately so that it will have the correct Contest_ID in its ADIF file, and so it can be imported separately into its own contest instance in the N1MM+ database.

Now close Classic and open N1MM+. Create a new contest in your database for the first one you exported from Classic. The contest type must be the same as it was in Classic. Set the start date and time correctly for that contest so you can tell contests of the same type apart in the new database. Once the contest is set up correctly, do a File > Import from the ADIF file. Use Tools > Rescore Current Contest to update the score for that contest. Repeat these steps for each of the other contests you exported. All of your contests should now be in the one N1MM+ database.

## 6. Uninstalling the Program

If you are thinking of uninstalling and reinstalling the program in order to fix a problem you have encountered, you should know that this is rarely the solution. The majority of problems encountered by users are configuration problems that are not resolved by uninstalling and reinstalling. If the problem is a configuration problem, uninstalling and reinstalling in the same location will not fix it. Instead, try looking at the Troubleshooting section, where you will find suggestions for other, less drastic methods.

However ... if you really want to uninstall N1MM Logger+ entirely, including any registry entries, the best way is to navigate to the program directory and find the program cleverly titled **Uninstall.exe**. with the N1MM Logger+ icon. Run the uninstaller and follow any prompts you see. Note that this will not remove your user files area. If you want to remove all traces of the program, you will need to remove this folder as well.

---

# 1.4 Digital Installation and Setup

## 1. Need-to-Know about Setting Up for Digital Modes

In order to communicate in digital modes (RTTY, PSK, or other sound card digital modes), N1MM Logger+ can either use a computer sound card or an external device called a "terminal unit" or a multi-mode TNC. Terminal units and TNCs are relatively rare nowadays, and most digital communications now use a computer sound card.

The Logger uses the sound card for digital modes via a separate process called the "digital engine". One digital engine, MMVARI, is pre-loaded when N1MM Logger+ is first

installed. MMVARI can do RTTY, PSK31, PSK63, and a few other digital modes that are not often used in contests. The Logger also supports several other digital engines, including MMTTY, 2Tone and Fldigi, but these engines are not pre-installed; they must be downloaded and installed separately. MMTTY and 2Tone can only be used for RTTY, whereas Fldigi supports a wide range of digital modes, most of which are not used for contesting.

Configuring a digital engine is done within N1MM Logger+ in a few places, including the Configurer (**Config >Configure Mode Control, Audio, Other**) as well as in the Digital Interface window. The digital engines (MMVARI, MMTTY, 2Tone and Fldigi) also have their own configuration menus that need to be set up. If you are familiar with digital modes and are moving to the Logger from some other program, you might want to proceed directly to the setup instructions in the sub-sections below. If you are new to digital modes, you can find more information on RTTY and PSK in the **General RTTY and PSK Information page** in the Digging Deeper part of the N1MM Logger+ manual. RTTY is particularly complex for someone coming to it for the first time; there is an excellent introduction to RTTY on **AA5AU's web pages** that is recommended reading for anyone starting out in RTTY.

A few notes about hardware connections for sound card digital modes (using MMTTY, 2Tone, MMVARI or Fldigi) follow. These depend on the radio, the sound card and the interface (if any) in use, and it is impossible to cover all of the possibilities in detail, but the following general comments apply:

First, you must have some means of connecting the radio's audio output to the sound card's input. The ideal connection would be from a fixed-level ("line out") output on the radio to a "line in" input on the sound card. If your radio has one receiver, this will probably use the left channel of the sound card; with dual receivers, the second receiver may use the right channel. If your sound card does not have a line level input, you may need to use a microphone input, and in this case you may need an attenuator to reduce the line level output from the radio to the lower level needed for the microphone level input on the sound card.

To transmit, there must be some means to convey modulation from the computer to the radio. For FSK RTTY, this is an on-off keying signal, which is normally generated by a serial port connected to the radio's FSK keying input through a simple keying circuit. This serial port cannot be the same port that is used for radio control or for a Winkeyer or other serial device. If it is a standard USB-to-serial adapter, FSK from MMTTY will require the EXTFSK or EXTFSK64 plugin. If you are using MMVARI for RTTY using FSK keying, select the appropriate plugin (FSK8250 for true serial ports, EXTFSK or EXTFSK64 for USB-to-serial adapters) in the Configurer under the Digital Modes tab). Fldigi can only do FSK keying with the help of an external circuit that converts the audio signals from these programs into an on-off keying signal.

For AFSK RTTY and for all other sound card digital modes (e.g. PSK31), there must be a connection from the sound card's output ("line out", or speaker or headphone output) to the radio's audio input. If the only audio input on the radio is a microphone input, you may need attenuation to reduce the level to avoid overdriving the transmitter.

You also need some means to control TX/RX switching (PTT). The most common method is to use hardware PTT control from a serial or parallel port via a simple keying circuit. Hardware PTT can be controlled either from the digital "engine" (MMTTY, MMVARI or Fldigi), or from N1MM Logger+ itself. To use serial port PTT from the digital engine, you must use a different port from the one that is used by the Logger for radio control. If you have a serial port set up for FSK keying, you can use a control line (RTS or DTR) on this same port for PTT control from the digital engine.

If you do not have a separate serial or parallel port available for PTT in digital modes, you can control PTT directly from the Logger. For example, if your radio control interface supports PTT using RTS or DTR on the radio control serial port, you can configure the Logger to use this method. If no method of hardware PTT control is available and if your radio supports PTT via radio command, you can use software PTT control from the Logger. Warning: Using both software and hardware PTT control at the same time can cause problems; do not use both methods in parallel.

As an alternative to hardware and software PTT control, you may be able to use VOX. This does not work with all radios, it cannot be used for FSK RTTY, and setting of audio levels and VOX triggering levels can be tricky, but some users have found this to be the simplest method of PTT control, since it does not require any additional hardware connections. Some external interfaces (e.g. SignaLink) perform a VOX function external to the radio, i.e. they generate a hardware PTT signal based on the presence of an audio signal without any connection to a serial port on the computer. If you are using such an interface, or VOX within the radio, you do not configure any PTT in the Logger or in the digital engine, as PTT control in these cases is external to the software.

## 2. Setting up N1MM Logger+ for Digital Modes

First, make sure you are familiar with basic operation of N1MM Logger+ in CW and SSB. It's not a good idea to try to use the program in digital modes if you aren't familiar with at least the basic operation of the program.

Once you are ready to begin, decide which digital engine(s) you want to use - an external TU/TNC, MMTTY, 2Tone, MMVARI or Fldigi. One of these (MMVARI) is built in to the Logger, but the others all will need to be downloaded. Each digital engine used by the Logger stores its configuration information in the directory the engine is run from. For that reason, you should create a separate directory for each copy, separate from the directory you use when you run it stand-alone or from some other logging program. If you use more than one copy of a digital engine (for example, for SO2V or SO2R, or for additional RX-only windows), you need a separate directory for each copy. For more detailed information, check out the sections on **Downloading and Installing MMTTY/2Tone/Fldigi** in the Digging Deeper part of the manual

After these preliminaries, start N1MM Logger+ and open the Configurer (**Config > Configure Ports, Audio, Mode Control, Other**). Make sure the **Hardware** tab is selected (this is the tab the Configurer starts up in by default).

In what follows, it is assumed that you already have radio control, CW keying and PTT control configured and working, and what you are trying to do is add in the capability for digital modes.

In many cases, especially if you are planning to use AFSK, you will already have PTT control configured from the Logger. If the same method you use in other modes is acceptable for digital modes, you don't need to do anything special about PTT for digital modes. If you are planning to use FSK for RTTY, you will be setting up a serial port for FSK keying from within the digital engine, and you can use that same serial port for PTT control in RTTY. If you are using VOX (or an external VOX such as a SignaLink), you do not need to configure PTT control in the Configurer.

All that being said, there are two cases where you need to do something about PTT control for digital modes in the Configurer. The first is if you plan to use MMVARI as your digital engine, and you want to use a control line from a serial port for PTT control. In that case, you must designate that serial port in the Configurer, check the **Digital** check box for that port, set the appropriate control line (DTR or RTS) for PTT, and set the **DigWndNr** to 1 (or 2, for the second DI window in SO2R/SO2V). The second case occurs if you are using a single serial port interface for both CW/PTT keying in CW/SSB, and also for FSK keying in RTTY. In that case you must check both the **Digital** and **CW/Other** check boxes for that port, configure DTR and RTS for CW/SSB, and set the **DigWndNr** to 1 (2 for the second DI window in SO2R and SO2V).

Next, you need to select the **Digital Modes** tab in the Configurer. First, set the **TU Type** to Soundcard (unless you happen to be using a hardware TU/TNC). If your main digital engine is MMTTY or 2Tone, then under **DI-1 MMTTY Setup**, select AFSK or FSK as appropriate for your setup and set the MMTTY Path to point to the copy of MMTTY.exe or 2Tone.exe you will be using with the Logger. If you will be doing SO2V or SO2R, repeat for a separate copy of the digital engine under **DI-2 MMTTY** Setup. If you will be using Fldigi, there are separate places to enter the paths to Fldigi.exe. For all of these, it is recommended that you do not try typing in the path directly. Instead, click on the **Select** button, which opens a standard Windows file Open dialog window, and then navigate till you find the desired .exe file and select it.

Once the paths to the digital engines are set up, select the **Mode Control** tab in the Configurer. On the right side, beside RTTY, set the **Mode sent to radio** - this should be RTTY if you are using FSK, but if you are using AFSK, it should be either AFSK (if your radio offers a separate mode for AFSK RTTY), LSB (for most radios with MMTTY or 2Tone), or USB (for Fldigi).

This completes the basic steps in the N1MM Logger+ Configurer. For more detailed explanation of the various options available, see the **Configurer** section of the manual.

Back in the main Entry window, if you have not already done so, choose a contest type that allows digital modes (i.e. not a CW- or SSB-only contest), and set the **Mode Category** in the **Contest Setup** window to one that includes RTTY or Digital (don't choose MIXED - that's for CW+SSB only; choose MIXED+DIG instead). Type RTTY into the call sign box and press Enter. This should open the Digital Interface window. If it does not, use the Window > Digital Interface menu item to open the Digital Interface

window (in SO2R/SO2V, each Entry window has its own Digital Interface window that opens from that Entry window's menu). If your preferred digital engine does not open (e.g. if you see the MMVARI window when you wanted MMTTY), then in the Digital Interface window use the **Interface** menu item to switch to the digital engine you want to use (use the MMTTY menu setting for both MMTTY and 2Tone).

Select the **Setup > Settings** menu item in the Digital Interface window. Under Preferred RTTY Interface, select your preferred digital engine. Under Alignment Frequency, enter your preferred Mark audio frequency (e.g. 2125 Hz). If you are using MMTTY, then under **MMTTY Window Settings**, select either Normal or Control Menus, in order to have easy access to the MMTTY setup window. When you have completed the setup in the Digital Setup window, click on **Save Configuration**.

There are a host of other options in the Digital Interface and Digital Setup windows. A complete reference manual for the menu options in the DI window, the Digital Setup window and the main DI window is **here**.

You're not done yet. Now you have to complete the configuration inside the digital engine itself. This is especially important for FSK, since the configuration of the FSK port is carried out inside the digital engine, not in the N1MM Logger+ program. There are separate chapters in the Digging Deeper part of the manual for **MMTTY**, **MMVARI**, **Fldigi**, and **TNCs/TUs**. There are too many possibilities to cover here, so consult the chapter(s) appropriate to your situation and complete the setup as described there.

---

# 1.5 Interfacing Basics

# 1. Operating without an Interface - Manual Mode

There are many reasons why you could find yourself operating in manual mode. Maybe you're just getting started and have not had time to install and configure an interface? Perhaps your radio does not support PC integration, or you have a computer but it lacks the necessary I/O ports to connect a radio? Or maybe you're operating from a short-term portable location and don't have the time or equipment to connect the radio to the computer? Whatever the reason, there are special keystrokes that you need to enter in

the Entry Window to inform N1MM Loggger+ of the band and mode that you are operating.

Set your frequency by typing it into the Callsign textbox and hitting Enter. If you want the log to only indicate the band, and not specific frequency information, enter the frequency of the bottom of the band in kHz (note that some contest administrators request that manual frequency entries always be bottom of band). If you want the log to include the actual frequency, enter the complete frequency in kHz. For example 14025.1 (or 14025,1 if your computer uses comma as the decimal separator). The new frequency will appear in the title bar of the Entry window.

Enter mode changes similarly. Recognized entries are CW, RTTY, PSK and SSB, USB or LSB. If you enter SSB, the program will substitute the customary sideband (e.g., LSB on 40-160) USB and LSB can be used to enter the opposite sideband, should you ever need to. The mode to be recorded in the log is displayed in the title bar of the Entry window.

For more details about these commands, see the Entry Window Text Commands in the Digging Deeper section of this documentation.

## 2. Basic Radio Control Interfacing

Regardless of whether you want to operate phone, CW or digital modes, the most useful and important interface is the one between your computer, N1MM Logger+ and your radio. Fortunately, virtually all modern radios incorporate a serial port to enable them to swap information and commands with the computer.

A first step is to look up your transceiver in the manual section titled Supported Radios. Assuming you find your radio there, look for any specific settings or peculiarities that need to be addressed and make a note of them.

USB is rapidly replacing both RS-232 serial ports and LPT parallel ports. If your radio has a standard RS-232 serial port, once you have purchased a USB-to-serial adapter and installed the drivers for it, N1MM logger can work with your radio just fine. If your radio uses either Icom's CI-V standard or another non-RS-232 serial port, you'll need an appropriate converter cable to get from either USB or RS-232 to your radio.

Some USB adapters, particularly those using a Prolific chip-set, are erratic with some programs, particularly programs written in Visual Basic (like N1MM Logger Classic). If you encounter quirky performance or an 8020 error, that may be why. See the Error Messages section of Digging Deeper for details on this error, and USB Interface Devices for a full rundown on user experience with various specific adapters.

Radios are starting to appear now with USB ports. If yours is one of these, check the Supported Radios entry for your radio (and the radio manual) to find USB interfacing details.

See this earlier section for information on avoiding problems with USB ports going to sleep.

Once you have the hardware hooked up between your computer and your radio, start N1MM Logger+ and open the Config menu in the Entry window. Choose Configure Ports, Mode Control, Audio, Other. Ignore all the other stuff for now.

That brings up the following, rather intimidating dialog. Don't worry, we'll walk you through the part you need now.
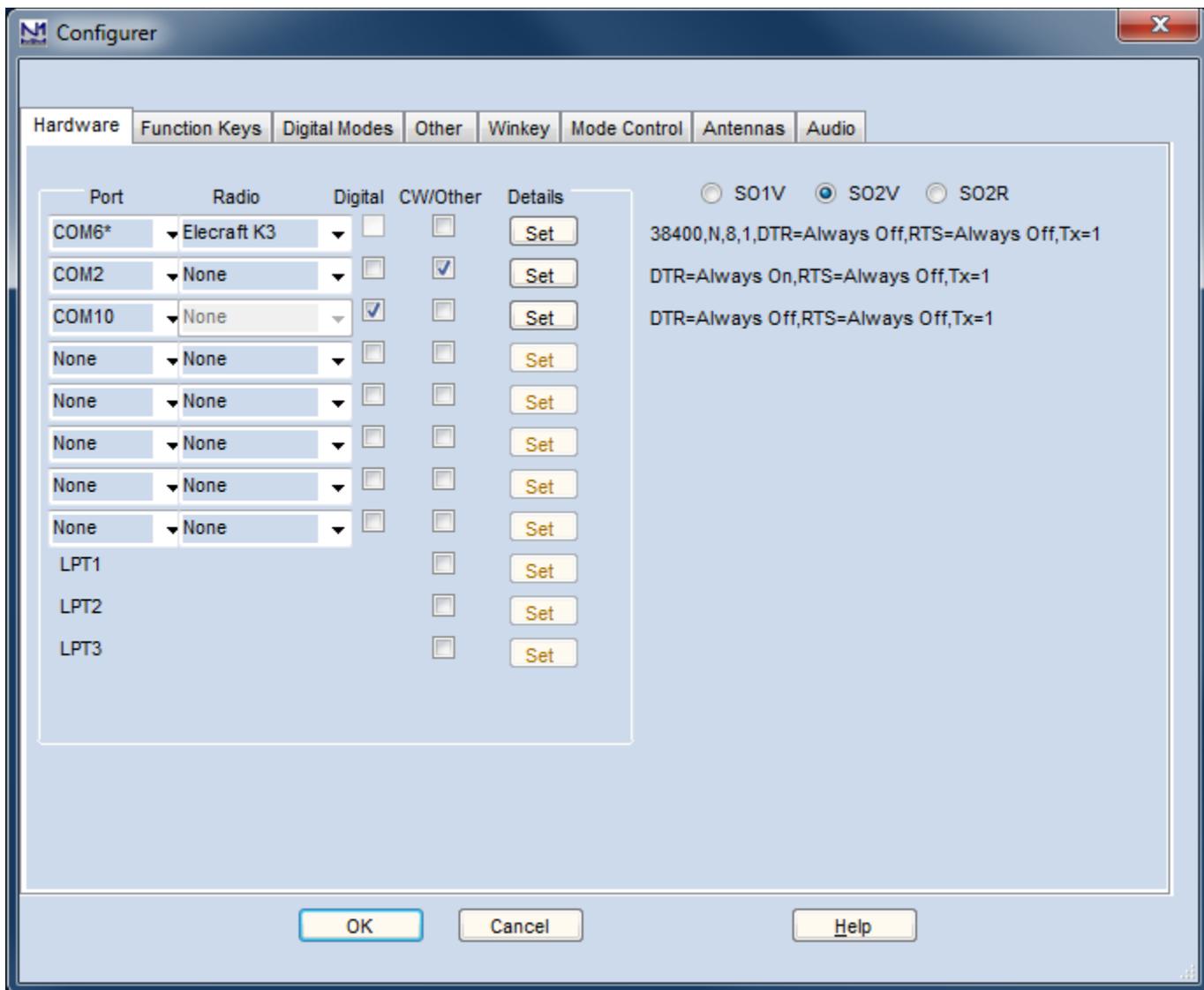


You may want to select SO1V if this is your first experience with N1MM. SO1V allows N1MM to control VFO A in your transceiver. If you are an experienced contester and understand how to operate in split mode (for example, working DX on 40 meter sideband), and especially if you have a radio with dual receivers, you may want to select SO2V. It allows N1MM to simultaneously control both VFO A and VFO B in your transceiver. If you are an advanced contester, whose station is configured with TWO transceivers (one for running contacts and the other for searching for new multipliers), then you will want to select SO2R.

One of the advances in N1MM+ is that you can use any COM port numbered 1-99. Click the drop-down arrow to the right of the Port column, and you will see all the serial ports, hardware or USB/virtual, that are active on your PC. Select the one that is connected to your radio. Now click the drop-down arrow to the right of the Radio column, and select your specific radio model. Virtually all Kenwood models use the one common radio configuration, while Yaesu and Icom radios are generally designated by the specific model number - refer to the manual under supported radios for more information. Icom radios also require a Radio Address (Hex Code) - that's in the same place.

Now click the "Set" button next to the port you have chosen.
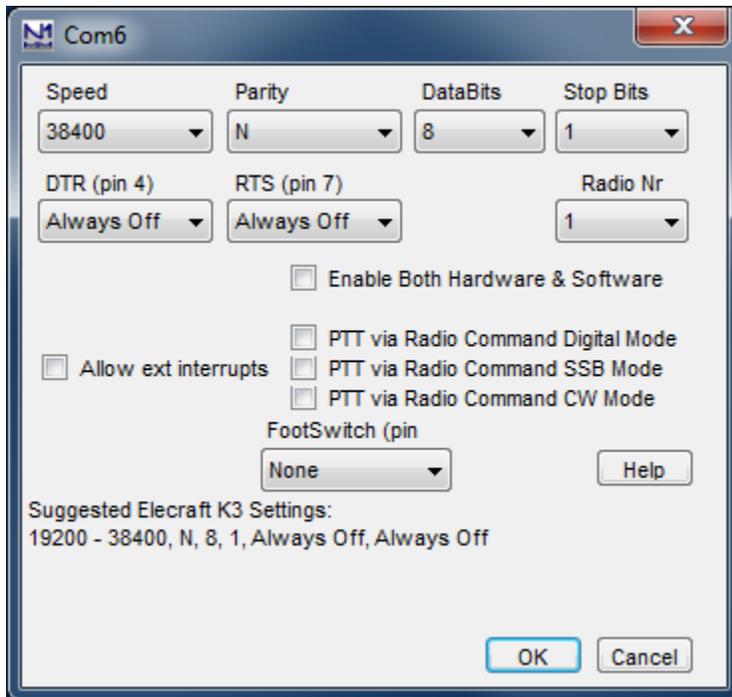


That will bring up this dialog, with connection details. Normally, N1MM Logger chooses the parameters in the first two rows for you, and does a good job. You might want to verify them with your radio manual, just in case. Radio/VFO number should be 1, so that your main VFO will be displayed in the main (first) entry window. The rest of the stuff on this dialog is not important right now, so just click OK to get back to the previous dialog, and then OK again to return to the Entry Window.

If all is well (you did turn your radio on, right?), when that big multi-tabbed dialog closes and the Entry Window reappears, the title bar of the Entry Window will display the radio's frequency and mode. It's magic. The "+0.00" simply means that RIT is turned on, but set to zero (no offset)
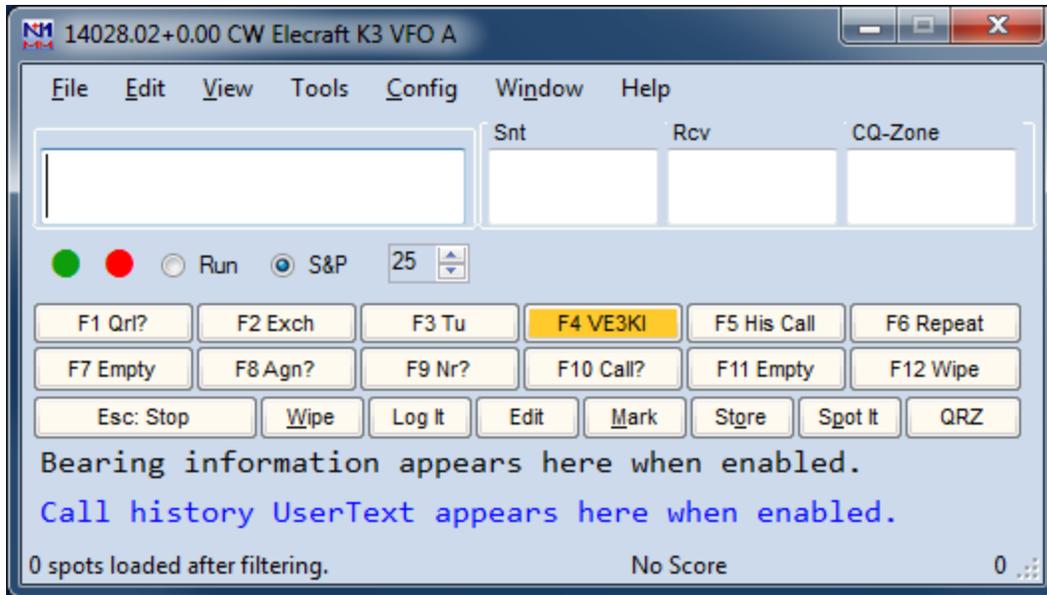
Now that you have radio control, you can do a lot of neat things, but one of the most basic is that you will never again have to worry about accidentally logging QSOs on the wrong band or mode.

# 3. Interfacing for Phone, CW and PTT

Of course, controlling your radio through a serial port isn't the only way to interface N1MM Logger+ and your radio - in fact, long before there were computer-controllable radios, the pioneering logging software authors developed several standards for CW and PTT interfacing, using either serial or LPT (printer) ports.

We'll start, though, with a discussion of phone interfacing, on the theory that this will be of most interest to new users. Once you're interfaced, you will be able to store voice messages and play them back through your radio, to save your voice during phone contests.

## 3.1. Phone Interfacing

This topic is covered in introductory form here, and in more detail in two parts of the Digging Deeper section. This rather awkward organization is necessary because N1MM Logger+ is transitioning from Classic's audio function setup, on the Audio tab of the Configurer, to a new improved option currently on the Config menu, Logger+ Audio.

The Audio tab version works with all versions of the Windows operating system from Windows XP forward. Logger+ Audio works with Windows Vista and thereafter. If you check Logger+ Audio on the Config menu, and you are running an operating system after XP, the Audio tab on the Configurer will not be visible. If you are running Windows XP, the Config menu option is disabled.

### 3.1.1. Interface Hardware

Of course, you can always use one of the many commercial audio interfaces designed primarily for digital modes. However, if you have a sound card that permits feeding microphone input through it to the line output (most do), and has a mixer that will allow you to independently set the level of the microphone, .wav playback and internally-generated audio (such as for AFSK), you really don't need an interface at all. On SSB, simply plug your microphone into the sound card mike input. Cable the sound card's Line Out to the Line In or Phone Patch input of your transceiver, and you're done.

You may encounter hum, resulting from difference in AC potential between the chassis of your computer and that of your transceiver. In that case, a 600-ohm isolation transformer in the cable between sound card and transceiver is a likely cure. Another approach is to bond the transceiver and computer chassis together with a heavy wire. Many people do both.

If you absolutely must feed the audio output of your sound card into the microphone jack of your transceiver, the level will be far too high. In that case, a simple 10:1 resistive voltage divider is the solution, placed in the audio cable before the microphone jack.

### 3.1.2. Trouble-shooting phone interfacing

The following discussion is cribbed almost verbatim from audio trouble-shooting notes by David Robbins, K1TTT. If any mistakes have crept in, blame the manual team, not him. It assumes that you're running Windows XP, using the Configurer's Audio tab, and all the screenshots below are from that version.

To begin with, make sure you close Windows Media Player, RealPlayer, Audacity, or any other sound playback/recording program you may have open. Start N1MM Logger. On the Config menu, open "Configure Ports, Mode Control, Audio, Other", also known as the Configurer.

Now select the Audio tab:
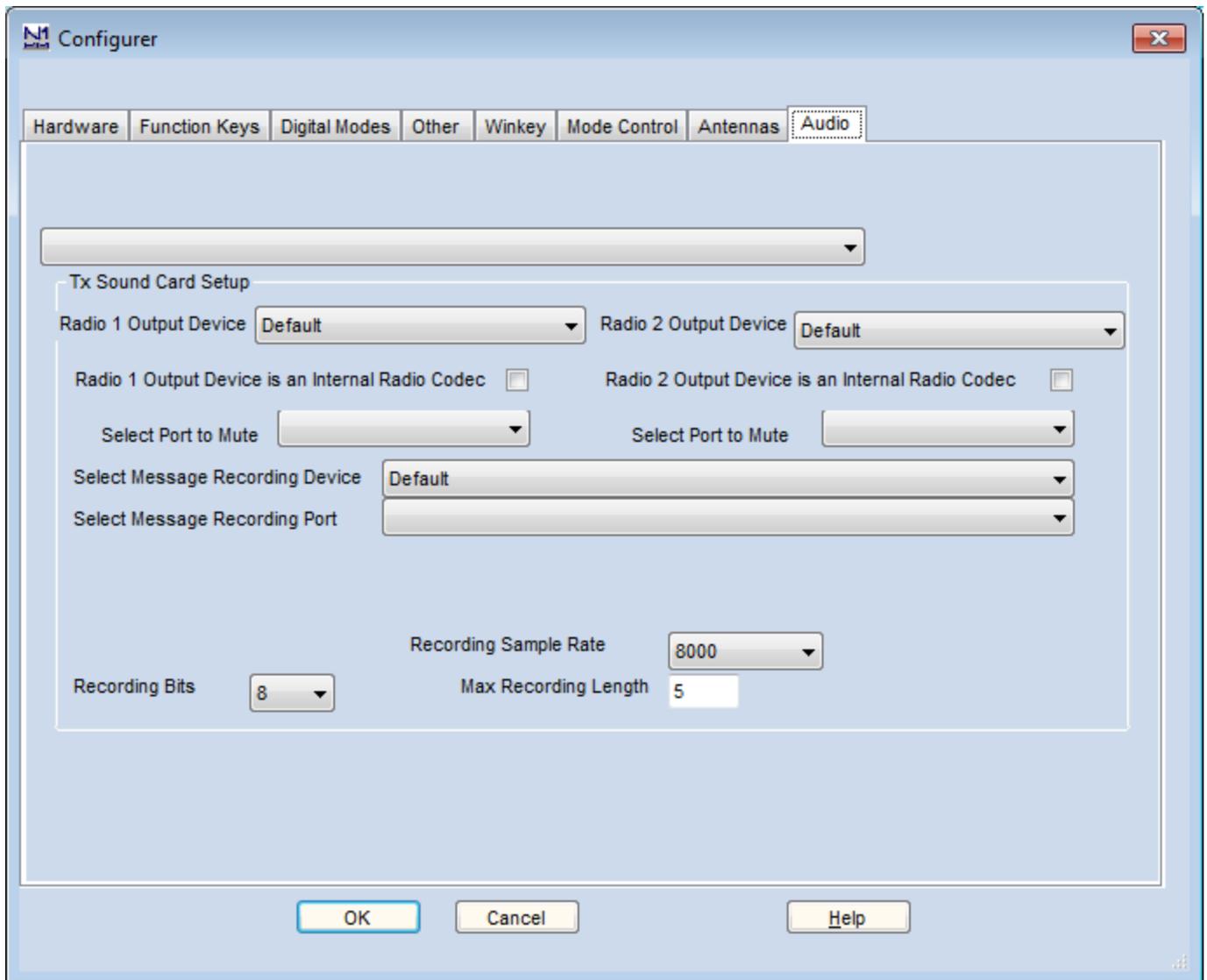
Select option 1 "Only use Radio 1 Output Device. Output on both channels."

Choosing from the drop-down list at the upper left in "Tx Sound Card Setup", make sure that the Radio 1 Output Device is correct for your sound card. Typically, the name will appear as "Speakers" with the name of the associated sound device in parentheses. You can select Default as your Output Device, if you have set it as that in Windows, but depending on your version of Windows that may prevent you from muting your microphone while stored voice messages are playing.

If you make an explicit choice of Output Device, you'll be presented with options under Select Port to Mute. Select Microphone. Then make sure that the Message Recording Device (sound card) is correct (typically the same as your Output Device), and that the Message Recording Port is set to Microphone. Make sure the Recording Sample Rate and the Recording Bits numbers are set to values supported by your sound card.

Now OK out to save these settings, and close N1MM Logger. It's time to test.

Plug your microphone directly into the microphone jack on your sound card. Plug your headset directly into its speaker output. Open the Windows Volume Control. It should come up with a set of sliders. In Windows XP, they look like this:
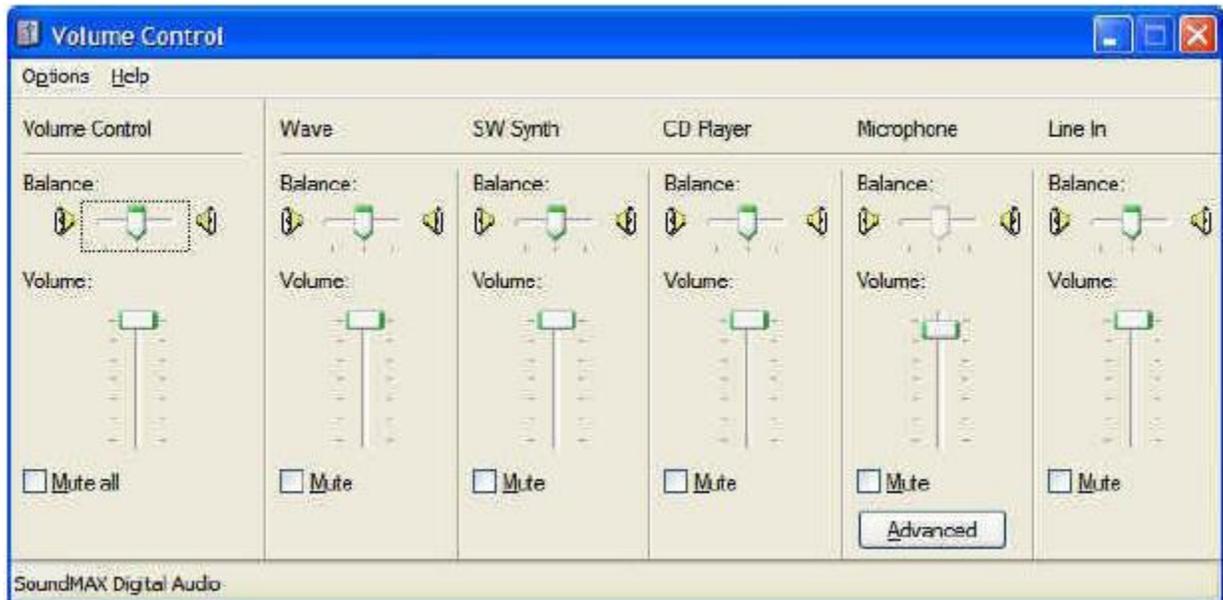


Or this, in Windows 7, after you finally drill down through the options on the Control

Panel, under Sound":



×
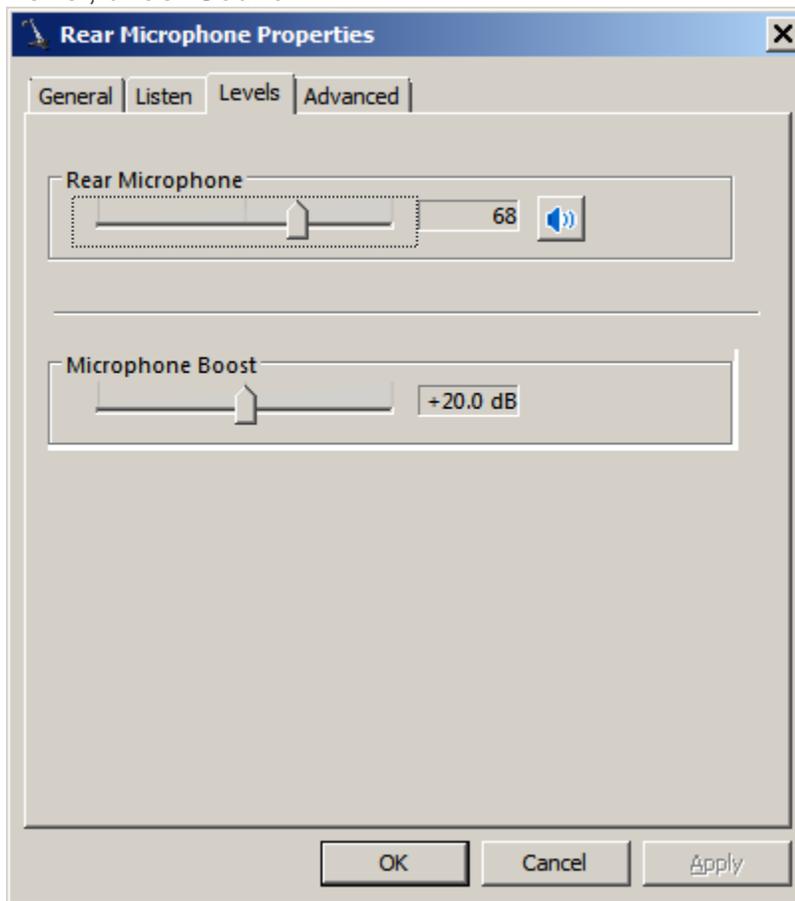
**Sound Cards Are Weird**

Unfortunately, sound card manufacturers have added a dazzling number of bells and whistles the past few years, including software-configurable input and output ports and other gadgets that affect recording. We have to leave you a little on your own here. The important thing is to find the microphone recording volume control, make sure it is selected, and that the level is about 50 percent.

In Windows XP, you may have to go into Options>Properties to check the box to let you see the microphone volume control and those for other sound sources. Under Options>Properties, click the 'Recording' radio button, and make sure the microphone is checked on the list of controls:
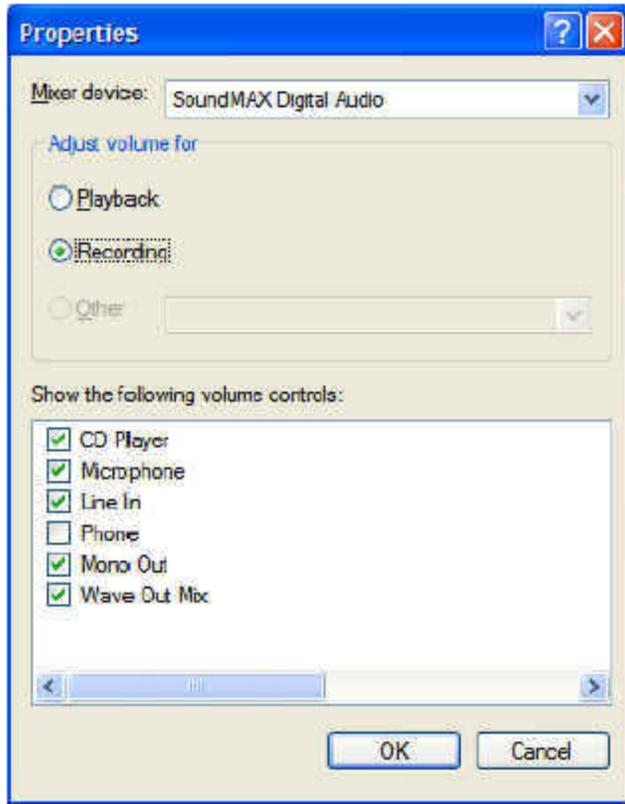
In Windows XP, make sure the Microphone slider is at mid-range and that there is a check in the Select box. If you are using a typical ham microphone, such as a Heil, and you have the "Advanced" button, click on it and select Mic Boost if that option is available, because it provides a 20-30 dB preamp. Now OK out.
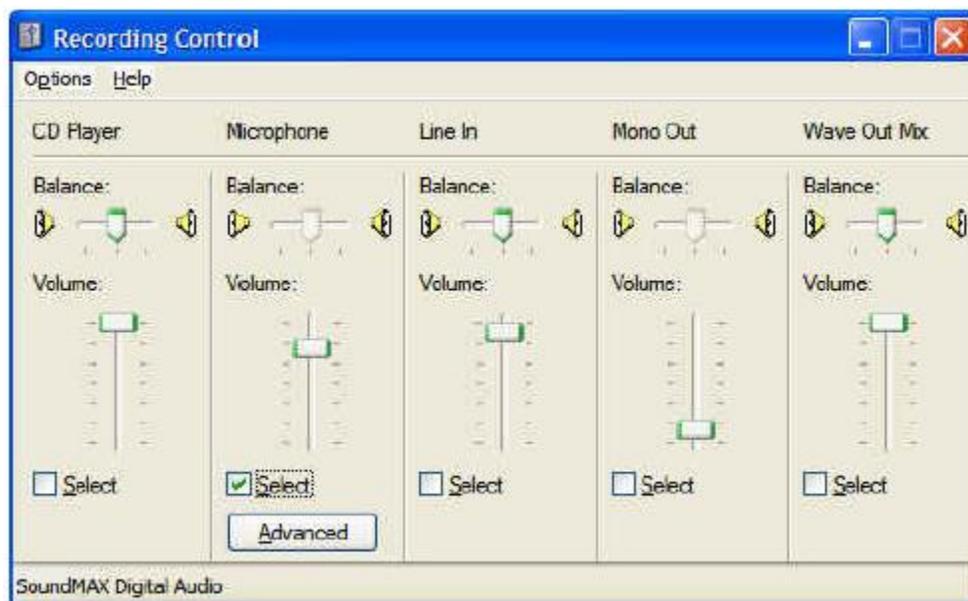
Now, when you talk in the microphone, you should be able to hear yourself in the headset. If you can't, then something is wrong with your settings, hardware or drivers. Try playing existing .wav files using the Windows Control Panel's Sounds option. Recheck volume and mute settings, check that the microphone is plugged into the right jack, try a different microphone, try a different headset. DO NOT PASS THIS POINT UNTIL YOU CAN HEAR YOURSELF!

Now open Windows Sound Recorder, which is usually found in the Accessories category in your program list. DO NOT open Audacity, any of the audio tools that 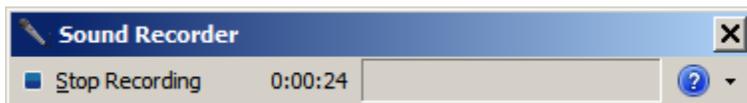came with your sound card, or your other favorite tool. Some of them play with the mixer settings and we don't want that now that they are set. These are for QWindows XP and Windows 7, respectively.





Click the Record or Start Recording button in Sound Recorder, and speak a few words into the microphone. You should see the level indicator deflect in time with your voice. Now press Stop. Press the Play button and you should hear what you just said. If you don't there is something wrong with your hardware or drivers. Check recording control settings, adjust volume, make sure the microphone is selected as the recording source, and get that 8 year old back to help again! DO NOT PASS THIS POINT UNTIL YOU CAN RECORD AND PLAY. If Windows Sound Recorder doesn't work, then N1MM likely won't work and since N1MM is much more complicated it is harder to troubleshoot.

If it's working OK, now close the Sound Recorder and start N1MM Logger. Put the program in Run mode (Alt+U or click in the Running box) and your radio on USB or LSB, and make sure that the Entry Window's title bar specifies either USB or LSB (if you don't have a radio connected, type the appropriate mode in the callsign box and hit <Enter>).

Right-click on any of the message buttons in the entry window. That will bring up the Function Key message editor:

**SSB Message Editor - File: C:\ham radio\N1MM Logger\generic SSB.mc**

```
#NEW VERSION, This Function Key file requires N1MM Logger V.12.02.00 or newer
#EDITS REQUIRED, before using this file -----------
#REM, None
#SPECIAL INSTRUCTIONS, -----------------
#REM, none
#ADVANCED FUNCTIONS, ------------------
#REM, None
#RUN MESSAGES, begin here --------------
F1 CQ,wav\{OPERATOR}\CQ.wav
F2 Exch,wav\{OPERATOR}\Exchange.wav
F3 TNX,wav\{OPERATOR}\Thanks.wav
F4 {MYCALL},wav\{OPERATOR}\Mycall.WAV
F5 His Call, !
#Replace "!", with space or "-", unless you are using voicing of callsigns
F6 Spare, -
F7 QRZ?,wav\{OPERATOR}\QRZ.wav
F8 Again,wav\{OPERATOR}\AllAgain.wav
F9 Spare, -
F10 Spare -
F11 Spare, -
F12 Wipe, {WIPE}
#S&P MESSAGES, begin here -------------
F1 S&&P CQ,wav\{OPERATOR}\CQ.wav
# "&" doubled, so that it will display properly in the button label
F2 Exch,wav\{OPERATOR}\S&P Exchange.wav
F3 Thanks!,wav\{OPERATOR}\Thanks.wav
#Rarely used in S&P mode
F4 {MYCALL},wav\{OPERATOR}\Mycall.WAV
F5 His Call, !
#Replace "!", with space or "-", unless you are using voicing of callsigns
F6 Spare, -
F7 Rpt Exch,wav\{OPERATOR}\Repeat Exchange.wav
F8 Agn?, wav\{OPERATOR\AllAgain.wav
F9 Spare, -
F10 Spare, -
```

| Save | Import | Export | Help | Legend: Comments Run S&P | Cancel |

Don't be intimidated - we're just going to use this screen to set up a single function key to send a single message, so we can check out the entire flow from pressing a Function Key to having an audio message properly sent to your radio. The filenames and remarks you see in the editor now are the default filenames that are put into the table when you first install MM. If this is not your first time using N1MM Logger, these may not

be the first ones you see. the full story on the message editor, see this page in Digging Deeper.

For test purposes, we are just going to use one message, in the slot for Run F1. This is the message that will be sent when the program is in Run mode and F1 is pressed. This is intended to be the location for your CQ Message. If the editor shows "F1 CQ,CQ.wav" in the first row of the Run Messages section, then you're ready to go. Just close the window with the X in its upper right.

XXXX
×

### The Difference Between "Save" and "Export"

There is a critical difference between the "Save" and "Export" buttons in the bottom frame of the Function Key Message Editor. If you click "Save", the currently-displayed contents (including any changes you have made) are saved in your current database, for use the next time you press a function key. **They are also written to the file-name shown in the upper frame of the editor.** To save a change on the fly and get back quickly to using the program, all you need to do is click Save and then X in the upper corner to leave the editor and return to the Entry Window. However, if you want to retain the file that was loaded into the editor **in its original form** - as you might want to with the default files, for example - then you must first click Export, select a filename in the Save Macros to File dialog that opens, and then click Save. **Then, you must click Save in the Function Key message editor to load the edited function keys into the current database.**

Now, make sure you are in Run mode - that is, that the Run checkbox in the Entry Window is checked. Now watch the bottom line of the Entry Window (called the Status Line) and press Ctrl+Shift+F1. You should see:



One important thing to note here. If you have not entered your callsign under change

Station Data on the Config menu, you will not see your callsign in the status line. This is important - stop, go do that, and then repeat this step.

If you speak into the microphone at this point, whatever you say will be recorded in the file CQ.WAV under WAV\<your callsign>.. Press Ctrl+Shift+F1 again (or ESC) to stop the recording, and look for this report in the same place:



Now press F1. You should hear what you just recorded in the speaker. If you don't, make sure you're still in Run mode and look for an error message in the Status Line. We suggest using the Ctrl+Shift+Fx process to record within N1MM Logger, at least until you get truly comfortable with audio files, because a lot of the problems people run into are a result of recording with diofferent programs, or in filenames that are different than the program expects to see.

Now that you've got things working, you need to program at least the first few function keys. It's best to follow the order in the example above, at least for F1-F8, because a little later, when we talk about ESM (Enter Sends Messages) mode, the order is important. Be sure that each Function Key message line begins with the Function Key number, a brief label (like CQ), **a comma**, and the content of the message

OK, so now you have everything you need to play "canned" audio messages on the air. If you're content to use VOX to switch your transmitter, and you're not interested in CW, then you can stop here, for now.

## 3.2. CW Keying and PTT Control

### Unsupported Methods of CW Keying

N1MM Logger+ supports several methods of CW keying, but two are not supported. The first of these unsupported methods is CW by audio tone, or MCW, as is done by software such as FLDIGI. The reason for this is that if it is not set up carefully, this method can produce unnecessarily wide signals, or even in some cases two closely-spaced signals from one transmitter.
The second unsupported method involves sending ASCII characters to the radio, which then converts them to CW. Only a few radios have this capability, and in most or all of

these the resulting CW operation is far less suited to contest use than the Logger's own. N1MM Logger+ does not support this method directly, although it is possible for users to use this capability by means of radio control macro commands incorporated into function key messages, provided they are willing to accept some loss of functionality as compared with the directly supported methods.

A full discussion of interfacing is in the Interfacing section of the manual.

In its simplest form, CW is sent and PTT is controlled by switching lines on a COM or LPT port. This technique allows the simplest possible interface, but one **is** required. Here's a block diagram of the COM port setup. For LPT port keying, a USB adapter will not work. Your computer must have a hardware LPT port:
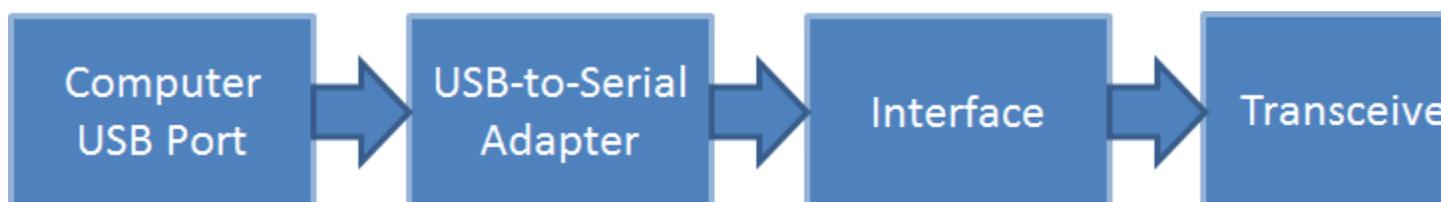


Please note that only a very few radios permit CW and PTT via their built-in serial ports. The rest require that the interface be plugged into the CW key jack on the transceiver. The exceptions to this are covered under Supported Radios.

The interface can be anything from the simplest - one resistor and one transistor - to one of the many units on the market that handle both CW and various digital modes.

Let's assume you're going to use this method to start with. Begin by opening the Config menu to the Ports, other dialog:

**50097.87 CW Elecraft K3 VFO A**

File   Edit   View   Tools   **Config**   Window   Help

| | |
|---|---|
| | Configure Ports, Mode Control, Audio, Other |
| | Change Your Station Data |
| | Change Band Plan ▶ |
| | Clear INI file settings |
| ✓ | Enter Sends Message (ESM mode)                    Ctrl+M |
| | Spot all S&P QSO's |
| ✓ | QSYing wipes the call & spots QSO in Bandmap (S&P) |
| | Do Not Automatically Switch to Run on CQ Frequency |
| ✓ | Show Non-Workable Spots in Bandmap |
| | Reset RX freq to TX when QSO is logged (RUN & Split) |
| | Dual Rx always on |
| | CQ Repeat                                          Alt+R |
| | Set CQ repeat time                                 Ctrl+R |
| | CW AutoSend Threshold |
| | Call History Lookup |
| | Change CW/SSB/Digital Function Key Definitions ▶ |
| | Manage Skins, Colors and Fonts |
| | Change Operator Callsign Stored in Log             Ctrl+O |
| | Change Exchange Abbreviations ▶ |
| | SO2R ▶ |
| | WAE ▶ |

○ Run   ◉ S&P

F1 Qrl?   F2 Exch   F
F7 Empty  F8 Agn?   F
Esc: Stop   Wipe   Log

For this example, our CW port will be on the second port we configure (the first port, COM6, will be used for radio control). let's choose COM2 as our CW/PTT port. After selecting COM2 from the pull-down list of available ports, put a check in the CW/Other box and you'll notice that the Set button is no longer greyed. Click on it, and open the dialog for that port:
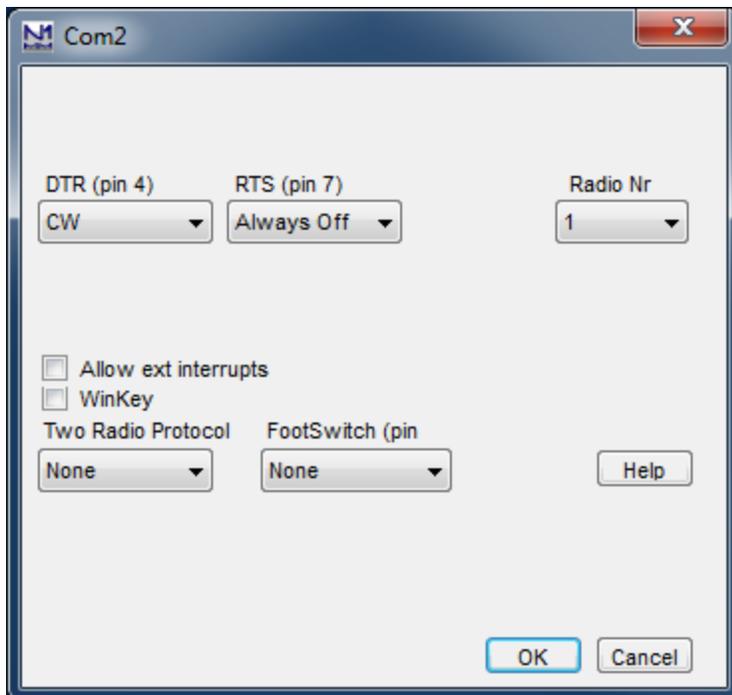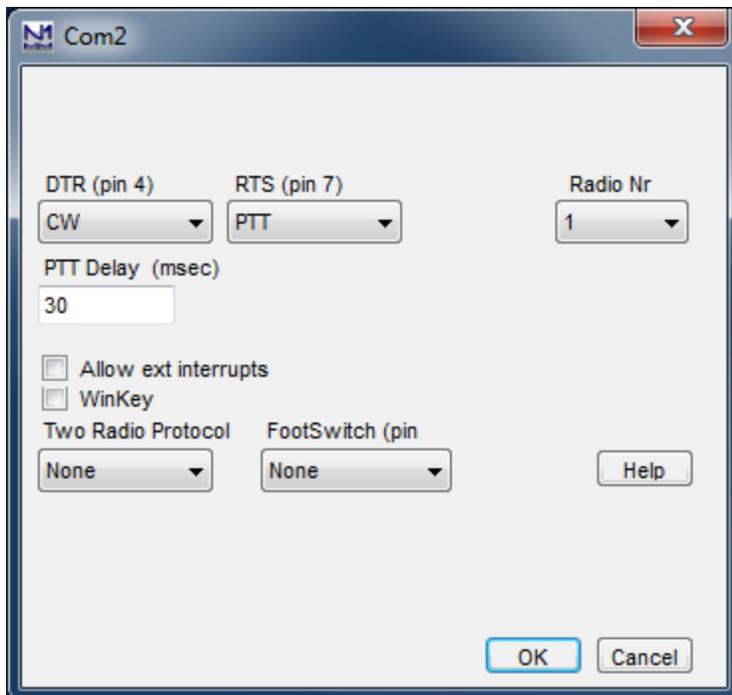
You can configure the DTR pin as either CW or PTT. Click the down arrow and you'll see the list of possibilities:
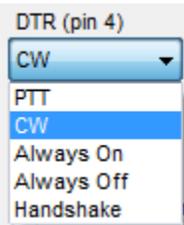


Highlight the one you want, depending on your interface. Now do the same with the RTS pin:
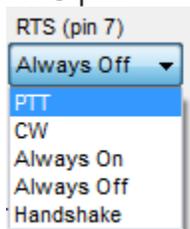


You can use either signal line (DTR or RTS) for either function (CW or PTT); just make sure your choice matches up with the way the hardware is wired up.

Set the Radio Nr to 1. The PTT Delay setting is to protect the relays in an amplifier by making sure that the T/R relay is closed before the program starts sending CW. The default value of 30 ms. is fine even if you don't have an amplifier.

OK, now to interface to the rig. The very simplest interface imaginable will work just fine for either the CW or PTT functions with any modern radio; again, there are many commercial options, but here's the Radio Shack parts solution:



Serial port cw or ptt interface

✕
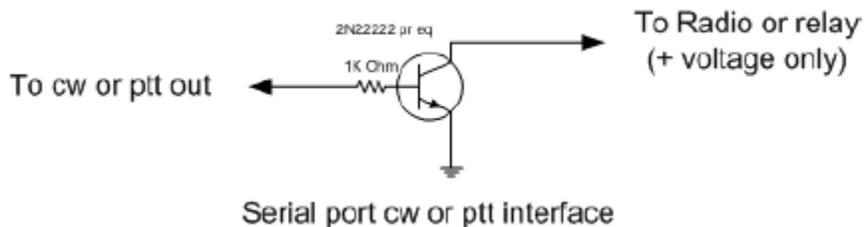
### Using Winkey/Winkeyer for CW

K1EL's Winkey/Winkeyer devices have become very popular with N1MM Logger+ users. The chips are built into a number of interfaces. The stand-alone Winkeyer USB will key two radios and provide PTT functions for both on all bands, simplifying changing modes considerably.
Follow the instructions that come with your interface in setting up CW keying. For the stand-alone unit, You'll need to determine which port your Winkeyer is listening on, and then check its CW/Other box. Finally, click the Set button and check the Winkey box.

That's all there is to it. Do **NOT** try to configure DTR or RTS for a Winkeyer; checking the Winkey check box automatically sets these to the correct settings for the Winkeyer.

You will probably also need to review (and likely change) settings on the Winkey tab of N1MM Logger+'s Configurer (Config>Ports, Other). One important one with many transceivers is the Lead Time parameter, needed to prevent Winkey from starting to send CW before your transceiver is ready to make RF. A setting of 2 (20 mS.) is usually plenty; more can make manual keying difficult.

### 3.2.1. CW Messages

From the Config menu, you can select Change CW/SSB/Digital Function Key Definitions, and then Change CW Function Key Definitions, or you can simply right-click on one of the 12 function key buttons in the Entry window. That will bring up this window:

CW Message Editor - File: C:\Users\User\Documents\N1MM Logger+\FunctionKeyMessages\CW Default Messages.mc

File   Help

```
#REM, This Function Key File requires N1MM Logger V12.02.00 or newer
#RUN ----------, Run Messages begin here ---------------------------
F1 Cq,cq test {MYCALL} {MYCALL} test
F2 Exch, {SENTRSTCUT} {EXCH}
F3 Tu,tu {MYCALL} test
F4 {MYCALL},{MYCALL}
F5 His Call,!
F6 Repeat, {SENTRSTCUT} {EXCH} {EXCH}
F7 Empty,
F8 Agn?,agn?
F9 Nr?,nr?
F10 Call?,cl?
F11 Empty,
F12 Wipe,{WIPE}
#S&P ----------, Search and Pounce Messages begin here --------------------
F1 Qrl?,qrl? de {MYCALL}
F2 Exch,{SENTRSTCUT} {EXCH}
F3 Tu,tu
F4 {MYCALL},{MYCALL}
F5 His Call,!
F6 Repeat,{SENTRSTCUT} {EXCH} {EXCH}
F7 Empty,
F8 Agn?,agn?
F9 Nr?,nr?
F10 Call?,cl?
F11 Empty,
F12 Wipe,{WIPE}
#REM ----------, Special instructions begin at end-of-file --------------
#REM, This file can be used in most CW contests with a simple exchange
#REM, The {EXCH} macro uses the contents of the Sent Exchange box in the contes
#REM, Designed to work in either ESM or non-ESM mode
#REM, To respond to caller, CQing station sends F5 then F2, or ; or Insert, or
#REM, F5 uses "!" macro for his callsign
#REM, In F2 & F7 {SENTRSTCUT} macro defaults to 5NN or allows manual entry of s
#REM, S&P F1 calls QRL? before placing the program in RUN mode for calling CQ
```

Message Colors
**Comment** **Run** **S&P**

Help   Save   Cancel

What it is displaying is the default function key message file that is now shipped with N1MM Logger+. There is much more on the Function Key Message Editor here, but for the moment, let's use what we find already in place.

Going down from the top, note the macro {MYCALL}. An alternative to this is the single-character macro *. Either one denotes your callsign, from the Station Data window. This is a text macro. There are two types of macros, text macros and action macros - text macros substitute a string of text for the macro, while action macros perform some program action. Both are often used in combination with regular text in a message, as shown here - when you press the function key or click the on-screen F1 button, the program will send CQ TEST N4ZR N4ZR TEST (substituting your call for the asterisk). There's a table of the many recognized ((Function Keys, Messages and Macros|Macros)) in the chapter by that name in Digging Deeper but for now let's go on.

Conventionally, F2 is used for your contest exchange. The sample file uses the {EXCH} macro, which is a text macro that substitutes whatever you put in the Sent Exchange part of your Contest Setup. Say, for example, we were setting up for a contest where the exchange is signal report, your name and your state. When N4ZR sets up the contest, he puts PETE WV in the Sent Exchange. Now when he presses or clicks F2, the program will send PETE WV.

Also in Run F2 is the macro {SENTRSTCUT}. Many of us just put 5NN explicitly in F2, but this macro is a little cleverer. It sends the signal report (nominally 599, but can be modified from the Entry window on a per-QSO basis). This macro substitutes whatever cut number style you choose in the Configurer here (e.g 599 -> 5NN, 579 -> 57N, etc.).

One fine point - you might think of putting the 5NN in your Sent Exchange in the Contest Setup dialog - after all, everyone's 599, right? Well, don't, because it will screw up your Cabrillo log. Just resign yourself to putting 5NN or {SENTRSTCUT} in your function key messages wherever you want it sent.

The next handy trick to notice is in Run F5, where ! is used. That always denotes the other station's call, grabbed from the Entry Window

A final tip - most macros are in the form of {WORD}, where "word" is the macro. The curly brackets are necessary so that the program knows it's time to substitute something or take some action. It is awfully easy to type a square bracket or common parenthesis instead of the curly bracket, so look carefully.

From now on, if you want to change the content of any message buttons, just right-click in the area of the buttons, and the editor we just left will reappear.

OK - you've hooked up your interface, so now you're ready to send some canned CW. As explained above, you can either hit the function key F1, or click on the F1 button. Either way, the program will switch your radio from Receive to Transmit (assuming you have PTT connected - you can also use VOX or break-in, of course) send the message, and then go back to Receive again.
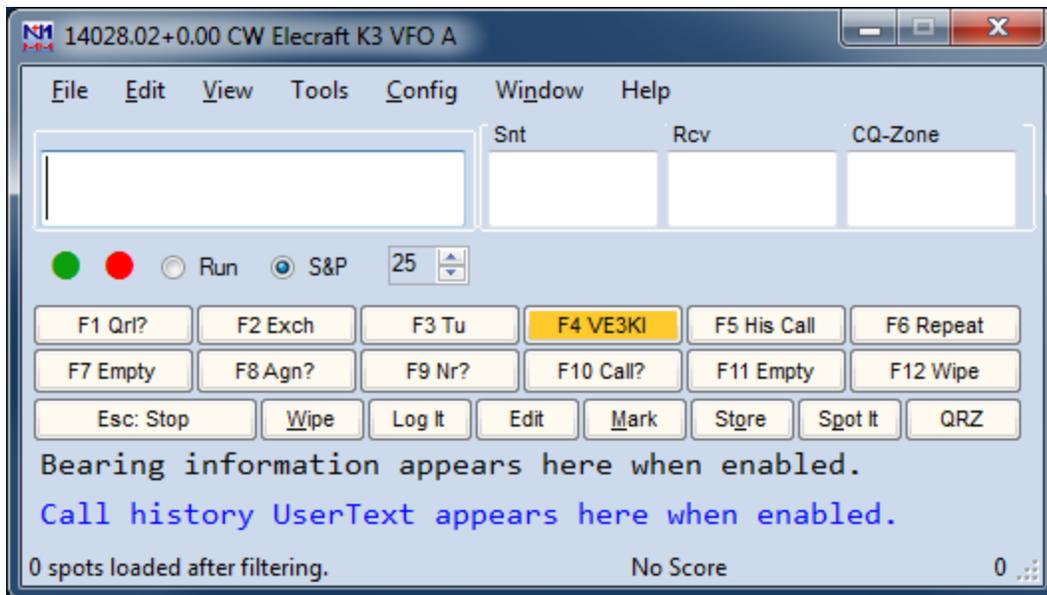
There are two easy ways to adjust the speed of your CW - either click the up and down arrows next to the CW speed box (where it says "26" in the picture above), or press <Page Up> or <Page Down>, to increase or decrease speed in 2 word per minute increments. If you hit the wrong key or button, no problem - hit the <Esc> key to stop sending immediately.

If you want to send CW manually, the easiest way is to parallel a keyer with the computer CW at the transceiver's key jack. Alternatively, if you prefer to use the keyboard instead of a paddle, hit Ctrl + K, and a CW window appears:
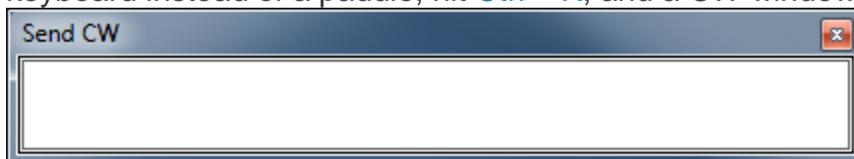


Type the character you want to send. As you begin typing, the program begins sending; you can type ahead. Hit Ctrl+K again to close the window. See this page for more details on how the CW keyboard window works.

---

# 1.6 Setting Up for a Contest

## 1. Setting Up for a Particular Contest

Now that you have set up the hardware interfaces to your radio, including radio control (often called CAT), PTT, CW, etc., let's move on to setting up for a particular contest.

Note that the first database the program creates is named ham.s3db by default - you can have as many databases as you want, and name them what you want. Some people prefer to create a database for every contest, while others create one for a period of time, like every year. If you want to create a new database, for example "2014.s3db", just click Files to drop down the menu, and then click on "New Database".
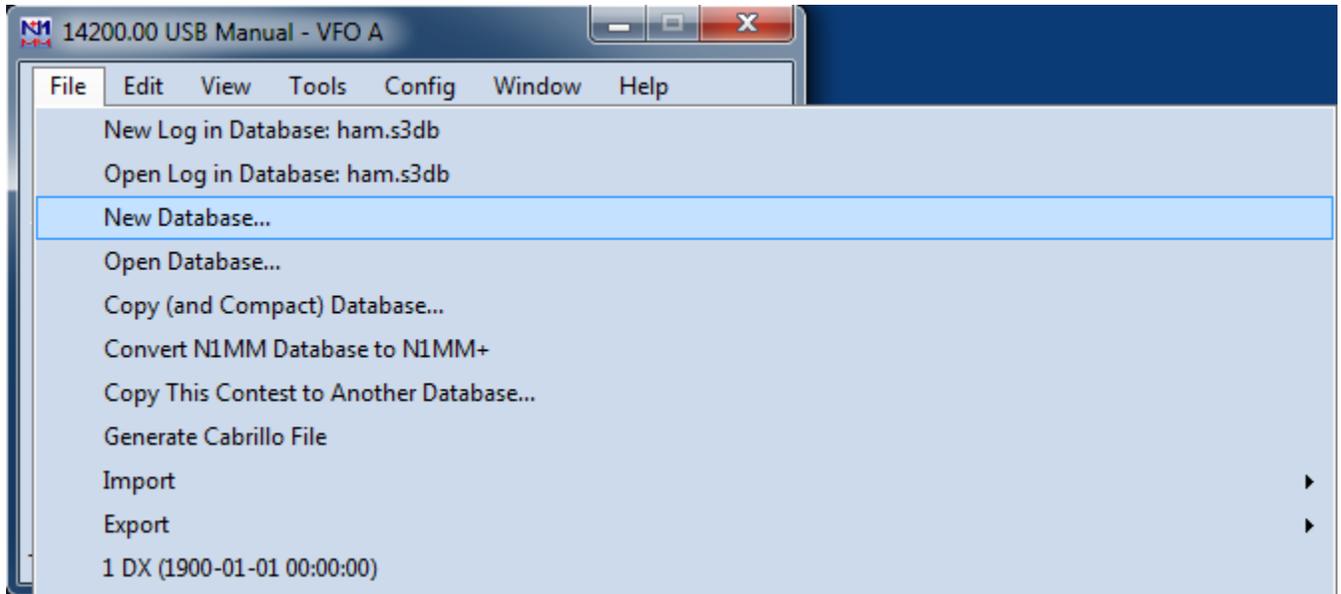


That will open a standard file creation dialog in your N1MM Logger+ databases directory (inside the User files area):
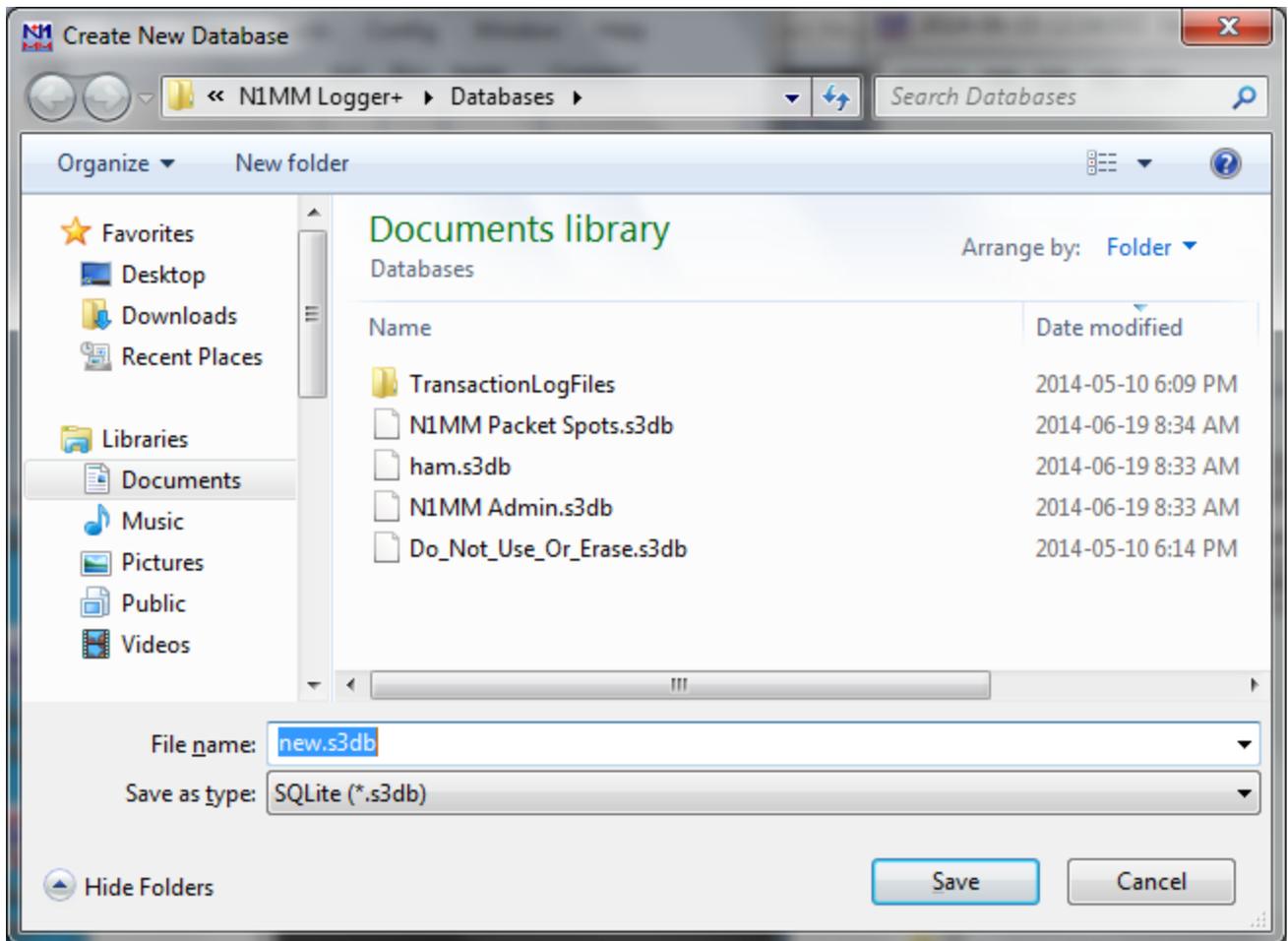
Name your new database and click Save. You'll be switched to the new database and ready to go.

Back to the Files menu again. This time click "New Log in Database: XXXXXX" A new dialog opens, called the Contest Setup Dialog.

This dialog has two important aids to completing it properly, the buttons labeled "Show Rules" and "Show Setup". Show Rules takes you (via Internet) to the sponsor's web page, while Show Setup takes you (again via Internet) to the Contest Setup page, located in the Digging Deeper section of the manual. Typically, the latter will give you what you need to fill in the Contest Setup dialog.

The first thing to do is to click on the downward-pointing arrow in the Log Type field. That will open a list of abbreviated contest names. You can use your mouse to scroll through the list, or type the first letter of the contest to jump to the right general area. Once you have found the contest you want and highlighted it, click back in the original field and the drop-down list will close.

When you set up a new contest, the Start Date defaults to the Saturday (usually) following the current date. This can be useful if you have several versions of a given contest in your database. Year to year, dates of contests change, but the day of the week usually remains the same. **For this reason, the program assumes that the contest will actually start on the correct day of the week (and time of day) following the date when the new contest was set up.** For example, if you set up a new contest on Wednesday, and that contest normally starts at 0000Z on Saturday, the program assumes that 0000Z on the following Saturday will be the actual start time, for purposes of computing time on or off the air, and for displaying any goals you have set in the Info window.

To avoid confusion, it is best to set up the log you will actually use within a week before the start of the contest. You can always use a practice version earlier. So long as it is in the same database, you'll be able to set goals, set up your function keys and other associated files, and all of this will be available for use when you set up the "real" log. Just create a new log for that contest with the correct starting date and time and you're ready to go. You can delete the practice log or not, as you prefer.

Next, fill in the information in the next few fields, denoting the class and category you intend to enter in the contest. In each case, you have drop-down lists available. "Overlay category" refers to contests like WPX, which have both regular classes and categories like Rookie or "Tri-bander plus wires". In most cases, "N", for not applicable, is the answer you want there.

Beginning in 2011, some contests adopted the Cabrillo 3.0 standard for their log submissions, while others continued to require Cabrillo 2.0. The new standard (embraced by the ARRL, IARU and some others) required a different breakdown of information in the Contest Setup dialog. The one shown above is for Cabrillo 3.0. Both dialogs are self-explanatory, but you can find more information on the Contest Setup dialog for Cabrillo 3.0 here.

Next comes the most important part of this dialog, the Sent Exchange field. This field specifies what will be entered in your Cabrillo file as your sent exchange and what is inserted in the {EXCH} macro in your function key definitions:

For many contests, the program guesses what you will want, based on the contest type and the contents of your Station Information dialog. For example, in this case, since the CQWW contest uses CQ zones as the exchange, it has already entered the zone, based on the zone already entered in my Station Information. Of course, this can be overridden if it is incorrect. Note the "Omit RST" warning - do not include 59 or 599 in the sent exchange. If the contest you choose has serial numbers, like WPX or the NA Sprint, then you need to put "001" at the start of the Sent Exchange field, separated from what follows by a single space if there is more to the exchange. Hence, for WPX, the Sent Exchange would read 001. An important exception is the ARRL Sweepstakes. The serial number is *assumed* for this contest only, so for example N4ZR's Sent Exchange for SS would read B 54 WV. More information on the Sent Exchange is in the Supported Contests section of the manual.

Once you have filled in the Sent Exchange, you're done for now. Just Click OK and hit Enter.

## 2. Trying It Out

So really, that's all you need to operate contests with N1MM Logger controlling your radio - the Entry Window, the Check Window, the Log Window and the Bandmap.

For the purpose of this guide, we'll assume that you're operating in the CQWW SSB contest. In that case, the Entry window will look like this:



I'm assuming that you're going to operate phone to start, so I have typed in USB in the call-sign field, and hit <Enter>. I have left the default frequency (20M phone) in place, but if I wanted to show another band, I need only type a frequency (in KHz) in that band (like 21200, for example) in the call-sign field and hit <Enter> to change bands.

When I've done these things, I then type a call-sign in the call-sign field. Even before I look at the Check window, I see that the call sign is color-coded green. This means that it is both a new contact and a double multiplier (in this case, both the new country of

Martinique and the new Zone 8). If I had already worked Zone 8 on this band, then the call sign would be color-coded red, signifying just a new country. If both the country and zone had been worked before, but the station has not, then the color code would be blue. If it is a dupe, the call sign will be coded grey, and the warning "Dupe!" appears to the right of the entry fields. There is also a column of band buttons to the left, all of which are also colored green in this example, indicating that this station would also be a double multiplier on each of the other bands. The beam heading is displayed below, as are the country, its zone and continent (which affects points per QSO).

So, you call him, and he answers. At this point, just hit <Space> to fill in the expected signal reports and move the cursor to the Zone field. N1MM Logger uses the <Space> bar as a "smart tab." The idea is that it will skip fields you are unlikely to want to change and move immediately to the one you may need to. Note, too, that the zone is highlighted. This means that if you need to change it ... for example, if FM5BH really was in Zone 9 (he isn't) - you would just type "9" and the "8" would be replaced.
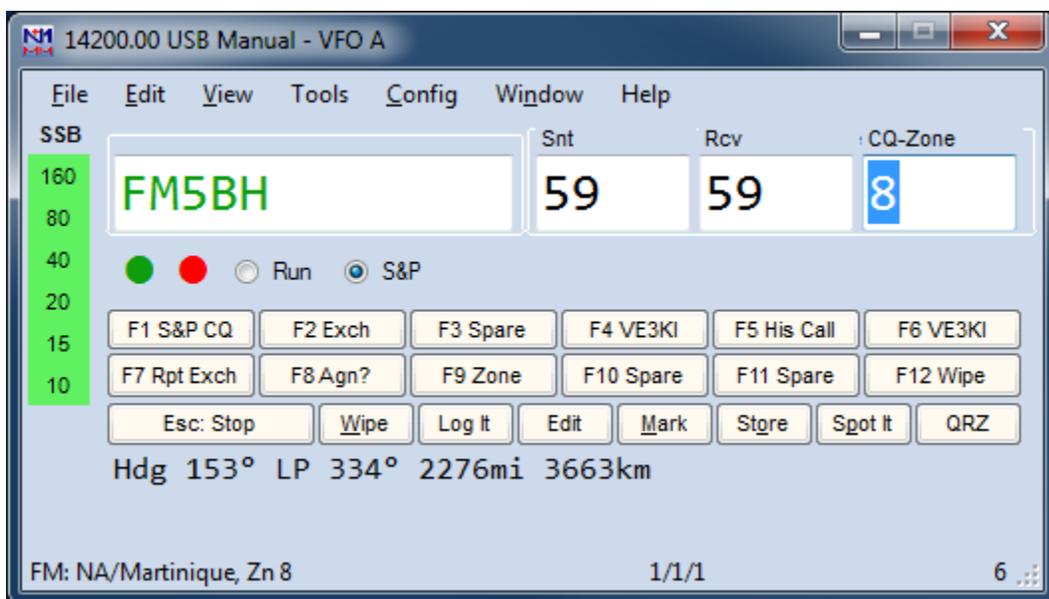


Ok, but suppose he gives you a "57" report instead of "59". No problem - you just use the <Tab> key twice, and the cursor will be on the second digit of the received signal report, ready for you to type over. The <Tab> and Shift+Tab work just as you'd expect in Windows, moving forward or backward one field. Here's how it looks:
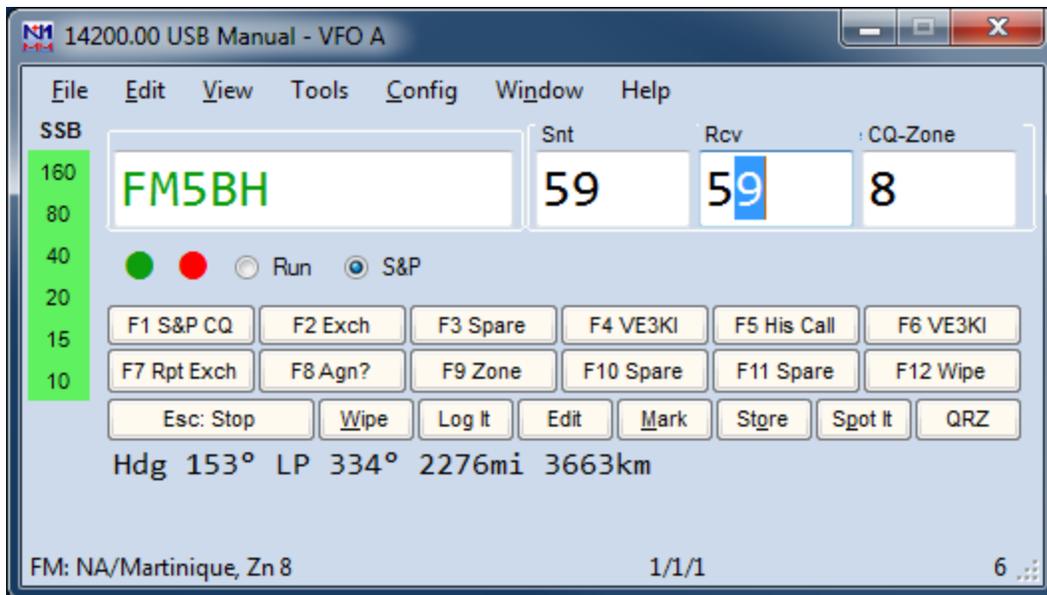
If you need to correct the call-sign, use the <Space> bar to get you quickly there and edit as necessary. Then, once everything is as you want it (and the QSO is done), all you do is hit <Enter>, and the QSO will be logged.

One thing that trips everyone up at least once is that the program checks to make sure that you have entered everything, and that everything is correctly formatted. For example, if you accidentally fat-finger the zone number, like "89", the program won't let you enter the QSO. This can be disconcerting at first - you get an error message in the status line, like this:
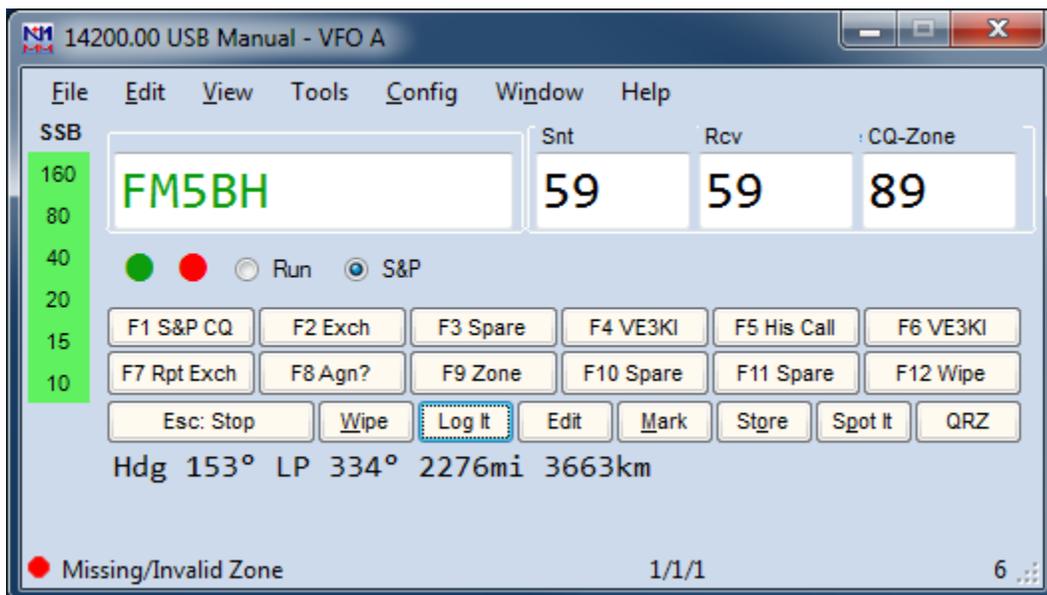


If the program has blocked you from logging the QSO, just use the <Space> bar to move to the appropriate field, correct it, and hit Enter to log. If you absolutely can't figure out what the correction should be (for instance, with an ARRL section in Sweepstakes), you can hit Ctrl+Alt+Enter to bypass the exchange checking and log the QSO "as is". or

you can just press Enter again, which will give you the following warning dialog and allow you to log the contact despite the error:
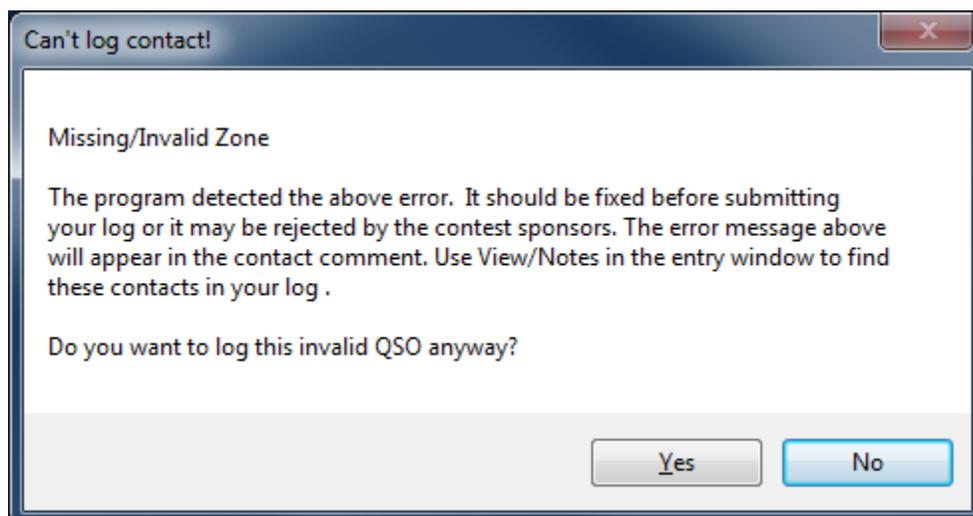


Just in case you want to put a note in the log, when you use Ctrl+Alt+Enter to log an invalid contact, a note window opens. Type whatever note you want and Hit Enter, or just hit Enter to skip it and get back to the contest.

Suppose you miscopied a call sign, or he didn't really come back to your call, so you now have a mistake in your log. If you need to delete the QSO altogether, just hit Ctrl+D. The program will ask you if you really want to move the QSO to a Deleted QSOs file. Just hit <Enter> to do so, or type N for No.

If you need to edit the QSO, hit Ctrl+Q, and put the program in QuickEdit mode:
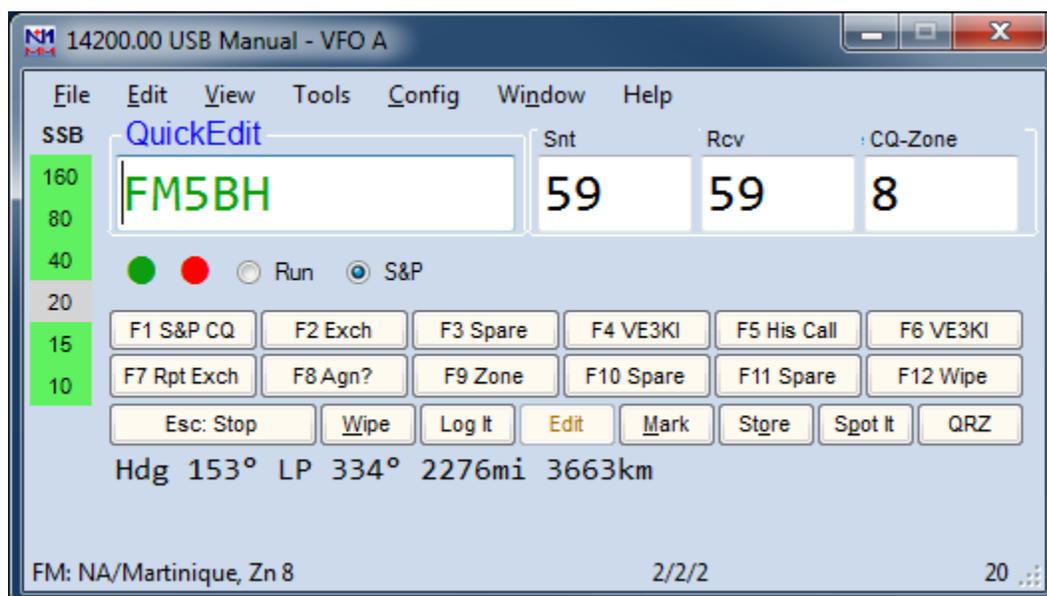


You'll notice the words QuickEdit above the call-sign field. You can move through the fields as before and make your corrections. Then hit Enter and the QSO will be corrected in the log, or else hit <Esc> to get back to normal logging mode and cancel

any changes. Be careful not to leave the program in QuickEdit mode for your next QSO, or you'll screw up two QSOs at once!

As you log more QSOs, you'll note that the call-sign of your last previous QSO will appear in the space right above the call-sign field. This area, called the Call-Frame, will be very important once you have interfaced the program with your radio, but for the moment it is just a reminder of who that last guy was.

✕

**Remember**

Remember, unless you have interfaced your radio, each time you change bands, you need to enter the frequency of that band in the call-sign field, and, if you change modes, enter that there too. For example, if you switch to 40M CW, you would need to enter 7000 and then enter CW (separately) before you begin logging QSOs on that band.

---

# 1.7 Learning Your Way Around

Take a few minutes to learn your way around the four windows that you need to make your first contest QSOs with N1MM Logger+. Additional information about each window will be found here.

## 1. The Entry Window

Let's get a little terminology out of the way first. The top blue part of this (or any) window is called the Title Bar. Each of the places where you can type information is called a textbox. The Title Bar displays the current frequency, mode (if one has been selected), and which radio it is (nominally, Radio A). You will have to enter a mode before you begin to operate, and a band and/or mode each time you change either. Simply type a frequency in KHz (3500, 7000, etc.) in the Call-Sign textbox (to the far left) and hit Enter; then type a mode (CW, USB, LSB) there, hit Enter again, and you're set.

The Entry Window is your main starting place for everything you do with N1MM Logger+. The first row is a standard Windows-style menu, and we'll be using it in a minute. Take a moment and explore the various drop down menu choices, but don't change anything right now.

Below the menu is a set of entry textboxes. This row is where you log your contest QSOs. The left-most textbox is the Call-Sign textbox. You always enter the call-sign of the station you are working into this textbox.
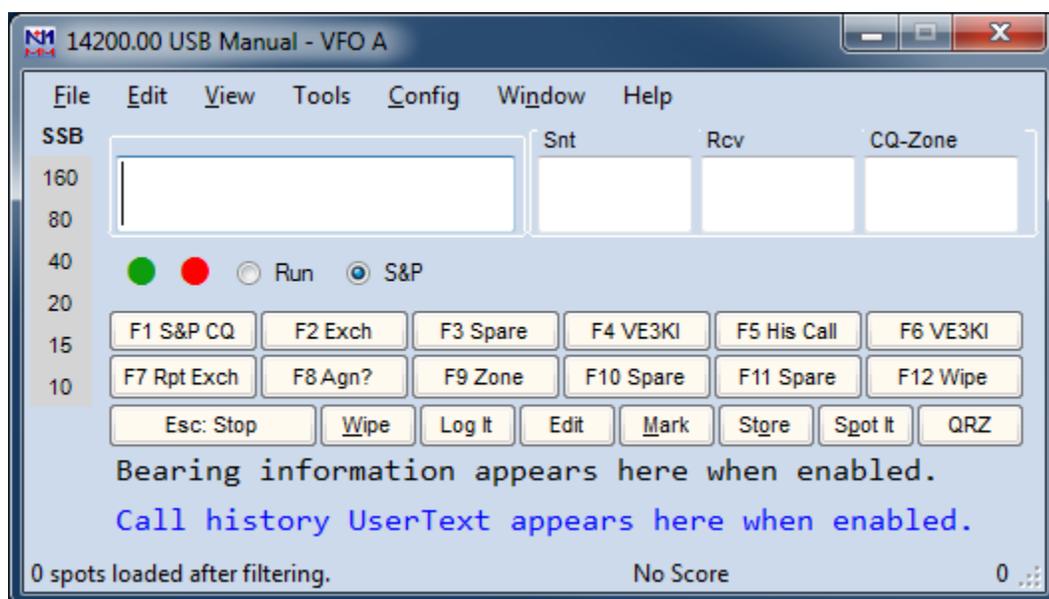


The rest of the data entry textboxes are titled above them - depending on how you have resized the window, the titles may not line up perfectly with the entry textboxes, but they are always in the same sequence as those textboxes. Depending upon the specific contest and the required contest exchange, the number of textboxes and the titles may be different from what you see here. The example Entry Window shown above would be used during the CQ WW Contest. This contest requires that a call sign, sent and received signal reports and the CQ Zone be logged for each contact

For now, you can ignore the 'Run' and 'S&P' buttons, as well as the colored dots alongside them. These control one of the most important features of N1MM Logger+ - it distinguishes between Run and Search and Pounce modes, providing different features for each. However, these aren't really relevant until you get into sending stored CW and phone messages, which are covered later. The rest of the buttons in the Entry Window are related to this and to other advanced capabilities.

If you want to save space on your screen, you can reduce the size of the Entry Window, like this. Right-click in an empty part of the window and uncheck the options for items you do not wish to have displayed.
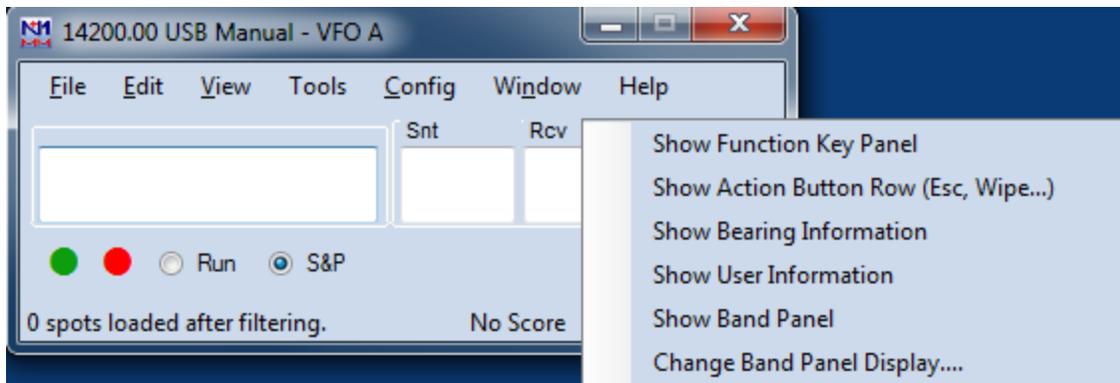
There are two more useful features of the Entry Window. The box in the lower left corner, called the Status Line, provides a lot of useful program status information. For example, if you enter a call sign, the Status Line will tell you what country it represents. If you have chosen to show bearing information in the right-click menu, it will also show you the distance and bearing above the status line, like this.
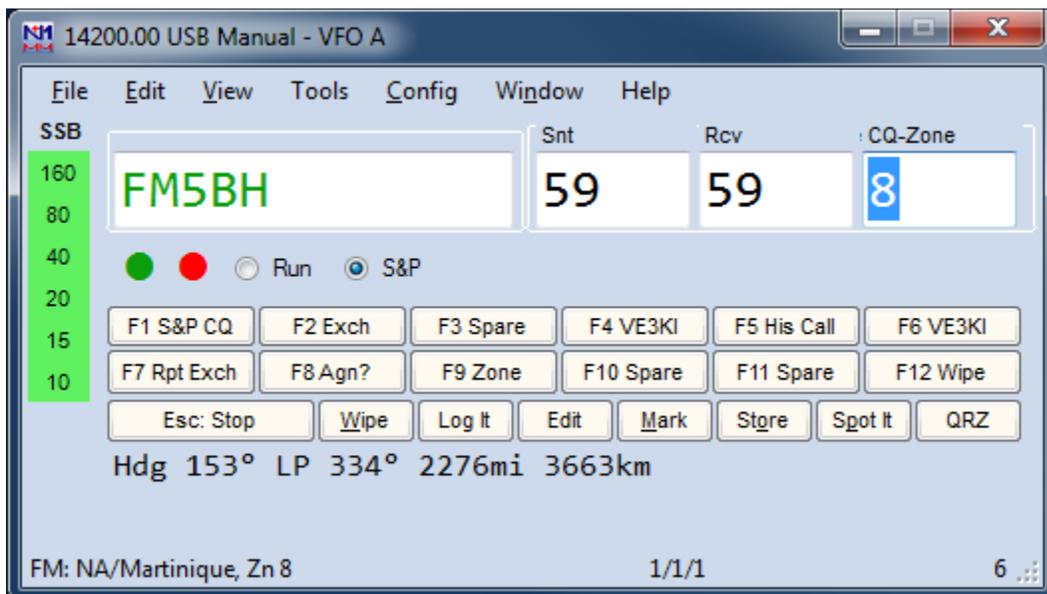
To the right of the Status Line is the progress box, where you can keep track of your QSOs and multipliers without having another window open, and to its right is a running score.

If you press the backslash (\) key (and the program is in SO2V or SO2R mode), the program opens a second, almost-identical entry window. The only difference is that it will have a "B" instead of the "A" in the title bar of the first entry window, and it may well have a different frequency and/or mode as well. But if you pop up the second Entry Window by mistake, and want to get rid of it, you simply close it by clicking the big red X.

When you first open the program, it will be in SO2V (Single Operator Two VFOs) mode. The idea is this - most modern transceivers have two VFOs, or a main VFO and a sub-VFO. There will be circumstances - during a contest on 40 meter SSB, for example -

when you will want to receive on one frequency and transmit on another, widely-separated one.

For the moment, you should probably change to SO1V (Single Operator One VFO) mode. Select the Config menu, and under the dropdown menu, select Configure Ports, Telnet Address, Other and then click on the SO1V button. This will prevent the second Entry Window from opening.
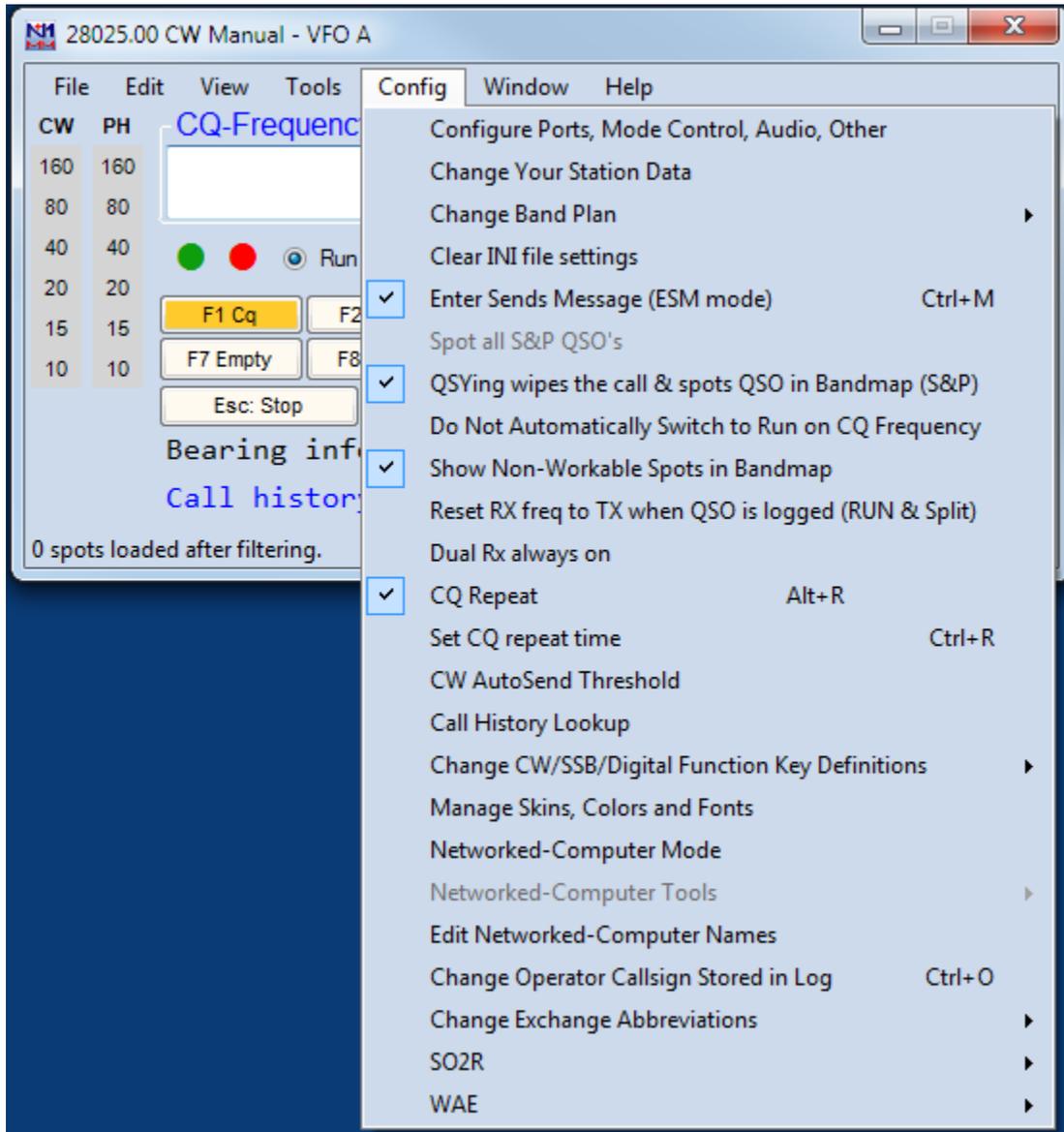


The Entry Window is the nerve center of N1MM Logger+. The program returns focus to this window automatically in many situations.

**Program Menu Descriptions - in the Digging Deeper section**

The *Digging Deeper* section of this documentation contains detailed information about the Entry Window's menu choices

- o File
- o Edit
- o View
- o Tools
- o Config
- o Window
- o Help

## 2. The Check Window
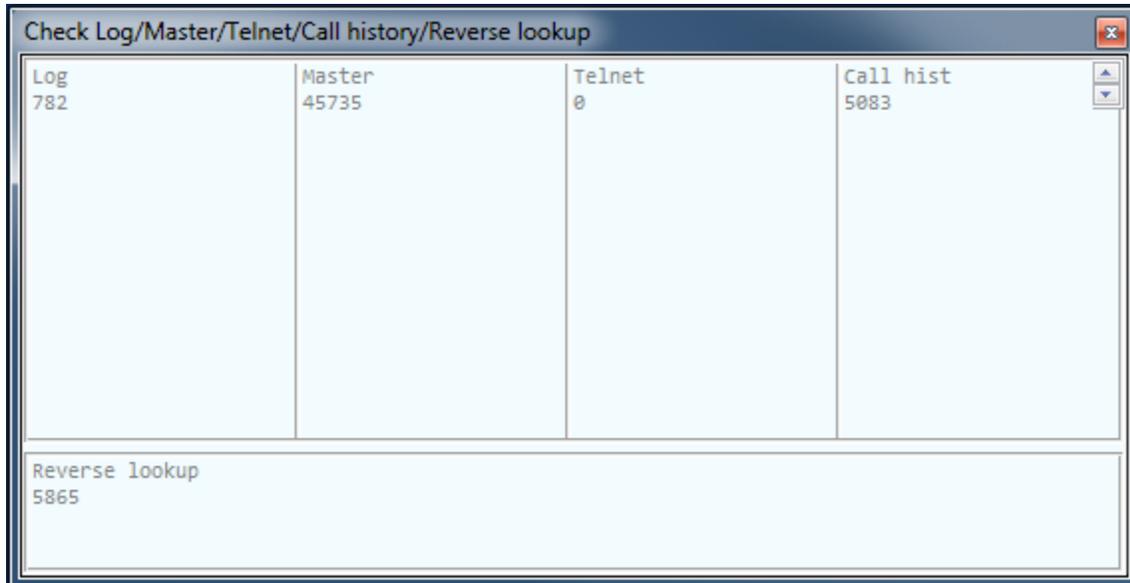


OK, another important window - the Check window. You open it by clicking on Check in the Entry window's Windows menu.

This window is used to display the results of checking a call sign against any or all of the following: your log; a master list of calls, variously called the master.scp or Super Check Partial file; call signs that have been spotted and received in the Telnet window; and call signs in a user-defined file called the Call History file. A Super Check Partial file is provided when you install the program, and the process of updating is covered in the Tools Menu section of Digging Deeper.

First things first, though. When you type a call sign in the Entry Window, the Check window displays whether a match was found or not in the various selected sources. Call signs that differ from the one you have typed in by only one letter have the different letter highlighted in red, while similar call signs that are longer than the one you have typed in have the additional characters highlighted in green:
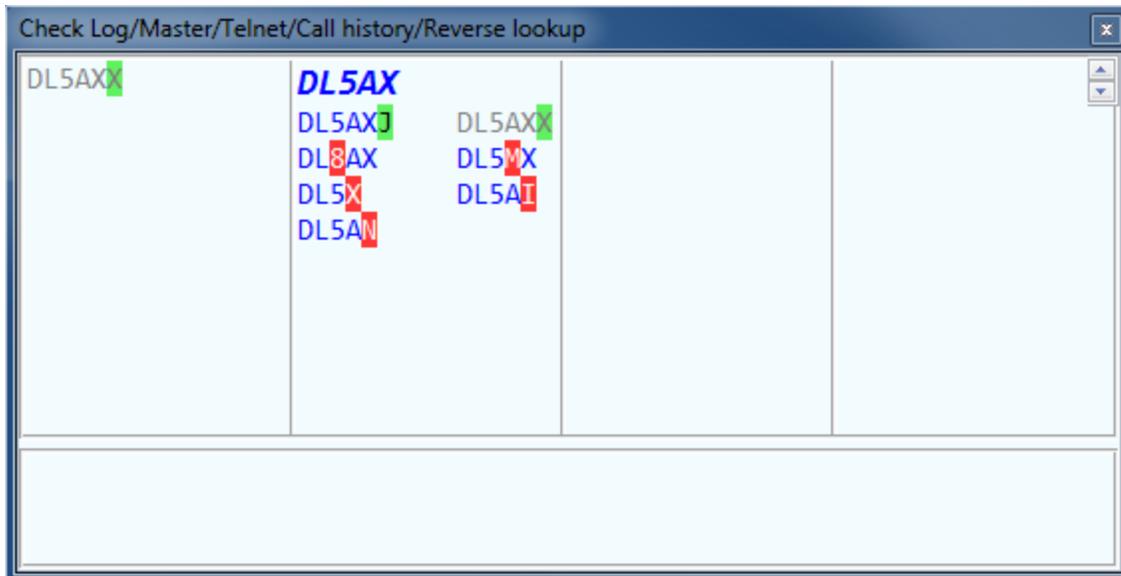
In this example, all four possible sources have been selected. You are in the process of typing DL5AXX into the Entry Window, and so far you have typed DL5AX. This exact call sign (DL5AX) was found in the master.scp file, and therefore it is displayed in bold-face italic font at the top of the master.scp pane. It is blue, indicating that you have not worked this call sign and it would be a valid QSO in the contest. Note in the left (log) pane that DL5AXX already appears in your log. A number of other call signs that differ from DL5AX in only one character were also found in the master.scp file.

If you keep on typing until the entire call sign has been entered, you will see:
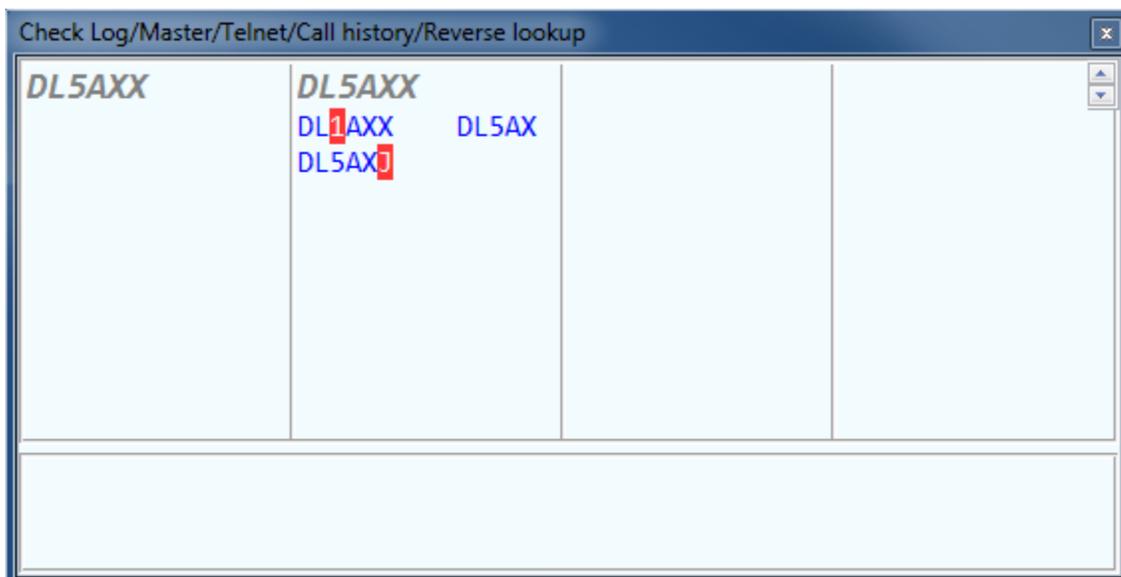


Now the station's call appears in grey, meaning that it would be a dupe.

There is much more on the Check window here.

## 3. The Log Window

To begin with, click on Log in the Entry window's Windows menu. That will open a Log window on the screen, like this:

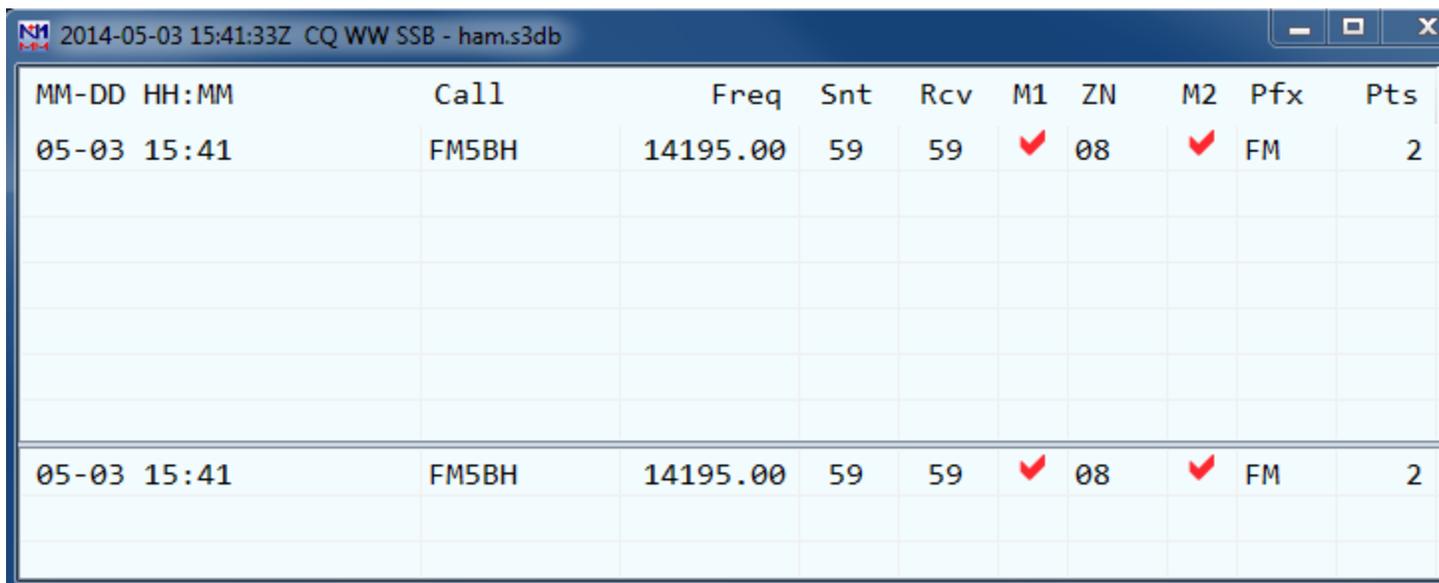| MM-DD HH:MM | Call | Freq | Snt | Rcv | M1 | ZN | M2 | Pfx | Pts |
|---|---|---|---|---|---|---|---|---|---|
| 05-03 15:41 | FM5BH | 14195.00 | 59 | 59 | ✔ | 08 | ✔ | FM | 2 |
| | | | | | | | | | |
| 05-03 15:41 | FM5BH | 14195.00 | 59 | 59 | ✔ | 08 | ✔ | FM | 2 |

*2014-05-03 15:41:33Z  CQ WW SSB - ham.s3db*

First, you should notice that the title bar of the Log Window gives the current date and exact time, the name of the contest, and the database in use. As you log QSOs, they will appear in the log. One is logged one above just to indicate how it looks. You'll note that each column has a fixed label - these labels change between contests. CQWW is a 2-multiplier contest, so the log shows columns for two multipliers: M1, which is the CQ zone, and M2, which is the country. The check mark in each multiplier column simply means that it is the first station for that multiplier on that band.

If you click on any column heading, the entire log is sorted by that attribute - for example, if you click on the "Call" heading, the log will be sorted by call sign. Click on the MM-DD HH:MM heading to switch back to the normal chronological order.

A further nice touch - if you click a second time on the column heading, for example the "Call", the sort order switches from Ascending to Descending, so that all your "Z" QSOs come first, and your "As" last. Same goes for the date/time heading - normally, you'll want to leave the Log Window in ascending chronological order, so that each QSO you log appears immediately at the bottom of the list.

The Log window has two "panes"; the one above the grey bar is the normal log, while the one below the line is to show you previous QSOs with a station each time you type its call into the Entry Window. This makes it very easy to see quickly all the information about previous QSOs with a station, e.g. for that special someone who drops by and asks, "What was the serial number you gave me yesterday?"

Check out this section of Digging Deeper for more details.

Like all windows in N1MM Logger+, the Log window is resizable, as are the individual log columns - to resize the whole window, use your mouse to drag the lower right corner, and to resize a column grab the between-column divider and drag it right or left. You can move any window around the screen by dragging its title bar. Also, you can

change the font size in the Log window by clicking on the font sizer buttons at the top right.

## 4. The Bandmap
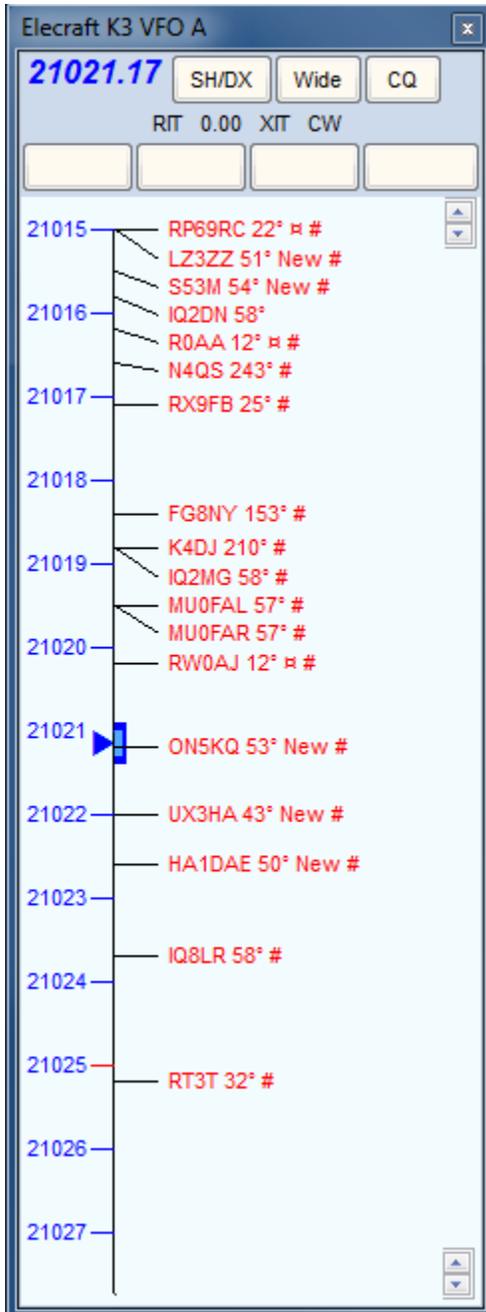


With an interfaced radio, you will find it useful to open a Bandmap window. Click Window, then select Bandmap, and the Bandmap corresponding to your entry window will be displayed.

In the example at left, I have filled the Bandmap with spots from a packet cluster, just to illustrate how spots are displayed. The stuff in the top bar is pretty self-explanatory. The

SH/DX button, when mouse-clicked, sends that request to the cluster (which you don't know how to set up yet). The button labelled Wide toggles filters in your radio, though you may have to set it up first (the process is explained in the manual). In any case, clicking on it switches TO the filter mode shown. The button labelled CQ will QSY the radio to your last CQ frequency, if there is one on this band. The RIT, XIT and CW are clickable. Clicking on RIT will turn RIT on and the label will turn red; ditto for XIT. The number between RIT and XIT is the RIT/XIT offset. The CW indicates the radio's mode; you can click on it to change modes on the radio. The four buttons below those are user-programmable buttons, typically used to control radio functions such as filters, noise blanker settings, AGC settings and so on.

The color-coding of spots in the Bandmap is the same as in the Entry Window, so each of those red calls represents a new multiplier in the contest. Spots that came from a CW Skimmer on the Reverse Beacon Network are marked with a #. If a spot was newly spotted within the last two minutes, the word "New" will appear beside it. You can change the font size in the Bandmap window using the font sizer up/down arrows at the top right of the bandmap.

If you want, you can mouse over a spot, and the program will tell you more about it.
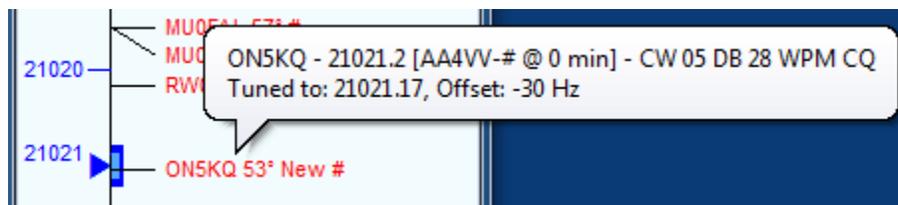


The information about the spot includes the frequency, who spotted it, how long ago the spot was posted, and spot comments (the comments on this spot came from a CW Skimmer). The second line in the balloon, telling you how closely you are tuned to the spot, only appears if the radio is tuned to a frequency close to the spot.

In a busy contest, certain parts of the band can get pretty crowded with spots. Pressing the numeric keypad <+> key will zoom the Bandmap in and spread the spots out, like this:
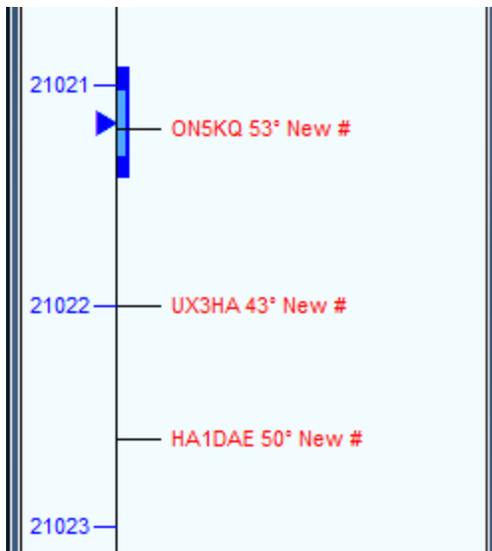
Pressing the numeric keypad <-> key will have the opposite effect. You can also zoom the Bandmap using the up and down arrow buttons in the lower right corner of the Bandmap window.

Another useful thing about the Bandmap: If you single-click on a spot, your radio will automatically be sent to that spot. If, instead, you click on the frequency scale (anywhere within the width of the frequency hash marks), the radio will go to that frequency. There are also keyboard shortcuts that will move your radio from spot to spot up and down the band. More on this later.
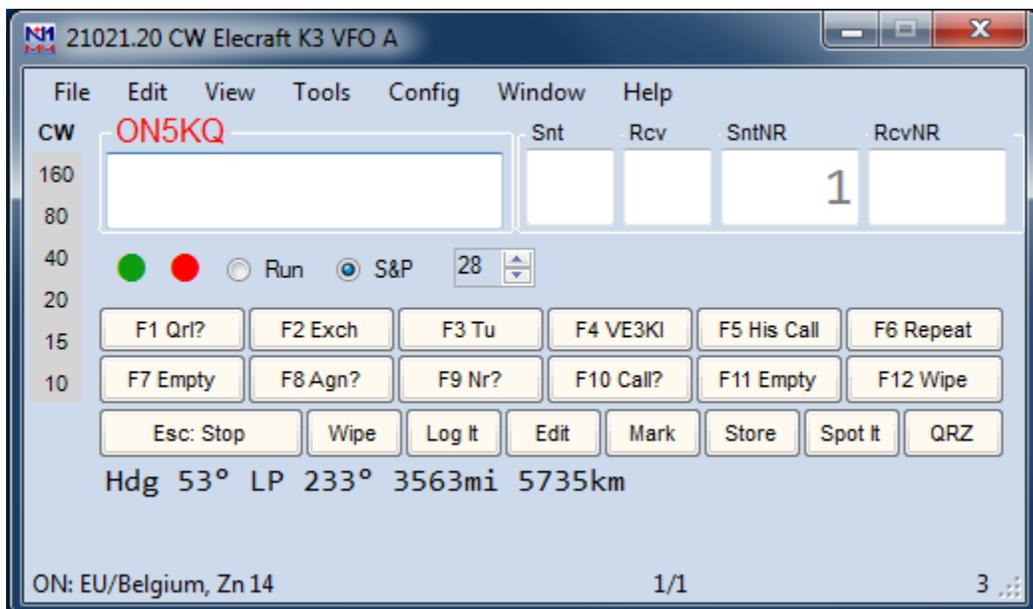


When you single-click on a spot, something else useful happens - the call-sign of that station is copied to the Call-Frame of the Entry window, like this. This is done this way so that if you discover that the station on that frequency isn't ON5KQ after all, you can just type in the correct call. This does happen now and then with packet spots.

However, let's assume it's correct. In that case, all you have to do is call the station, get him to answer you, and hit <Space>. Here's what happens - the call sign is pulled down into the Call-sign field, and the QSO is all set for logging, once you complete the exchange.
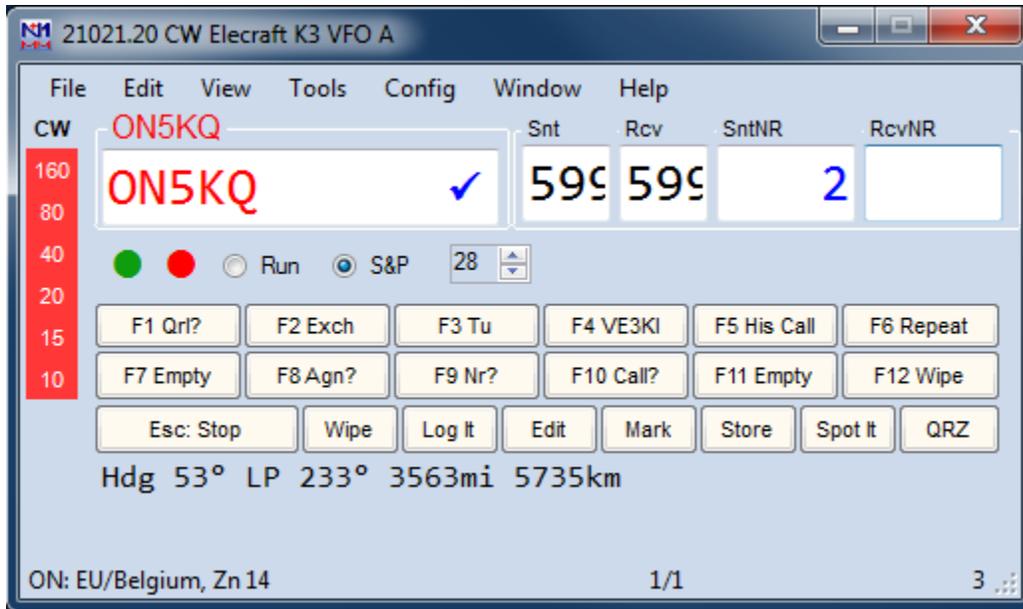


Another good thing **can** happen on the band-map when you complete a QSO and tune off the frequency - the spot's color code turns to grey, so that you know at a glance that you have worked the station already, and won't waste time when you come back to that frequency again.



To turn on this feature, click Config, and then, in the dropdown menu, click on the two items checked called "QSYing wipes the call & Spots QSO in Bandmap (S&P)" and "Show Non-Workable Spots in Bandmap" (see below). You need them both because grey spots are regarded as non-workable, and they will disappear unless Show non-workable spots is checked. If you hear a station and type in his call sign, but you don't work him and tune off his frequency, his call sign will appear in the appropriate color to denote whether he's a new multiplier or simply a valid QSO; either way you know to go back and work him later, if he's still there.
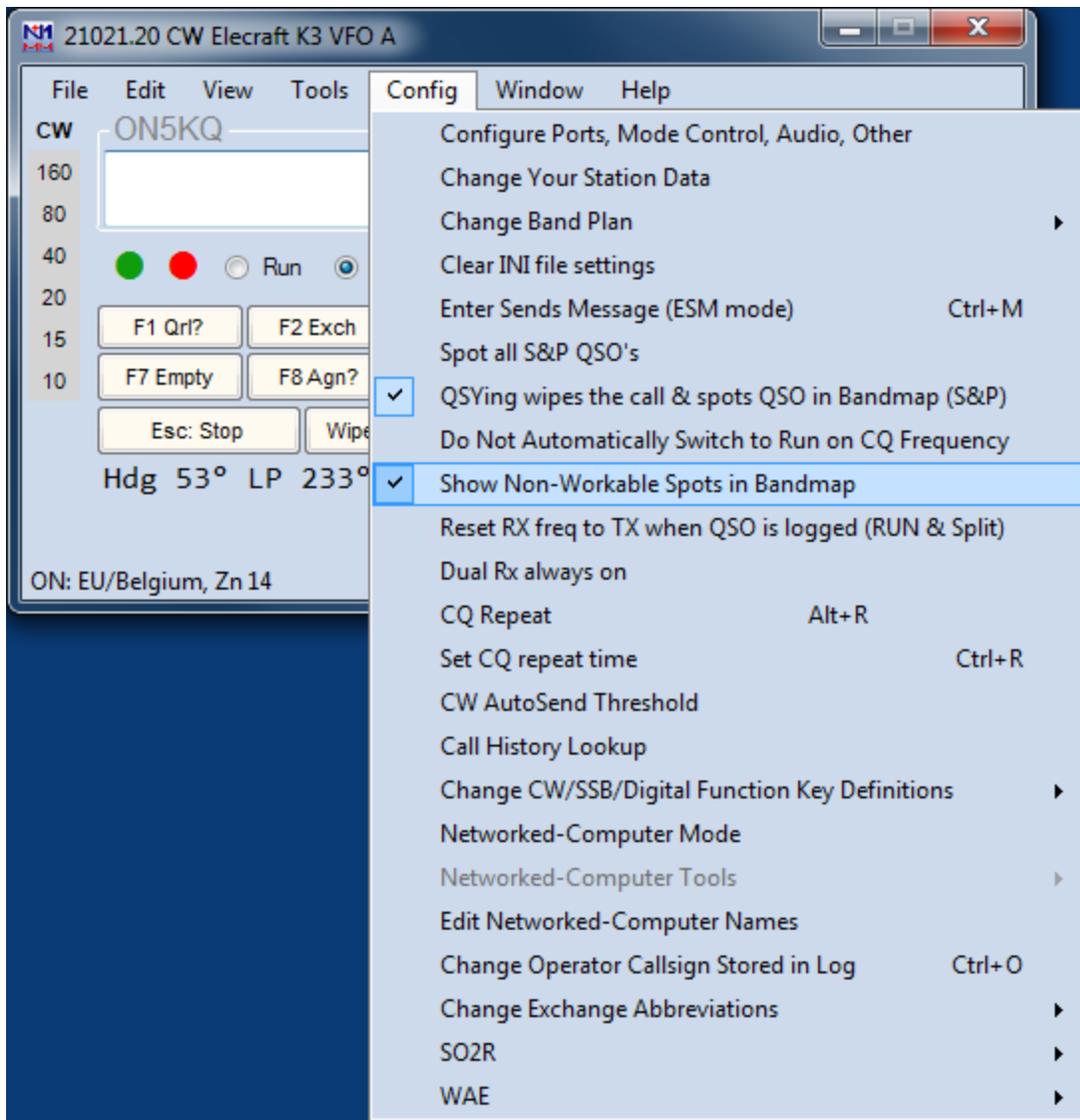
By the way, even if you never plan to use packet spots, the Bandmap is a very useful window. As you S&P your way up and down the band, each station you've worked will be marked with a grey self-spot, so you can skip by them the next time even if you have no packet spots.

You may be wondering how to move quickly up and down the Bandmap, hitting only the workable spots, or those that represent multipliers. This might be a good time to introduce another very useful section of the Manual. N1MM Logger+ makes extensive use of "hot-keys" to largely or entirely eliminate the use of the mouse during contest operations. There is a very useful section in Digging Deeper titled Key Assignments (Keyboard Shortcuts) which explains each and every such key combination. For example, under "Active Radio/Bandmap Key Assignments" it lists:

**Jump to Spots** *Note: If you are operating single mode, your mode won't change when jumping between spots.*

- **Ctrl+Down Arrow** - Get next spot higher in frequency.
- **Ctrl+Up Arrow** - Get next spot lower in frequency.
- **Alt+Ctrl+Down Arrow** - Get next spot higher in frequency that is a multiplier.
- **Alt+Ctrl+Up Arrow** - Get next spot lower in frequency that is a multiplier

Try these and see - with a full Bandmap and these keystrokes, it is easy to work 100+ search and pounce QSOs per hour, something that used to be regarded as impossible.

As we're finishing up this introduction to the Bandmap, it might be a good idea to offer another general hint when you're exploring the program. Be sure to right-click on each new window (other than the Entry Window), to see what options involving that window might be available to you. Each of these options is explained in the section of the manual dealing with that window.

If you do this with the Bandmap, you'll see this right-click menu:

**Elecraft K3 VFO A** ✕

**21021.20** | SH/DX | Wide | CQ

RIT 0.00 XIT CW

21020 —

RW0AJ 12° ¤ #

21021 — ▶ ON5KQ 53°

| Remove Selected Spot |
| Blacklist callsign |
| Blacklist spotter |
| Zoom In (Numeric Pad +) |
| Zoom Out (Numeric Pad -) |
| Go to Bottom Of Band |
| Go to Top of Band |
| Remove Spots, This Band Only, Leave Self Spots |
| Remove Spots, This Band Only |
| Remove Spots, ALL Bands, Leave Self Spots |
| Remove Spots, ALL BANDS |
| Turn Rotor |
| Show Last 10 Spots |
| Show QRZ |
| Show Station |
| Show Sunrise/Sunset |
| Set Transceiver Offset Frequency |
| Set Transceiver Timeout Time |
| Set Transceiver Filter Codes ▶ |
| Find a Callsign (use Alt+F8 to Return) |
| Bring to Foreground When Made Active |
| Reset Radios |
| Telnet Bands/Modes |
| Telnet Filters |
| Show Telnet History |
| Show My Call Spot History |
| Help |

21022 —

21023 —

21024 —

Of the choices here, Telnet Filters is perhaps the most useful. Click there and set the timeout interval in minutes - both self-spots and spots from packet will disappear after however many minutes you choose. Note that you can also set the two Config options mentioned above from this window as well.
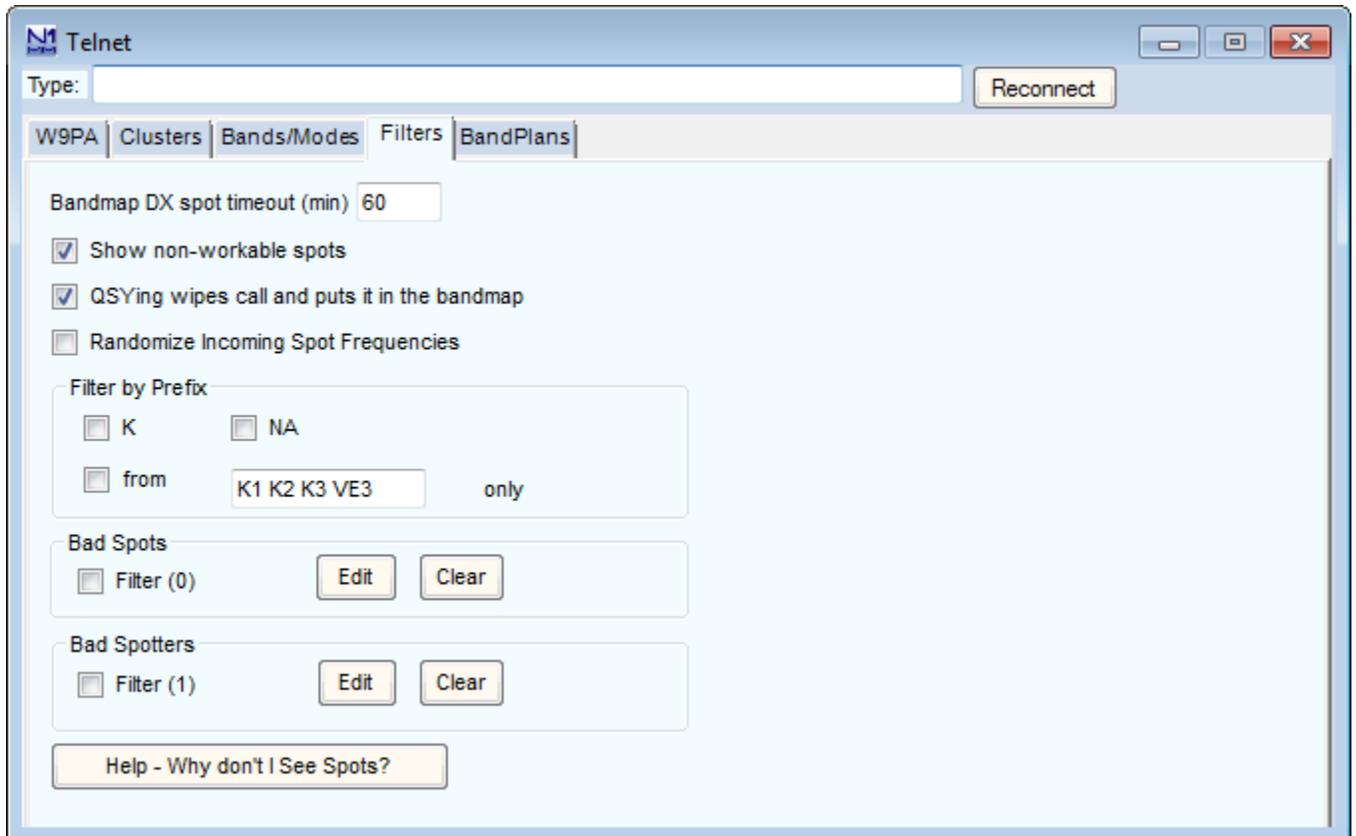


The Reset Radios command in the right-click menu is also useful in case you lose control of your radio for some reason. Click it, and the program resets the connection.

Check here for much more.

## 5. Logging Essentials

This listing pulls together a dozen (or so) keyboard commands that are essential in N1MM Logger. It was originally prepared to help a club planning first-time use of the program on Field Day

**General**

- Esc : stop, exit, abort, back out of whatever you are doing


**Logging**

- Spacebar or Tab : move between exchange elements

- Enter : log a completed valid QSO
- Ctrl+Alt+Enter : log an incomplete/invalid QSO with a note in the log
- Ctrl+N : add a note to the log
- Ctrl+O : to enter the operator's name or call sign (or type OPON in call sign field) - optional, use to keep track of who was operating when
- Alt+W : wipe whatever is entered so far (Alt+W again to undo the wipe)

**Changing logged contacts**

- Ctrl+D : delete last QSO from log
- Ctrl+Q : Quick Edit last QSO
  - while in Quick Edit (blue background), use Ctrl+Q to go to earlier QSO in log, or Ctrl+A to go to later one
  - Enter to accept changes, Esc to abort and return to logging

**Changing current frequency & mode**

- To change modes, type CW or SSB or RTTY or PSK into Entry window, hit Enter - or, if your radio is interfaced for radio control, just change modes on the radio

- To change frequency, type the frequency in kHz into the Entry window, hit Enter - or, if your radio is interfaced for radio control, change frequency on the radio

**CW/SSB/Digital (needs CW keying interface/voice keyer/Digital interface respectively)**

- Alt+U : switch between Run & S&P mode and messages
- F1 : send CQ message and switch to Run mode
- F4 : send your own call sign (S&P)
- ; key or Ins : send his call sign + exchange message (F5 + F2)
- ' key : send TU and log QSO (F3 + Enter)
- = key : re-send last function-key message
- Alt+K : edit current function-key message buttons
- Ctrl+K : ad lib keyboard CW/digital text (use Enter or Esc or Ctrl+K to end)
- PgUp/PgDn : CW speed up/down

# 1.8 Operating a Contest

---

## 1.8.1 Before the Contest

This section addresses, in a brief and informal way, steps that you should take to get ready for a contest season and for each contest. It is worth reading. Where appropriate, links are included to point you to more extensive information.

## 1. Update Your Data Files

Make sure you have imported the latest **wl_cty.dat** file into the database you will be using and downloaded the latest Super Check Partial (**master.scp**) file prior to the contest. Menu options for doing this may be found on the Tools menu of the Entry window.

If you are using a Call History file, import that into the database also and make sure Call History Lookup is on. More information about Call History can be found in this section?.

Load the function key definition file that you plan to use into the database too. If you make any changes during testing, export your function keys to make sure your changes are saved. An explanation of how to create function key definitions is found **here for CW** and **here for phone**. Click here to **download Sample Function Key files** for the major contests. Click here to **watch videos about downloading and configuring** your data files.

## 2. Test

Today, the program supports CW, SSB and multiple digital modes, close to 300 contests, and a wide variety of radios and ancillary equipment. Contest rules change all the time, and organizers often forget to let logging software developers know. If this were a conventional software project, any sane programmer would declare it "untestable."

Since its early days, the N1MM Logger project has relied on users to do most of the testing. Rapidly releasing relatively small updates, with the option of retreating a version or two if necessary, makes this a relatively low-risk approach, **so long as users test each one enough in advance of the next contest they want to get into.**

If you are planning to operate in a contest a couple weeks from now, load the latest update NOW, create a contest "instance" as outlined here, sit down with your radio, computer, DX cluster connection, keyers, and whatever else you use, and simulate

logging a dozen contacts as if you were running (enter a make-believe call, type and hit function keys as fast as you can). Then log a few more in S&P mode. Make sure your messages and macros work as expected, make sure you can record and playback SSB messages on the fly, make sure the multipliers you think should be counted are scored right, log some contacts that **shouldn't be** multipliers or points and make sure they are handled properly. If operating Assisted, grab some spots, make some spots, check the color-coding of spots against the contest rules. Make detailed notes of problems, if any.

A lot of problems are the result of a local issue - hardware settings, user options or the like. Do take the time to check the documentation first, but then **don't** hesitate to ask for help on **the N1MM+ reflector** ⬀ . 4000 users and the N1MM team are there to help.

*With thanks to David Robbins K1TTT, from whose input this section was adopted.*

---

## 1.8.2 During the Contest

### 1. Making Contest QSOs

Make sure you have your CW or SSB or digital function key definitions set up the way you want, set up as outlined in Before the Contest.

Now let's begin. There are several ways to make and log a contest QSO with N1MM Logger+, depending on how much you want to automate the process. The details are the same for either phone or CW. The 4 main ways you can use the stored messages are listed here in ascending order of speed and convenience.

**1. One key at a time** - press a function key when you want to send the associated message. Use the <Space> bar to move your cursor. When you have everything filled in, press <Enter>, and the QSO will be logged. Done this way, a typical Run (CQ) QSO would look like this:

1. F1 (CQ)
2. Station answers - copy call in callsign box
3. Say his callsign (phone) or press F5 to send it (CW)
4. Press F2 to send the exchange (either a stored voice message or CW)
5. Press <Space> to move the cursor to the exchange field
6. Type in the received exchange
7. Press F3 to send your acknowledgment
8. Press <Enter> to log the QSO

**2. Semi-CT Style** - CT was the DOS logging program that pretty much started all this. It used the following convention to save keystrokes:

Enter the callsign of the station calling you. Press the <Ins> key to send his call and your exchange (CW), or speak his call and then press <Ins>. Once you have copied his exchange, press F3 (TU) and <Enter> to Log. If you are calling other stations (Search and Pounce, or S&P), you would first press F4 to send your call, and when the station responds follow the sequence as above.

**3. Early N1MM style** - Enter the callsign of the station calling you. Press the <;> key to send his call and your exchange. Copy his exchange and press the <'> (right next to <;> on US keyboards). The program sends the F3 (TU) message and logs the QSO. In S&P, you would hit F4 first, then <;>, and then <'>.

This saves some keystrokes, but there's an easier way. A couple of decades ago, N6TR developed the idea of making TR Log "modal." By that, he meant that the program would behave differently depending on whether you were in Run or S&P mode. Making this distinction let him massively simplify and shorten the sequence of keystrokes required to complete a QSO.

**4. Enter Sends Messages** - N1MM Logger has now evolved N6TR's invention into what is called Enter Sends Messages, or ESM for short. You'll find a full explanation of this mode in this section.

In short, ESM enables you to enter a callsign and then step through the remaining steps in logging a QSO, simply by hitting the Enter key. The program anticipates what you'll want to do next, moves the cursor, and highlights what canned message will be sent if you press Enter the next time. Note that if you wish, you can still press individual function keys at any time, to send a repeat or otherwise bypass ESM.

Once you've used ESM, we think you'll never go back to the old way again.

## 2. Bugs Encountered During a Contest

When a bug was missed during testing and comes out during the contest please report it on the reflector right after the contest or, during the contest if it is a show stopper. Tom and the developers participate in many contests but they also read the mail during contests and can suggest work-arounds or sometimes bring out a new version. In addition, there are many other hams available there who can help.

Rather than writing down problems during the contest, try the following:

1. Use Alt+N to write a Note that will be attached as a comment to the QSO
2. At the end of the contest, use the menu option >View >Notes to see all the notes you have made during the contest

---

## 1.8.3 After the Contest

## 1. First, a Word on Protecting Your Data

After almost every contest, we hear from a new user (or sometimes even an experienced one) who is afraid he or she has lost the log from the contest just completed. Fortunately, it is usually not true, but here are a few things to remember:

- Backup - this is just as important with logging software as with any other computer application. Data not backed up can be data lost if something happens to your hardware or you make a mistake while manipulating the log database **if you haven't backed it up**. N1MM Logger+ stores all your QSO data in a file with the extension **.s3db**. The name of the file is whatever name you assigned to it when you first set up the program. There are other databases also used by the program - N1MM Admin.s3db, N1MM Packet Spots.s3db, and Do_Not_Use_Or_Erase.s3db, but all the QSO data are in that first one. The easiest way to do really secure backup is to use a free backup program such as Syncback SE to back up your active QSO database to a USB "thumb drive." Any such drive you can buy today is plenty big enough, dirt cheap, and safe from virtually anything short of a ball peen hammer.

- Save A Copy - Before you do anything, even if you just want to peek into your QSO database with an SQLite viewer, save a copy manually to a safe location. You are, after all, only human; we all can make mistakes, so it's wise to do what you can to protect yourself against them.

- Transaction Files - During normal operation N1MM Logger+ saves the information about each QSO in a simple text file. These files are stored in a sub-folder in the Databases folder in the user files area and can be used to recover in the event the database file is corrupted.

  - Here's an explanation of how you can use those files to recover your data quickly, during a contest, or at your leisure if you haven't done one of the two steps suggested above:

- The transaction log is created for each contest you log to
- The file is closed after each transaction and reopened to force the data to be written to disk
- To keep things simple and foolproof, you are not allowed to change the name of the transaction log
- The name is used to make sure you are loading it properly, and to prevent mixing logs of two contests. Example name: 'CQWWCW - 2005-09-19 - 14.TRN' i.e.: Contest name - date log created - an internal index number
- To Recover your log, you MUST import the transaction log into a NEW (empty) database and a NEW contest log. See this link
- The new contest log must be the same contest as the contest from the transaction file (Example: if restoring CQWPXCW, the new contest must also be CQWPXCW). Why? To prevent a user recovering from a database problem making the problem worse. This will prevent any issues from duplicate contacts and a number of other problems
- As you load the transaction log, a new transaction log is automatically made with the transactions in the first log. Thus you should never have to merge logs. You always use the last one

## 2. Editing Individual QSOs

The easiest way to edit a QSO is by double-clicking in the Log window on the data you want to change. In rare cases, you may need to select the QSO in the Log Window and right-click. Select "Edit Contact." The Edit Contact Window will appear - for full details see the explanation here.

✕

**Crackdown on Post-Contest Logging Changes**

Contest sponsors are cracking down on post-contest log "massaging" that uses resources you access after the contest is over. The CQWW Contest Committee has recently been particularly explicit about this, saying that "the...Committee considers it unsportsmanlike to 'clean' your log post-contest using data sources such as recordings, call sign databases, etc." This kind of restriction is **not** intended to apply to post-contest log changes that are based on things you noted during the contest, such as problems with the CTY.DAT file, bad abbreviations for counties, states or provinces, etc. If you caught it during the contest, you should feel free to fix it afterward.

## 3. Entering Multiple QSOs After the Contest

Computer trouble? Made a paper log during (part of) the contest? The program has some nice features that will allow rapid QSO entry. You can either enter the time for each QSO, or there are features to let you set the date and time via interpolation. (Remember, exact QSO times are not critical for contest sponsors, just within reason).

- Type frequency band (4 or 5 digit numeric frequency, e.g. 7000, 14000) in the call-sign textbox of the Entry window and hit Enter. Then type the mode (CW, USB, LSB, etc.) and hit Enter.
- Enter calls and exchanges, and log them, as long as they are on the same band. Don't worry about date and time right now.
- When you need to change bands, enter the new frequency band and continue.

### 3.1. Change Time/Date for a Single Hand-Entered QSO

Updating the date and/or time of a single QSO is best done by double-clicking on the time stamp for that QSO and then using the date-time box that appears to edit the date and time. Alternatively, you can use the Edit Contact option in the right-click menu associated with the Log Window and edit the date and/or time in the Edit Contact window.

### 3.2. Change Time for Multiple Hand-Entered QSOs

This method can be used to interpolate approximate times for a series of contacts. This time interpolation feature is most useful if you have a bunch of QSOs to enter. If you have one or two QSOs whose times need changing it is easier to do it by editing in the Log

✕

#### Make a Copy of Your Log

Make a backup copy of your log database. You cannot (automatically) reverse the time interpolation process below. You have been warned!

- In the Log window, single-click the **first QSO** whose time and date you want to change. to highlight the row
- With mouse over the Log window, right click
- Select >Set Start Interpolation Time Row
- Enter the new timestamp for the first QSO, and click <OK>
- Now, click on the **last QSO** whose time/date you want to change, to highlight the row
- With mouse over Log window, right click
- Select >Set Stop Interpolation Time Row
- Enter desired time for that last QSO, and click <OK>

✕

#### Changing QSO TIme and Date

The utility will average out the time for each QSO in the group of QSOs you have selected. **Remember there is no "undo" feature**,. If you have a large gap in time in your hand log, enter the first batch of QSOs, and do the interpolation. Then enter the second group of QSOs and do a 2nd interpolation.

## 4. Change All QSO Times/Dates by a Fixed Amount

✕

**Back Up Your Log Database**

While you could easily recover from a mistake during the following adjustment by performing another offset, it is still a good idea to play safe.

This will fix a log where all QSOs are off by a fixed amount of time (for example, when the times are correct but the dates are wrong by one or more days because the QSOs were entered after the contest).

- Right click in the Log window
- Select >Change timestamps of the entire log by a fixed amount
- A dialog box will open, and enter offset time (+ or -) in minutes

The date will automatically adjust if the offset rolls a QSO into a different day. Time is entered in minutes, and can be negative time to go backwards. (You might need a calculator to determine the offset minutes if your date was off by many days, months, or years). For example, entering +1440 will shift a complete day forward; -2880 two days back.

## 5. How to Create Cabrillo Files

To submit your log, you need to export it from the database in the proper format. Cabrillo is used by all major contests.

- Select File >Generate Cabrillo File.
- Make sure that your Station information (Config >Change Your Station Data), and overall contest setup are correct (in the Contest Setup dialog, reached through File >Open Log in Database ...). For example, is your entry class correct? Your power classification? Whether Assisted or not? Are your State and ARRL Section both entered correctly in your station data?
- Did you put the right information in the Sent Exchange field, and nothing else? For example, when the exchange in a contest is 5NN WV, it may be tempting to put the whole thing in the Sent Exchange. That will screw up the Cabrillo file with multiple signal reports for each QSO, so get in the habit of putting the signal report in your stored messages, **not** in this field.
- A Cabrillo file will be created named <yourcall>.LOG. By default this is placed in the ExportFiles sub-folder in the N1MM Logger+ user files directory, but you are given the options of choosing a different name and/or of saving the file anywhere else you wish.

It is a good idea to rescore your log (Tools >Rescore Current Contest) before generating the Cabrillo file.

## 6. How to Merge Contest Logs

If you ran a multi-op station but did not network your logging computers, you will need to combine the logs from each computer into a single log submission for the contest sponsors.

**6.1. Using N1MM Logger+ and ADIF Files to Merge Logs**

This merge method is the most automated and should require no manual log editing, but will only succeed if the contest types in each logging computer were identical. If the contest types were not identical, it may be possible to recover with the help of a text editor and some detective work, but it will likely not be easy. It's better by far to avoid this situation by using the identical contest types during the contest.

1. Examine the logs to ensure that the contest types are identical in each computer: >File >Open Log in Database
2. Export an ADIF file from each logging computer: >File >Export >Export ADIF to file. Assign a unique name to each ADIF file to distinguish it from others when importing. Before continuing, guarantee that the contest types from each computer were identical by opening each ADIF file with a text editor (like Notepad) and looking for the ADIF expression CONTEST_ID. They should all be the same length and contest name. For example: <CONTEST_ID:14>ARRL-FIELD-DAY
3. Copy all exported ADIF files to the computer that will create the merged log
4. Launch N1MM Logger+ in the merge computer. If the merge computer is one of the ones that was used during the contest, you will need to create a new database for the merged log: >File >New Database. Now in the new database or on the new computer, create a new contest log for the merged records: >File >New Log in Database. Be careful to make the contest type identical to the contest type that was used during the contest
5. Import the extracted ADIF files one after another into the new contest log: >File >Import >Import ADIF from file
6. Use >Tools >Rescore Current Contest to rescore the contest
7. Extract the new, merged contest log for submission to the contest sponsor: >File >Generate Cabrillo File

**6.2. Using Excel and Cabrillo Files to Merge Logs**

In some circumstances, it might be easier to combine logs outside N1MM Logger+ by importing the Cabrillo files into a spreadsheet program like Excel. As with the ADIF method, this works best if the contest types are identical, or at least use the same Cabrillo format (i.e. similar contest exchanges, same columns).

1. Create a Cabrillo file from each log: >File >Generate Cabrillo file. Assign a unique name to each log file to distinguish it from others when importing
2. Copy all exported Cabrillo log files to the computer that will create the merged log
3. Combine the QSO records from each Cabrillo log into a single text file using a text editor (like Notepad). Open each Cabrillo file, and copy only the QSO records - leave out the header information in the beginning and END-OF-LOG

statement at the end. Paste this QSO information into a new text document (a .TXT file) with the QSOs from every log.

4.  Launch Excel in the merge computer, and import the combined .TXT file into a spreadsheet. In Excel: >File >Open, set file type for TXT, and select the merged QSO log file. In the Excel text import wizard, declare the original data type as fixed width. In the Data Preview dialog window, adjust the field delimiters as necessary to begin each Excel column at the beginning of a log field. Press <Finish>. Examine the QSO columns in the spreadsheet to ensure that your import was successful

5.  Select the entire spreadsheet using your mouse or <ctrl-A>, then sort the spreadsheet by date and time: >Data >Sort, column D (date), and column E (time)

6.  Export the sorted log data to a space-delimited file: >File >Save as >FORMATTED TEXT (Space Delimited) .PRN

7.  Using an editor, copy/paste the Cabrillo header information and END-OF-LOG statement from one of the original Cabrillo logs into the sorted data file. Rename this file as a .LOG file type and submit it to the contest sponsor.

## 7. How to Print the Log

There is no specific option for printing a log directly. However, if you Click on Export on the File menu, there's a variety of options that can be used to create a file that you can then print a copy of:

| Export ADIF to file | ▸ |
| Export to File (Generic) | ▸ |
| Export EDI to file by band... | |
| Print Score Summary to File... | |
| Export Call History... | |
| Export Function Keys to File | ▸ |
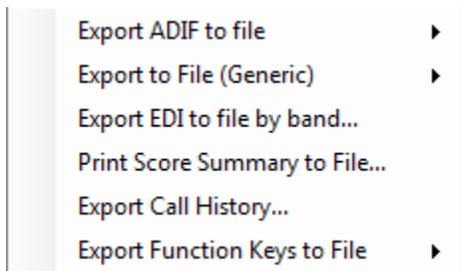
The most likely reason for wanting a printed log is for awards submissions or archiving. Because N1MM Logger+ is not intended as a general-purpose logging program, it does not offer award tracking functions. However the ADIF file option will give you a file that can be readily imported into any popular general logger. If you just want something for a notebook, the Generic export will give you a text file that can be printed from Notepad.

## 8. How to Get Statistics

From the View menu item in the Entry window, choose Statistics. This tool allows you to select any two data points of interest. For example, you can select hours for the Row and Zones for the Column, and the program will display a table of how many QSOs in which zones were worked in which clock hours. This is a lot easier to use than it is to explain in words, so give it a try.

# 1.9 Finding Help

## 1.9.1 The On-Line Manual or Off-Line PDF Files

This wiki-based manual is now maintained in real-time by volunteer authors who make changes to this document as the program changes. If you are reading this on the web, you are reading the absolute latest version of the N1MM Logger+ manual. It may lag announced program changes by a few days, but hopefully not more than that.

However, you may need to access the N1MM Logger+ manual from a location without Internet access; or you may prefer using Adobe Reader to view and search the manuals.

There are two methods for accessing the pre-built copies of the documentation in Adobe PDF format. Instructions for downloading the files can be found here: **Download Existing PDF Files** - these instructions are from N1MM Logger Classic, but the same methods should work for Plus.

To make your own off-line copies of the current English manual (either printed paper copies, or electronic PDF / HTML copies), see the **Off-line Copies of Wiki Documents** chapter in the wiki Users Guide.

## 1.9.2 N1MM Logger Discussion Groups

### 1. General Information

Users of N1MM Logger Classic will be aware of the two user groups that were set up for N1MM Logger Classic. These groups, with literally thousands of members, are devoted to all aspects of N1MM Logger Classic, from proposed features to questions and reports of bugs.

A new user group has been set up for N1MM Logger Plus. All the queries and reports related to N1MM Logger Plus should be sent to the **N1MM Logger Plus user group**⬚, and not to the old groups.

The development team will continue to track both old and new user groups, although N1MM Logger Classic was essentially frozen when N1MM Logger Plus was released.

|  | All program issues relating to N1MM Logger Plus |
|---|---|
| Post message | N1MMLoggerplus@yahoogroups.com |
| Subscribe | N1MMLoggerplus-subscribe@yahoogroups.com |
| Unsubscribe | N1MMLoggerplus-unsubscribe@yahoogroups.com |
| List owner | N1MMLoggerplus-owner@yahoogroups.com |

Everybody can **read** the messages from the support group. To **send** messages you have to join the group. Your first post must be approved by the moderator. This prevents spammers from using the list. There are close to 4000 members on the N1MM Logger Classic group, and we expect almost all of these users to migrate to the N1MM Logger Plus group during the first year or so after the release of Logger+.

## 2. Rules for Posting to the Yahoo Reflector

1. When you report a problem you should have tried to reproduce it using the latest version. We don't support any but the latest version. Please include:
   1. Program version
   2. Operating system version, bits & memory
   3. CPU speed
   4. Contest name
   5. Radio types (and connection particulars if this is an radio i/f problem). Make sure you indicate whether you are using a usb to serial adapter.
   6. SO1V/SO2V/SO2R
   7. Any port sharing software (LP Bridge, VSPE, etc.). We don't support those but you are welcome to ask the group for advice.
   8. Any error code AND description in the original language and in English if you can translate it.
   9. Mode and method of interfacing to that mode:
      1. CW: LPT/Serial/Winkey?
      2. SSB: Sound card interface
      3. RTTY: interface, RTTY engine(s), AFSK/FSK, etc.
      4. A detailed description of the problem. Don't just say, *"Hey I installed the program and I got an error! What's up with that? Anyone else seeing that?"* Save everyone some time. Document the situation in your post.
2. Be proud of your callsign. Put it in every post. If you don't put it in your first post, I won't approve it.

3. Don't spam. These are groups for discussing the program. People subscribed for that reason. They don't want for sale messages, announcements of your contest, or other off topic posts.
4. Think about the topic of your post before you post it. Make the subject relate to the specific content of your post. The following are useless subjects:
   o N1MM
   o Hey!
   o A quick question
   o N1MM Logger bug report
5. Add SOLVED to the title of a post that contains the solution to a problem you posted. PLEASE post the solution. People have put effort into helping you solve your problem. Do them the courtesy of posting the solution. I once sent an HF radio in for repair when I had accidentally turned the squelch and there was no audio. We all do embarrassing things. Fess up if you did something like that and asked for advice.
6. Read all the posts about a subject before you post a response. If a post already says what you were going to say, avoid saying "me too!". It just clutters up the group with messages.
7. If you have a post that is a digi problem, post it on the digi group.
8. If you ask a question, check for answers. It is RUDE to check back 3 days later. Check back within an hour, 8 hours max. NEVER say, "please reply direct, I don't check the group for messages." If you are going to ask 4,000 people to read your post in order to get your problem solved, you owe it to them to have the answers posted on the group. Exception: You can ask for direct responses if you are doing a survey and post the results after compilation.
9. Join the group before you have a problem. We approve new users several times a day, but sometimes we go on vacation (believe it or not) and only approve once a day.
10. Post your message at the top of the message thread and include the whole thread. It saves us a lot of time researching problems if you follow this rule.
11. Above all, remember that you are going before 4,000 people with your posting. Take some time to prepare what you are going to say, rather than just dash off some half-baked post. I'll never forget what Mrs. Peoples, my high school English teacher said about one of my error filled papers, "If you didn't bother to read this, why should I?"... Same thing applies here. If you want help, demonstrate your willingness to do your part of the work.

73,
Tom - N1MM
posted to the reflector 2013-02-07

---

# 1.9.3 Tom's N1MM Logger Tips and Tricks

This chapter gives some tips and tricks on using the program. All tips are from Tom, N1MM unless otherwise mentioned. The tips are examples how you could use the program, not how you should use it. That is up to you!

## 1. Bandmaps, Entry Windows and the Mysteries Thereof...

**Two Entry Windows**

Here is what you should be able to do:

- Change keyboard focus with backslash **\**
- Change keyboard and transmit focus with **Ctrl+left/right arrow** or toggle with the **<Pause>** key.

With one vfo on one band, and another on the same or second band, you should be able to jump from spot-to-spot using **Ctrl+up/down arrow** on the main vfo. With **Ctrl+Shift+Up/Down arrow** , you should be able to jump from spot to spot on the secondary vfo. If your radio has dual receive (Orion, FT-1000 series), you should be able to listen to both VFOs at once. **Alt+F12** swaps MAIN and SUB receiver.

With the Orion and FT-1000 series, the way I envision this being used in S&P: You would find a station on the main vfo, and wait for it. In dual receive, you would used **Ctrl+Shift Up/Down arrow** to find another station that is ready to be worked. You would call whichever station is ready first. This could be done on two bands (SOA), or on a single band (MM). If one has spotted a number of calls locally (QSYing wipes the call & spots QSO in bandmap), one could use it on one or more bands in SO.

**Bandmaps - Clicking on a spot** on either bandmap will set that vfo to keyboard & transmit focus, and put the call in the callframe. **Double-clicking** will put the call in the callsign field.

Please print and read the keyboard assignments help. You will be rewarded with greater enjoyment of the program. Trust me.

## 2. Bandmaps and the Available Window, What are They Good For...

The ONLY time they are to be used is for Search & Pounce AND the only thing they are good for is to do a quick match up of a partial call you hear on the radio with what you are seeing go by in the band map so you can keep moving instead of stopping to listen. That being said, the size of the band map can be kept small and well zoomed so it only shows a narrow part of the band...

Now why you might ask?? I want to see multipliers that just got spotted at the bottom of the band when I'm CQ-ing up at the top of the band, or I want to see multipliers on another band. THAT is what the Available window is for! Learn to use it and it will serve you well in finding multipliers on other bands. So shrink the band maps and enlarge the Available window and
be more efficient at both scanning the band yourself and grabbing spots. Now wait, what about if I want to tune up the band to the next multiplier, shouldn't I have more band map shown so I can click on the next one up the band??? NO, that is what **Ctrl+Alt+Up Arrow/Ctrl+Alt+Down Arrow** are for, if you want to click on mults use the Available window list instead... sort it by frequency
if you must, but I prefer to go after the freshest spots first since they are most likely to still be there. 73, Dave K1TTT

## 3. N1MM Logger Contest Technique

I can't emphasize this enough. All the pretty bandmap stuff is not there to look nice. It's there to help you make Q's. Here is how to do it...

When there are lots of spots in the bandmap, you can work lots of stations with S&P. Start anywhere in the band. Press Ctrl+Up. Listen. Is he CLOSE to ready to be called? If yes, call him. If not, press Ctrl+Up again. Repeat this until you work through all the available Q's. This way you don't waste time listening to endless repeats when one station is working a weak one. I have made a 90/hr rate doing this.

More tips: If a spot is dead, or not in a legal part of the band, use Alt+D to delete it. You won't have to stop at it next time.

If you don't want to see spots for the wrong mode, right-click Allow spots for this contest's mode(s) only in the packet window. Be careful using this one on 80 & 40.

Print the Key Assignments for how to jump between mults.

Variation: You are CQ'ing, but the rate is slow. Use the S&P technique to jump between spots. Then quickly return to your CQ frequency with Alt+Q.

Unassisted S&P: DO NOT TURN OFF "Show non-workable spots". The only exception is for Sprint contests, such as the NA Sprint, EU Sprint and AP Sprint, where stations change their frequency after every QSO. Here is my recommendation. Tune up or down the band, listening and watching the entry window for band edges, but also for calls that you have heard before or worked before in the callframe. If the call is unworkable, speed up your tuning, and find the next station. When you come to a station who is working someone else, type in his callsign. Work him if it is quick. If not, tune on, and the guy's call will be spotted. Tune up for a short time, then return to his freq with Ctrl+Up or Ctrl+Down. If he is ready, work him, if not repeat the process of trying to find another station.

The bandmaps are not supposed to be nice & clean. They are supposed to show you where stations can be worked. The bandmaps can be zoomed with the numeric +/- keys or by right-clicking on the bandmap. It is important to know if a frequency is in use to save time listening to a dupe or non-workable station.

The final, dirty little secret... What do you call a spot where there is no station? Your new CQ frequency...

Rate is everything...

## 4. Start of the Contest Season

Approaching CQWW SSB means the start of the main part of the contest season. Enhancements to the program will be curtailed during this part of the year to focus on eliminating any bugs or performance problems.

### 4.1. Testing

Please start testing with your favorite fall/ winter contest in the autumn. Make a copy of ham.mdb (or whatever you have called it), and use last year's contest as a test platform.

Why?
Some problems only appear with larger logs. Find out performance issues. I rely on the users to let me know about them.
See Before the Contest for suggestions on how to test. Be sure to test anything that is unusual in your station set-up, in caase a gremlin has crept in that other testers haven't discovered. Report what you find on the reflector.

### 4.2. Key Assignments

Now is also a good time to review the Key Assignments. That is a good place to start to pique your interest in what the program can do. The Key Assignments Shortlist is great to print and hang beside the radio.

### 4.3. Enter Sends Messages (ESM) Mode

If you are planning to operate CW or RTTY, you MUST learn about ESM (Enter Sends Messages). It reduces fatigue and errors by sending the right message each time just by pressing Enter. It may take you a while to understand and set up ESM, so don't leave this to the last minute. Believe me, those that learn to use ESM, love it.

### 4.4. Dual Entry Windows

It would be a good idea to try those out, so you don't get frustrated during the contest. For your reference:

\ backslash switches keyboard focus, **Ctrl+left/right arrow** and **<Pause>**change keyboard & transmit focus.
Also, **Ctrl+Fn**, and **Ctrl+Enter** send on the radio that does NOT have focus.

### 4.5. Configurer Options

Finally, make sure you understand what settings you want for the following Configurer options:

- SO2V/SO2R
- Send corrected call
- Send partial calls
- Stop sending CQ when callsign changed
- ESM only sends your call once in S&P, then ready to copy received exchange
- Config/QSYing wipes the call & spots QSO in bandmap

### 4.6. Autocompletion Mode

Later in a contest, you hear a lot of stations that you have already worked, whether on this band or another band.

If you check Autocompletion mode (Configurer | Other tab) the program will match the first characters that you typed to previous callsigns. It will then pre-fill the callsign field with the rest of the call. The portion of the call that you did not type will be highlighted, and you can remove it with the delete key. However, if you press space, the call will be kept in its entirety.

This function is similar to the technique used in Internet Explorer to "guess" which URL you are typing.

Some like it, some don't. Try it with an existing log that has a large number of QSOs.

## 5. Log Editing

You should rarely/never have to use the edit window during a contest. To get back to your last QSO, press Ctrl+Q. To go back another QSO, use Ctrl+Q again. And again. To go forward, use Ctrl+A. These keys ignore QSOs made by other stations when in Multi-User mode. It is also much better, because you are using the same Entry window to edit that your fingers have gotten used to. To abandon edit of a QSO, press Escape. The background color of the text panes changes while in "QuickEdit" mode.

## 6. Force to Log Whatever Heard

**Ctrl+Alt+Enter** will force the program to log whatever it doesn't recognize in the exchange field. The receive frequency is being reset to the transmit frequency.

### 6.1. Country Not Found When Logging Contact (no mulitplier credit)

1. The preferred way to handle this is to load the latest wl_cty.dat file prior to the contest

2. A second way to handle it is to force a particular call to a country with >Tools >Add Call to Country

   o   Note that this addition will be wiped out on the next reload of the country file

3. A third way to handle it is to add a note (Alt+N) to the QSO, and fix it later. >View > Notes will help you find those QSOs with notes

## 7. Having F1 NOT Always Send CQ

Pressing F1 will send the F1 message. Typically, F1 is defined as the CQ-key in the Function keys tab in Configurer. Pressing the CQ-key (i.e. F1 will place the program in Run mode. If you do not want to go to automatically switch to Run mode when you press the CQ-key, use the {S&P} macro in the F1 S&P key (13 th row).

## 8. Silence the Function Keys

If you want to 'silence' the function keys so they do not send anything and do not PTT the radio, just put a single blank space in the Fkey contents of the button you want to silence. A space is a real character, but not one that is transmitted, and the program knows not to switch the PTT in that case.

## 9. How I Recommend to S&P on a New Band

1. Look at the Available window. Are there any Mults to be had? (You should already know this, since you just chose this band.)

2. If there are mults to be worked, use Ctrl+Alt+Up/Down to jump to them on the Bandmap. Look at the Call-Frame for the callsign. Use your ears to decide if that's the station and that they are near ready to work you
3. Jump through all the mults until you have worked those that you can in a reasonable time. You may need to repeat the search several times to get them all. Note that you don't want to spend a lot of time waiting for them. Just keep going up and down the band and clean 'em out
4. Repeat the process with Q's that are available (Ctrl+up/down). When you find a dead frequency, try a short CQ. Maybe you can get a run going. Otherwise, clean out the available QSOs
5. Once you have worked all the spotted stations (assuming assisted), start manual S&P. Turn on "QSYing wipes the call..." option. If a station is hard to work, just keep going. The call will be spotted on your computer(s) only. You can use the technique in steps 1-4 to work him
6. Spot non-workable stations if you are a good typist. It's nice to know where they are so you don't waste time on them during the next sweep.

## 10. Setting Contest Goals

How do you get better at contesting? One way is to set goals for yourself.

The info window supports this by allowing you to set how many QSOs per hour you want to try to accomplish. As you are contesting, the four rate panes will let you know if you are at less than 50% of goal (red), between 50-100% of goal (yellow), or ahead of goal (green).

Note whatever goals you set for an hour will continue until the hour for the next goal is reached.

What if you want to beat last year's score?

The program supports that as well. Just open LAST year's log, and click the Import Goals button. Choose the day (1 or 2) and press enter. You goals are now set to your hourly totals from last year. Don't forget to start a new log for this year!

The goals will be kept until you reset them explicitly or until you LOAD A NEW DATABASE. If you forget this, the goals won't make any sense, because they will not be the ones from last year's version of your current contest.

You don't want to have a different database for each (small) contest. This is a common misconception.

## 11. Problems During a Contest

What do you do if you have problems during a contest?

1. Make sure you have a **previous version** of the logging program around that you have used successfully in the past.
2. Make sure you have **tested the program ahead of time** using the modes you plan to use during the contest. Log a few sample QSOs. Check all the windows

you plan to use. Connect to packet or telnet if that is your plan. You might want to run through a test plan.

3. If you find **problems before the contest**, please send the bugs in to be fixed as much before the contest as possible
4. **Check the update page** on the N1MM website. We frequently fix problems during the contest. The problems that we try to fix are either fatal ones, or low-risk ones. Nonessential functions that present some risk to fix, are left until after the contest.

## 12. Using Up/Down Arrows to Tune

The Up and Down arrow keys can be used to tune your radio. If you are in S&P, then just use them to tune in the station you are trying to work. This is particularly good for packet spots.

If you are Running, you might try this technique. Set your radio up for split, and use the up/down arrows as RIT.

The amount to be tuned up/down with each keypress is set in the Configurer >Other tab.

## 13. CW Tips

### 13.1. CW Macro Tip

Some calls have letter combinations where it's hard for to copy correctly. For example, 6Y2A is often copied as BY2A. To help make your call easier to copy, Go to >Config >Change Packet/CW/SSB/Digital Message Buttons >Change CW Buttons, and try changing the default F1 and/or F4 message where * is used for your call. In this example, 6Y2A changes F4 from * to >6<~Y2A.

Result: the 6 is sent 2 WPM slower compared to the rest of the call, and an additional half space is added between the 6 and Y. Try other combinations of <, >, or ~ to make your call easier to copy.

### 13.2. Contest Spacing for CW

Select >Config >Ports, Mode Control, Audio, Other >Function Keys >Use Contest Spacing for CW. The box is default ON. This setting changes the spacing between words in your CW, where "N1MM 599 5" is 3 words. Default is 6 bits for "contest spacing". When this box is not checked, 7 bits between words is used, which is "normal spacing".

## 14. Working Dupes

The default is to work them if you are the CQing station, but not to call them if you are S&Ping. The theory behind working dupes while running is that it's faster to work them than it is to argue, and you might really not be in their log. If that is the case, and they submit a log, you'll lose points by not working them.

The "work dupes" option in the Configurer is for ESM and running mode. All it does is determine what is sent when a dupe calls you AND YOU PRESS ENTER.
When using Enter Send Message (ESM) mode the behavior is as follows:

- In S&P using ESM, if you press Enter with a dupe call in the Entry window nothing will happen (intentional), but you can always work him by pressing F4 instead.
- In Run, using ESM, with "Work Dupes" checked, when you press Enter you will send his call sign and the exchange whether he is a dupe or not. If you want to send "QSO B4" you can just press F6 instead.
- If you don't have "Work Dupes" checked, then to work a dupe in Run mode you will have to press F5 and then F2 to send his call sign and the exchange; pressing Enter will send the F6 message.


All that being said, you can work dupes in either situation (Run and S&P) by pressing the F-keys.

A goal of the program is to promote good operating. Working dupes while running is good operating. That's why work dupes is the DEFAULT. It is an option because an argument was made that in a long exchange contest like SS, you might not want to automatically work dupes.

What I suspect happened is that someone turned work dupes off while playing with the program. This is a complicated program. Changing options that you don't know the meaning of can lead to a lot of confusion. My advice is:

1. Get the program working with your equipment
2. Save the ini file
3. Play with the options
4. Discard that ini file and revert to the one from step 2
5. Change any options you feel you truly understand and want changed
6. If an option doesn't seem to "do anything" — watch out! You might want to set it back to the original setting

## 15. What Setting Should I Use for Packet Spot Timeout?

For general DX-ing, 30 minutes is not too long.

For a contest, you might want to crank it down to 20 minutes, since there is more movement of stations. Also, a lower timeout will mean fewer spots are managed by the program. This may help performance for those with marginally performing machines.

For testing packet spot behavior when there are few spots, or for testing performance, a timeout setting of 1000 minutes might be right.

## 16. How Should I Really Use this Program if I am Single Operator Assisted (SOA)?

Try these techniques:

- Connect to a Telnet node. Do a sh/dx/100 to fill up the Bandmap initially.
- Pick the band with the most mults as shown in the Available window.
- Go to that band and use Ctrl+Alt+Up arrow and Ctrl+Alt+Down arrow to work all the mults on the band. Don't waste too much time on each one.
- Go back through the band and use Ctrl+Up arrow and Ctrl+Down arrow to work all other stations on the band. If you find that a frequency is dead, do you know what you call that? You call it your new RUN frequency! Call CQ and get a run going.
- When the run is over, go pick up any more mults or QSOs on this band.
- Now, either move to another band and repeat, or try these techniques. Turn on "QSYing wipes the call & spots QSO in bandmap" Tune up or down through the band, looking for stations you haven't worked. Enter all or part of their calls, then tune off. The call will be "spotted" in the bandmap. You can use Ctrl+Up/Down arrow to work them later. Again, what do we call a dead frequency? That's right, it's a RUN frequency. ;-) (As you are doing this, if you can work the station without waiting, of course you should work it.)
- If you don't want to type a call, and you know you don't want to work the station, you can mark the frequency busy with the Mark button (Alt+M).
- As you are tuning, watch the Bandmap. It will give you big hints as to whether you should waste time listening to a station. If you start hearing "grumble grumble" 2 kHz away from the frequency marked with Joe down the street's call, you know to speed right by.

## 17. How to Find a Worked Station in the Log?

There are three possibilities to find a worked call in the log. The results are shown in the bottom pane of the Log window.

- When entering the beginning of a callsign in the Entry window, after 3 characters a worked station starting with these three characters will be shown automatically in the bottom pane of the Log window.
- You can use the <?> wild-card character - for example entering N?M this is also enough to show N1MM and every other station that ends with N?M.
- When you only have 1MM and missed the first part of the prefix you can place a * in front of the characters you have. *1MM will show N1MM and every other station that starts with 1MM in the callsign.

Combinations are also possible:

- *1?M will show N1MM but also K1MR, J41YM etc.
- *3? or *3* will show all worked callsign with a 3 in the callsign
- *3*Z will show every station with a 3 followed by a Z somewhere in the callsign like K3ZO, VA3UZ etc.

Using a * is called a "like" search in SQL. The problem is that a "like" search is very slow so on slow computers this will take some time.
In VHF contests use Alt+= (equal) and the program will search everything which matches the content of the callsign and the gridsquare fields.

## 18. Databases versus Contests

There is a lot of confusion about how contests are stored in the logging program.
To clear this up, let's start with a couple of definitions:

**Database** - an SQLite format database file with a file extension of .s3db. Any number of contests may be stored in a database.

**Contest** - a set of QSOs within the database. They are stored in rows in a table called DXLOG. Each contest row has a ContestNr which ties it to a ContestInstance entry.

Much of the confusion comes from people thinking that they need to have only one contest in a /database. This is not the case. I have only one database that I log "official" QSOs in. (Of course I have many test & backup databases.) Why? because the performance of the program is not very sensitive to database size. I currently have about 14,000 QSOs in my database.
Now if you plan to go on a DXpedition and log 25,000 QSOs, I would recommend a separate database for that. For most users, no.

The most important thing to remember about databases is to BACK THEM UP. Periodically copy your database to a backup device, or zip it up and copy to a floppy. Even e-mailing it to work would do! It is your entire record for all of your QSOs using the program. Don't lose it. Also, if you are going to import data, or delete data, that is a good time to back up your database. If you don't have the data any more, no one can help you!

## 19. How to Upgrade the Database to a Newer Version? Move It to Another Machine?

The best way upgrade the database to the current version by opening it with a current version of the program on the first machine. Then you can open it with the same version on the second machine, and no database upgrades will need to be done.

Please do a backup first!

What is meant by a "database upgrade"? From time to time, columns, indexes, data etc. are added to the database. For each of those changes, the program queries the database to see if the change has already been made. If not, the program automatically makes the change. To the user of the program, this is automatic. All the user will notice is that program startup takes some additional time.

This works very well. Haven't had any complaints. Nevertheless, a database that is a year or two since the last time it was opened will have quite a bit of updating to be done. Why not do it on a known, working machine?

### 19.1. Deleting QSOs (especially important for Multi-User)

This topic affects all users, but multi-user contesters the most.

As part of the multi-user support, a DELETEDQS contest was implemented. When a contact is "deleted" with Alt+D or the Delete key, it is not really deleted. It is moved to the DELETEDQS contest. Yes, you could go to DELETEDQS, and remove it, but that would not be wise. Why?
Because there is no reason to delete it, and there are good reasons not to. With it in DELETEDQS, you can recover it by exporting it to an ADIF file, changing the ADIF file and importing it into the original contest. That, however is not the overriding reason not to touch DELETEDQS. The main reason is a Multi-User reason.

In multi-user, DELETEDQS is how I determine to "delete" a contact in the logs of other stations. Since no contact is ever really deleted, I need only gather all the QSOs and DELETEDQS logged by a station and add or update them in the other station's logs. This lets me avoid the danger of deleting rows in a database. Therefore, DON'T MESS WITH DELETEDQS during the contest. Make a backup after the contest of all the stations' logs. Then you can do anything you want, and I can help you recover, since you have a backup. If you don't follow this advice, you will not be happy. 🙁

Oh, but if it is a dupe, that's different, right? NO! Log dupes. Cabrillo doesn't care, the contest sponsor doesn't care, and it doesn't hurt your score. It CAN help your score. Log those dupes, and DON'T delete them.

## 20. QSYing Wipes the Call & Spots QSO in Bandmap

Have you ever noticed that the logging program will "spot" dupes in the bandmaps. That is, if you type in the call of a dupe then tune away from it, the entry fields will be cleared (wiped) and the call placed in the bandmap.

That feature is always active. There is a similar feature that you must turn on to use. It is called "QSYing wipes the call & spots QSO in bandmap". It does the same thing as the dupe spotting, but for other calls you enter. You must be in S&P mode for this to work.

This option is good for combing a band for stations to work during a contest. If a station you hear is not finishing a qso, you can move on to find another. The program will spot the call in bold, and you can use Ctrl+Up/Down to go back through and work the ones you skipped.

## 21. Exchange Abbreviations

What are exchange abbreviations?
Some contests require sections, counties or other entities for the exchange. These must be LOGGED with standard abbreviations. The menu item >Config >Change Exchange Abbreviations allows you to edit them.

What if you don't like for example the standard ARRL abbreviations? Well, you can enter your own. Let's say you'd like to enter CONN for CT. You can ADD CONN CT in the exchange abbreviation list and if you enter CONN or CT, the program will LOG CT. Don't replace the abbreviations that are already there. It's best to just add the ones you like. (I use the presence of certain abbreviations to determine whether to reload some of the lists.)

## 22. Too Many Calls on the Bandmap!

What do you do if the calls are crowded together on the bandmap? You need to zoom in or out...

There are two ways to do it. On a traditional keyboard, using the numeric pad plus (+) and minus (-) keys will zoom the current bandmap. If you want to do it with the mouse, hold the cursor over the bandmap you want to zoom, then right click. Choose zoom in or zoom out.

It is also possible not to show "non workable contacts". This means that only the stations are shown in the bandmaps which are valid QSOs in the contest and not have been worked before (all normally gray contacts will disappear from the bandmaps).

## 23. Gray Line Openings

Watch for gray line openings when your sunrise or sunset match the other station's sunrise or sunset. You must have entered your lat/long accurately (watch the +/-) in the Station dialog. Your sunrise & sunset times can be found in Help/About.

Sunrise & sunset for a prefix or call can be found by typing it in the entry window, and looking at the Info window. Note that the sunset & sunset times are for whatever central point in that country is specified in the loaded country file (wl_cty.dat or cty.dat).

## 24. QSO Confirmation

Some contest rules state that the received exchange must be acknowledged for the QSO to count.
If a contest sponsor wants you to acknowledge (i.e. confirm) the exchange, they mean for you to send "QSL", "TU", or "R" to indicate receipt.
This does not mean a resend from the report back to the station. A resend would provide verification, not acknowledgment. Only under rare circumstances would you ever repeat the other stations exchange.

## 25. Packet/telnet Button Setup

Here are the buttons I currently use for AR-Cluster nodes: I don't think these are necessarily optimal, but they give you an idea of what is possible.
NE only means (near) New England only. (W1 & W2). The first column is the command, the second column is the button label. & in the button label makes it an Alt hotkey. Anyone want to post a similar list for other cluster software? (Please test them first.)
Also, what about screening out cw or ssb spots when in a single mode contest?
Note that the menu item >Tools >Clear All Spots will remove all spots from the bandmap. You might decide that there was too many unreadable stations in the bandmap. You would set a filter (below), then clear all spots. You could then use sh/dx/100 to refill the bandmap.

| Button text | Command |
| --- | --- |
| BYE | BYE |

```
CONN        C K1TTT
DI/N        DI/N
SH/DX       SH/DX/30
USERS       SH/U
WWV         SH/WWV
Clear NE    set/filters dxorigstate/off
Yes DX      set/filters dxorigcty/off
NE only     set/filters dxorigstate/pass ny,nj,ct,ri,ma,nh,vt,me
No DX       set/filters dxorigcty/pass k,ve, xe
No VHF      set/filters vhf/reject
K1TTT       {MYCALL}
```

## 26. Move RX Frequency from the Keyboard

At a local club meeting last night we watched the FO0AAA video. I've seen a number of other DXpedition videos before and they all show the operator reaching over after each couple or so QSOs and moving the RX frequency. Given this is standard practice for DXpeditions, both SSB and CW, I thought it would be a useful feature to have that function built into the logging program.

There are already two ways to do this in N1MM Logger.

1) If you are in Run mode, and turn on RIT on your radio, then the Up/Down arrow keys change the receive frequency without changing the transmit frequency.

2) If one sets the radio on SPLIT and TXs on the second VFO, pressing either UP/DOWN ARROW moves the RX frequency up or down by the amount set in the Config/Configure Ports/Other screen. It also works well for regular contesting. Put the radio on SPLIT SIMPLEX (A=B) and use the UP/DWN arrows instead of the RIT for those off frequency callers when you're RUNNING. (thanks, Gerry, VE6LB/VA6XDX)

---

## 1.9.4 The Most Frequently Asked Questions

We have tried to pull together here the **most** frequently asked questions. As issues come and go, we anticipate changing this section, hopefully frequently, so if it comes up in a search of the web site, it could be worthwhile to check here first. **Each answer also**

**contains a link or links to the manual sections that address the issue in much more detail.** The MFAQ is not intended as a substitute for the manual.

# 1. Installation and Updating

**1.1. Q. I just downloaded the latest update and my virus software told me that it is infected. Is this true?**

A. No. Software that accesses the outside world (DX clusters, the N1MM web site, contest sponsors' rules) is frequently mis-identified by anti-virus software. Depending on which one you have, you may have to disable it, or simply tell it that the program is OK, but there's no way that N1MM Logger is infected.

**1.2. Q. I just installed the program for the first time, and it won't start. Why?**

A. Did you install the Latest Update after you installed the Base Install? Both are necessary. Did you reboot your computer after the Full Install?

**1.3. Q. I haven't updated in a while. Do I need to apply each update in order? If I apply the latest one, and it doesn't work for some reason, can I go back?**

A. You can simply download and install the latest update. If not, you will need to redo the Base Install and then install ONLY the latest update. You can generally revert to a recent update from the latest one without any problem. In fact, this is the recommended procedure if you run into a problem, since you may be able to pinpoint exactly which update introduced it.

**1.4. Q. Shouldn't I install a .0 version (like 12.0.0)? Aren't the .n versions (e.g.,12.11.3 ) less reliable? What if the latest one has a bug I can't live with?**

A. Each new version builds on the one before, so there is no benefit to installing or keeping an older one. If the new release has a bug that you can't live with, and you need a fix before the following week, you can easily reinstall the last previous version. There is nothing special about .0 versions. They are just the first update of that month.

# 2. Operating

**2.1. Q. The program won't let me log a contact. It keeps insisting that something is wrong with the exchange. What can I do?**

A. **Ctrl+Alt+Enter** will force logging any contact, and open a note window, where you can put something to remind you to fix the QSO after the contest is over, when you've discovered what was wrong.

**2.2. Q. Why doesn't F1 send my call properly in S&P mode? I can program it into the key, but when I use it the program switches to Run mode and I get crossed up.**

A. In N1MM Logger+ the F1 key has special attributes; in particular it automatically switches from S&P to Run mode, which make it problematic to use it, as some are used to doing, for your own callsign. F4 is customarily used for this in N1MM Logger+. Note that if you use ESM (Enter Sends Messages), then in S&P mode the program will send your callsign (F4) when you press <Enter>; in Run mode it sends your CQ message, which is stored in F1.

**2.3. Q. I see spots coming in on the Packet/Telnet window, but they aren't appearing on the Bandmap or in the Available Mults and Qs window. What to do?**

A. On the Packet/Telnet Window's right-click menu, there is a "Why don't I see Spots?" selection. Choose it, then follow its suggestions and set up the Packet Filters options, which control which spots are passed to the Bandmap and Available windows. You must select at least one frequency range (HF, WARC, VHF) option or nothing will go through.

**2.4. Q. I've lost my Bandmap window (or Check, or Available Mults & Qs, or ...). How do I get it back?**

A. Most likely, it is invisible because its saved location is outside the dimensions of your screen. For windows that are part of N1MM Logger+ itself, there is a Find All Windows command on the Config menu. Click on it and all windows will be moved within the boundaries of an 800 x 600 screen. If you still do not see the missing window, it may have been closed; find it on the Window menu, and click to open it again.
There is one special case:
Rotor: Edit N1MM Rotor.ini and change Top & Left to 0 (zero) to bring the window to the top left corner.

**2.5. Q. I know that TO7M is in Martinique, but the program says otherwise. How do I fix this?**

A. Callsigns are identified by country files, which are produced and updated by AD1C. You probably need to update your **wl_cty.dat** file from his website, and then load it into your database. If you run into this problem during a contest, your best move is to log it and go on, placing a note in the log with Ctl+N to remind yourself to fix the log before you submit it. After you load the wl_cty.dat with the corrected country data, run Tools > Rescore Current Contest to update your Score Summary and multiplier counts.

**2.6. Q. When I enter my callsign in the Entry Window, the Check Window says "Unique". Why?**

A. The program checks entered callsigns against a master.scp file, and that message means that the callsign was not found. These files are prepared and updated by WA1Z, based on people's past contest logs. Check the Super Check Partial website ☑ for the latest version and download it into your N1MM Logger+ user files area in the Support Files folder. These do not need to be loaded into your database; you specify which file to use under the Associated Files tab in the Contest Setup dialog. If you have the latest version and your call doesn't appear, you just need to be more active in contests.

**2.7. Q. I can't find a contest that I want to operate in N1MM Logger+.**

A. Over 250 contests and QSO parties are supported directly by N1MM Logger+. You can look them up here. In addition, over 100 contests have been defined using our User Defined Contest editor, developed by NA3M. To use one of these, you will need to copy the relevant UDC file from this file gallery on the web site into the UDC folder in the user files area, and then re-start the program - the UDC will now show up on the list of possible contests in the Contest Setup Dialog. A final option, if you don't find your contest in either place, is to write your own UDC. It's not terribly hard if you thoroughly understand the contest's rules.

**2.8. Q. What is the difference between SO2R and SO2V?**

A. SO2R is the "single operator two radios" mode of contesting, where you control two radios from one logging program. SO2V (single operator two VFOs) is a technique for

using two VFOs on a single radio to approximate the benefit of SO2R. Because you cannot listen on the same radio you are transmitting on, it will never be as flexible as SO2R, but you can use the second VFO to work stations S&P while continuing to run on the first VFO, particularly when things are slow. A fuller explanation is found here.

## 3. Interfacing

### 3.1. Q. PTT or CW isn't working properly. Why not?

A. The program has a lot of different ways to "key" PTT, to accommodate the wide variety of radios and operator preferences. From within the program, you can assert PTT (another, more accurate verb) by the RTS or DTR pins of a serial port, via pins on a parallel port, or through serial radio control, for radios that can do that. CW can be sent through a serial or a parallel port, or by the use of Winkey. Here are some things to check:

- Make sure you have only one PTT and one CW method set for each radio. The program will always use the first such method it finds, reading down through the list of serial and parallel ports that have the "Other" checkbox checked, so if you have set more than one, unpredictable things may happen.
- If you are using a Winkey, and you have it configured to control PTT (yet another way to do it), it will do so for stored messages on all modes, not just CW. If you want something else, the easiest thing is simply to pull the PTT line out of the PTT jack on the back of the Winkey to disable it.

### 3.2. Q. My Icom radio gets out of sync with the program on things like split frequencies, and I wind up spotting the wrong frequency sometimes, which is embarrassing. What is wrong?

A. Icom radios only send the frequency of the active (selected) VFO to the program. If you set split frequency operation on the radio, the program is not informed, and so it will spot your transmit frequency instead of the received frequency as it should. The solution is simple - use the keyboard to enter the split receive frequency (Alt+F7, *frequency or split, e.g. 7067 or +5*, Enter) .

### 3.3. Q. My CW seems to stutter sometimes. Why?

A. N1MM Logger+'s serial and parallel port CW options are a simple and easy way to generate CW, but if your computer is slow, you may find the CW is not always smooth, particularly when receiving spots from a Telnet cluster in a busy contest. If this happens with serial keying, try using a parallel port if you have one. If you don't, or if you want to put an end to CW issues once and for all, the answer is K1EL's Winkeyer USB, which handles CW and all-mode PTT by offloading these functions from the computer entirely. It is also an excellent stand-alone keyer with 4 built-in memories.

First make sure you don't have a weight problem (see below). If it is hesitation, not a consistent amount added to each dit dah or space try these things:

- Turn off Computer sounds. (Control Panel/Sounds)
- Turn off virus programs - if this is a cause, find another program
- Turn off packet - your computer might be overloaded by packet

- Turn off call lookup
- Less severe, close multiplier windows and turn off Available window counting of mults & Qs
- Try a contest with a less complex multiplier - WPX is one of the worst
- Close other programs and processes. Use Ctl+Shift+Esc to see which ones are using the most
- Get a processor with multiple cores (but not a Core2 Duo)
- Get more memory

**3.4. Q. My CW weight is way off. I'm using a USB-to-serial adapter and keying with RTS or DTR. Why?**

A. Some adapters have a lot of latency and will mangle your CW. Usually this can be corrected by finding a better driver for the adapter. Make sure you are running the latest vendor-provided driver for your operating system, not the one the OS picks. Some adapters allow you to set the latency in control panel. See this article ☑.

For Prolific chipsets run this program: http://n1mmplus.hamdocs.com/tiki-download_file.php?fileId=2203 This will check your Prolific adapter for compatibility and install the latest driver, which has worked for many users.

FTDI and Edgeport USB to serial adapters have proven to create the fewest problems.

If all the dits and dahs are the same length, you may have set the radio to expect paddles rather than a straight key. Turn off the "electronic keyer" function in the radio.

## 4. Other

**4.1. Q. I'm having trouble importing an ADIF file. Some of the information seems to be missing or in the wrong place.**

A. ADIF implementations vary widely, and it is quite common for an ADIF file produced by another logging program to contain ADIF "tags" that N1MM Logger does not recognize. Here's how we suggest proceeding, to avoid these problems:
1. Create an instance of the contest you want to import in your current N1MM Logger database.
2. Log a "dummy" QSO. If there are different types of QSOs, e.g. different exchanges from W/VE vs. DX stations, log at least one QSO of each type.
3. Export an ADIF file.
4. Compare the ADIF file produced by N1MM Logger with the one you want to import. Each data item in an ADIF file is preceded by a "tag" including a number denoting the length of the data item. Here are some examples, part of a QSO record from a general logging program:
<TIME_ON:6>003039 <CALL:6>YC6JRT <MODE:3>SSB <BAND:3>10m <RST_SENT:2>59 <RST_RCVD:2>59 <CQZ:2>28
If the "tag" is different than N1MM Logger uses for the same content, use a word processor or other editor to change it as needed.
5. Make sure the ADIF file you want to import contains a field tagged with the

CONTEST_ID tag, and with the same contest name as in the ADIF file exported from N1MM Logger.

6.Then go ahead and do the import, and everything should be fine.

You can reverse this process to export an ADIF file, for example to a general logging program.

**4.2. Q. I want to use N1MM Logger+ as my general logging program, but I can't find out how to track my DXCC, or whether I have sent or received QSLs. Why not?**

A. N1MM Logger+ is a **contest** logger. While it has "DX" and "DX Serial" generic "contests" that can be used for general logging, it does not have many of the features needed in a general logging program. The best solution is to export your contest QSOs from N1MM, using ADIF, and import them into one of the many excellent general loggers that are available.

**4.3. Q. I got a cryptic error message. What do I do?**

A. Make a detailed note of the error message number AND message as accurately as possible. We need that information, together with the sequence of program operations that resulted in the error, in order to trouble-shoot and solve the problem.

**4.4. Q. I posted a problem on the reflector, but it never got fixed. Should I do something else?**

A. Yes. Go to the web site and file a Bug Report. Same goes for Feature Requests. While we try to respond to every problem that is reported on the reflector, the structure of these two systems helps us keep track of what's been fixed and what still needs to be.

---

# 1.9.5 Troubleshooting

The object of this page is to suggest how to proceed when something goes wrong. If you take these measures **before** posting a query on the reflector, you will greatly enhance your chances of getting good, solid, usable advice the first time around.

## 1. Get Current

Make sure you are running a recent version - no more than one or two behind. This is absolutely necessary because of the rapid evolution of the program, with typically 50 or so versions released each year. If you aren't running a recent version, update and see if the problem goes away - it could be something that was noticed and fixed while you were "away."

Every year or so, typically, Tom (N1MM) publishes a new "Full Install" version of the program, which contains all the files you will need to run the program. Subsequent updates contain only those files that have changed, so simply downloading and installing the most recent version won't probably be enough unless you have first downloaded and installed the Full Install on which it is based. You **do not** have to install every intermediate update; the updates are cumulative.

## 2. Try Simplifying Your Configuration

Problems with the program often arise as the result of changes inadvertently made to the overall configuration of the program or corruption of the database you were using the last time the program was open, so a first step is to eliminate those two possibilities.

First, rename your N1MM Logger.ini file so that the program will not recognize it - N1MM Logger.**old** is good. Try to restart the program. If it starts, though in very simplified form (one Entry window, etc.), then you know the problem was somewhere in your configuration, as stored in the .ini file. Then you can add back your personal configuration choices, one at a time. Start with radio control ports, then add PTT and CW options. Finally, set up your general options in the Configurer, and in the various specialized sub-menus that you use.

If the program still won't run, then leave the simplified configuration in place and try renaming your database. The program should then start up and create a new empty

database (at least, with no QSOs in it.). If it doesn't start up then, you should probably consider yourself cursed, and take up a new hobby.

No, seriously, if the problem does seem to be in the database(s), you can try switching to another database, if you have one, or creating a new database (from the File menu), or perhaps creating a new database based on an existing N1MM Logger Classic (.mdb) database.

If it still won't start after all that, or if the function you're having trouble with still won't work, now and only now try a reinstallation. A corrupted installation is rarely to blame for the problems people have, but if there are missing program files, this may be necessary. Typically, this is caused by not installing the full installer before trying to install and run the latest update. Even if you think you've done this correctly, it may be worth the few minutes necessary to reinstall.

If you feel you need to reinstall, take an extra minute and uninstall your current version from the control panel. This is normally unnecessary, but recently there have been a case or two where the uninstallation was necessary to fix persistent problems that did not respond to any normal troubleshooting methods.

✕

**Where is the program installed?**

The program files are installed in the N1MM Logger+ program files folder, which by default is in C:\Program Files\N1MM Logger+ (32-bit Windows systems) or C:\Program Files(x86)\N1MM Logger+ (64-bit Windows). User files and files that the program may need to write to (such as N1MM Logger.ini) are stored in the N1MM Logger+ user files area, which is normally a folder within your My Documents file area (e.g. C:\Users\User\Documents\N1MM Logger+).
If you are making a first-time installation of the full installer, the installer will automatically choose these locations. Thereafter, the update installer should point to the same place. It is recommended that you accept the defaults. However, if you do not accept the default locations during the initial full install, you will want to make sure that the updates are being installed to the same locations as the full install. As you can imagine, putting the full install in one place and updates in another can cause all sorts of problems. It's worth a double-check.

## 3. Search the Manual - some tips

Now that the manual is on the website in wiki format here ⊡, we are working hard to keep it up to date and to fix things that may have gotten broken along the way. You can help by letting us know when you notice things that should be changed. Drop a note to n4zr@contesting.com or k8ut@arrl.net unless you think that the subject would benefit from others' input, in which case, by all means, use the reflector ⊡.

So, how best to use the manual for troubleshooting? We recommend using the search function on the web page. This is still evolving, but you'll find the latest information on using it in this section of the Website User Manual. These days, the Advanced Search (under "Website") is far better than the basic search.

Once you've opened a page, though, you may discover that the topic you want is nowhere to be seen. Don't despair, just hit Ctrl+F to open your browser's search routine, and enter your search phrase there. This is necessary because some of the pages in the manual are very long, and your search topic may not appear in the first screenful.

If the program is so badly broken that you can't do a Google search from there, just open the manual ⧉.

## 4. Looking for Help on the Reflector

OK, so you're really stuck. You have over 3,000 fellow users out there willing to help. You can make it more likely to pay off quickly if you follow this checklist for information you provide in your first message:

- N1MM program version
- Operating system
- Relevant interfacing information
  - For radio control, whether USB or hardware serial port, and what radio
  - For CW problems, indicate whether you are using serial, parallel or other interface (Winkeyer, MicroHAM, etc.)
  - For voice message problems, what interface to the radio you're using
- Symptoms
  - Include any error messages you received, and be sure to quote them in full
- What you have already tried

## 5. Troubleshooting Advice and Procedures from the N1MM Dev Team

### 5.1. Installation Problems

#### 5.1.1. Installation overview - Where are My Files?

The N1MM+ installation program creates the program's files in two locations: one location for the **Application files**, the other location for the **User files**.
The default location for the **Application files** is *C:\Program Files (x86)\N1MM Logger+* on 64 bit Windows and *C:\Program Files\N1MM Logger+* on 32 bit Windows. This placement allows all logged-in users to access a common application folder. You could specify a different application files folder, but there is no need to do that; the program does not write to it at run time.
The **User files** are created the first time a Windows user runs N1MM+. The default location for the user files is *C:\Users\<Windows user name>\Documents\N1MM Logger+*. This placement allows each logged-in users to maintain their own program settings, and has been chosen so that low-level users can write to their files. You could choose a different folder, however you may need to start N1MM+ with >Run As Administrator. We strongly recommendation that you use the default user files location.

#### 5.1.2. Installation failure

The N1MM+ Full Installer, Latest Update, and Uninstall programs write their progress and errors to a file named *install.log* in your Application files folder. If you had chosen the default application files location you will find the file as *C:\Program Files (x86)\N1MM Logger+\install.log*. Consecutive installations will append their data to this file. *Install.log* is the main place to go to figure out what is going on when an installation fails.

There is also a chance that installation errors will be written to the Windows EventLog. Go to the Event Viewer (Start, Run, enter *eventvwr.msc*, Windows Logs, Application) to see if you find an error.

If nothing else helps, reach out to N1MMLoggerplus@yahoogroups.com (public list)

## 5.2. N1MM+ crashed. What now?

There are multiple places that will have more information about the error.

### 5.2.1. The N1MM+ Error Log File

The N1MM+ error log file is in your user directory (each windows user has his/her own). Default location is *C:\Users\<Windows user name>\Documents\N1MM Logger+\LogError.txt*. New errors are appended to an existing file, so the latest errors will be found at the end. (see screenshot below)

### 5.2.2. The Windows Event Log

If there is no N1MM+ log file or no entry, there is also a chance that the Windows EventLog has an entry. Go to the Event Viewer (Start, Run, enter *eventvwr.msc*, Windows Logs, Application) to see if you find an error.

Reading the latest error(s) may give an indication of what went wrong. (see screenshot)
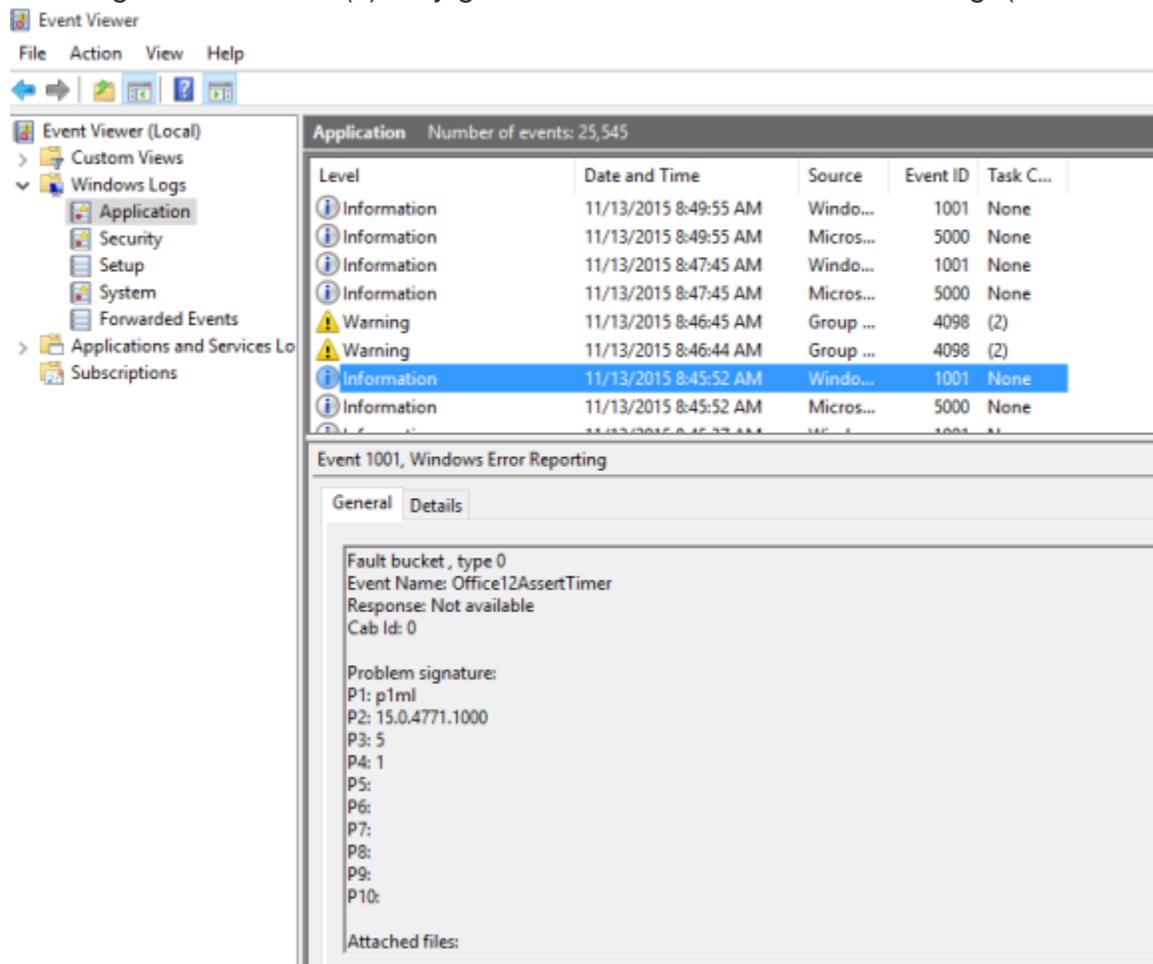


**5.2.3. The N1MM Logger+ INI File and Configuration Errors**

If the crash was caused by a recent configuration change, you may be able to recover by simply rolling back to a last known good N1MM Logger.INI file. N1MM+ makes a backup of its INI file once every day. Look for these INI backup files in the *C:\Users\*<Windows user name>*\Documents\N1MM Logger+* directory. For example, if today is Friday, yesterday's backup is called *N1MM Logger.ini.Thursday.bak*.

| Name | Date modified | Type | Size |
|---|---|---|---|
| CallHistoryFiles | 12/7/2014 7:01 AM | File folder | |
| Databases | 11/13/2015 11:51 ... | File folder | |
| Diagnostics | 9/16/2014 6:58 AM | File folder | |
| ExportFiles | 10/21/2015 11:13 ... | File folder | |
| FunctionKeyMessages | 12/26/2014 2:00 PM | File folder | |
| GoalFiles | 2/24/2014 11:08 AM | File folder | |
| QsoRecording | 6/3/2014 8:38 AM | File folder | |
| SkinsAndLayouts | 10/21/2015 10:50 ... | File folder | |
| SupportFiles | 11/12/2015 10:04 ... | File folder | |
| SystemFiles | 10/11/2015 11:37 ... | File folder | |
| UserDefinedContests | 4/4/2015 9:05 PM | File folder | |
| Wav | 5/22/2014 4:19 PM | File folder | |
| lastinit_donotedit.txt | 11/26/2014 12:55 | TXT File | 1 KB |
| LogError.txt | 11/2/2015 1:14 PM | TXT File | 5,181 KB |
| master.dta | 12/30/2013 11:43 | DTA File | 1,210 KB |
| N1MM Logger.ini | 11/13/2015 11:51 ... | Configuration sett... | 11 KB |
| n1mm logger.ini.Friday.bak | 11/13/2015 8:26 AM | BAK File | 11 KB |
| n1mm logger.ini.Monday.bak | 10/30/2015 8:14 PM | BAK File | 11 KB |
| n1mm logger.ini.Saturday.bak | 11/7/2015 12:53 PM | BAK File | 11 KB |
| n1mm logger.ini.Sunday.bak | 10/22/2015 11:31 ... | BAK File | 11 KB |
| n1mm logger.ini.Thursday.bak | 11/12/2015 10:04 ... | BAK File | 11 KB |
| n1mm logger.ini.Tuesday.bak | 11/2/2015 1:19 PM | BAK File | 11 KB |
| n1mm logger.ini.Wednesday.bak | 10/21/2015 3:35 PM | BAK File | 11 KB |
| N1MMGrayLine.ini | 5/7/2014 8:18 AM | Configuration sett... | 0 KB |
| n1mmgrayline.ini.Saturday.bak | 5/7/2014 8:18 AM | BAK File | 0 KB |
| n1mmgrayline.ini.Thursday.bak | 5/7/2014 8:18 AM | BAK File | 0 KB |
| n1mmgrayline.ini.Wednesday.bak | 5/7/2014 8:18 AM | BAK File | 0 KB |
| N1MMRotor.ini | 2/18/2015 7:27 AM | Configuration sett... | 1 KB |

Here is what you can try:
- Close N1MM+. INI files can only be copied without N1MM+ running
- Make a backup of the current N1MM Logger.INI file. Default location is
*C:\Users\*<Windows user name>*\Documents\N1MM Logger+\N1MM Logger.ini* (i.e.
make a copy and rename it to *OriginalLoggerINI.ini*).
- Then make a copy of a recent INI backup file (Monday.bak, Tuesday.bak,
Wednesday.bak…) and rename it to N1MM Logger.ini. Re-start N1MM+ and see if that
solves your problem. You may have to experiment with several INI backup to solve your
problem.
If nothing else helps, reach out to N1MMLoggerplus@yahoogroups.com (public list)

### 5.3. Some specific exceptions

#### 5.3.1. OutOfMemoryException

The computer ran out of memory. It is crucial to find out what process took all the
memory. Use TaskManager to find out. If N1MM+ used up all the memory, please try to
describe the steps and contact the development team.

#### 5.3.2. SEHException right on launch

System.Runtime.InteropServices.SEHException (0x80004005): External component
has thrown an exception. at
System.Windows.Forms.UnsafeNativeMethods.CoCreateInstance(Guid& clsid, Object

punkOuter, Int32 context, Guid& iid) at
System.Windows.Forms.AxHost.CreateWithLicense(String license, Guid clsid)
We have some users that see this with Windows XP SP3 and/or Athlon processors. We
have no solution and suggest a software and/or hardware upgrade.

### 5.4. Computer blue-screened. What next?

Mostly, these are caused by driver issues. These issues could well be triggered by
N1MM+ as it communicates with lots of hardware via drivers.
- After the reboot, go to the Event Viewer (Start, Run, enter eventvwr.msc, Windows
Logs, Application) to see if you find the error.
- If you found one or multiple (close together in time), inspect them.
- An OS crash also creates something called a crash dump. The physical location can
be found in one of these events. Here is an example of an event that points to these
files:
Files that help describe the problem:
C:\Windows\Minidump\Mini120214-03.dmp
C:\Users\Bill_Administrator\AppData\Local\Temp\WER-37159-0.sysdata.xml
C:\Users\Bill_Administrator\AppData\Local\Temp\WERF037.tmp.version.txt
- You can try to load the *dmp file with this tool:
http://www.nirsoft.net/utils/blue_screen_view.html
- If nothing else helps, reach out to N1MMLoggerplus@yahoogroups.com (public list)

### 5.5. The Dev Team asked you to enable application traces. How to do it?

Sometimes, tracing can help the team see what occurred on your computer at runtime.
Information about performance and program logic will be captured in a file. If you want
to turn this on, here are the steps:
- Run N1MM+, go to Tools/Program execution logging. Enable "Execution tracing",
"performance tracing". If required, also enable "SQLite perf tracing" (makes the
application slower!)
- Exit N1MM+
- Start N1MM+ again. Ok the dialog that warns you about tracing being on
- Reproduce the issue, note down exact times when things happen etc. Any information
will help to reference the tracing information
- When the issue is reproduced, exit N1MM+
- Find the trace file. Default location is C:\Users\<Windows user
name>\Documents\N1MM Logger+\Diagnostics\N1MMLogger.net.exe-XXXX.svclog
where XXX is the build number of N1MM+
- Zip the file and send to development team

### 5.6. The Dev Team asked you to capture .NET network traces (to troubleshoot connectivity issues). How to do it?

- Exit N1MM+
- In the application files folder (C:\Program Files (x86)\N1MM Logger+ by default), make
a backup of the original file called "N1MMLogger.net.exe.config". Call it
"N1MMLogger.net.exe.config.original".
- Edit the file "N1MMLogger.net.exe.config" to turn on network tracing:
o There is a large xml comment (starts with <!- - and ends with - ->) that needs to be

made active by removing line 36 and then line 6.

o On line 27, there is a path in initializeData="…". Please update the path to go to your user files folder + Diagnostics folder with file name "System.Net.Trace.log" (example: C:\Users\<Windows user name>\Documents\N1MM Logger+\Diagnostics\System.Net.trace.log)

- Launch N1MM+
- Reproduce the issue or let it run for 5 mins
- Exit N1MM+
- Inspect the System.Net.trace.log file.
- Revert the change you made in step 2, bring back the file that you called *.original.
- Zip the System.Net.Trace.log file and send it to development team

### 5.7. Remote Desktop Connection - TeamViewer instructions

TeamViewer is a program that allows someone to remotely see and control your computer. Someone else can help sort out configuration issues or other problems with you watching. It is secured by means of ID and password and also by the fact that you will need to start the program before anyone can connect. The program is free.

1. Go to http://download.teamviewer.com/download/TeamViewerQS_en.exe and download the exe
2. You do not need to install anything, just run it.
3. Communicate your ID and password to single person you want to connect (no discussion lists please)


## 6. Asking for Help from the N1MM Team

OK, so you've asked for help on the reflector, and your problem persists. Chances are one of the development team has already contacted you and asked for more information. Here's what you can do to help him help you (I apologize in advance if this is elementary to many people - not everyone who uses N1MM Logger+ is a computer jock, or indeed other than an appliance user. That's OK, but you're our particular audience for this note, to help you do things to help us help you)

- Make sure that your computer operating system is showing you the complete filenames, including the extension. Windows defaults this off, for some reason. Turn it on, because you'll need it to find the files we're going to ask you for. In Windows 7, you can find Folder Options from the search box just above the Start button. In Windows XP, the same choices are found in the top frame of Windows Explorer
- Find the N1MM Logger.ini file in your N1MM Logger+ user files directory
- Then find the current database file in the databases sub-folder within the user files directory - the suffix will be .s3db, and it should be the one you were last using when your problem occurred. If you have just started, chances are it will be ham.s3db.
  - o Note - in addition to the database file, N1MM also creates what are known as transaction files, which are saved in the TransactionFiles subfolder

within the Databases folder. Don't send us this file - it is useless for trouble-shooting.

- ○ If you aren't sure, start N1MM Logger+ and look in the top bar of the Log window to find the database filename. If you can't start the program, right click on each of the .s3db files in turn, and check the "modified" date. The most recent one is ... no surprise here ... the one we want.

- Send both of these files by direct e-mail to the team member offering help. You can't attach files to messages sent to the reflector. If you're initiating contact, you can send the e-mail to n4zr@contesting.com, and he will forward it as needed.

# 7. Trouble with RFI?

Many of the quirky problems people experience are due to RFI (RF interference) from their own transmitters. If the symptoms become less serious, or go away altogether when you turn down the power or change bands, or both, then you probably need to look at filtering common mode currents on some or all of the cables in your station setup.

## 7.1. Resources

Chuck Counselman, W1HIS, has published an excellent tutorial on common mode chokes for RFI control and even for reducing your local noise level, The article can be found here ☑ .

Jim Brown, K9YC, has also written an excellent tutorial, which can be found here ☑ .

With these two references in hand, you will be well prepared for trouble-shooting RFI **when** it occurs (not **if**).

An often overlooked problem is RFI affecting an electronic keyer. Chuck Counselman's article on this subject, reproduced below with his permission, also makes several excellent points about RFI suppression in general:

### 7.1.1. Electronic keyer RFI (from Chuck Counselman, W1HIS)

RFI trouble with USB-connected products such as computer keyboards is well known. Less well known is the extent of RFI trouble with rig-interface and CW-keyer products such as as microHAM's microKeyer, microKeyer II, etc. that utilize K1EL WinKeyer ICs. K1EL's own WKUSB product ☑ is also quite vulnerable to RFI.

In the case of a keyer, not only the USB interface but also the paddle interface is vulnerable to RFI.

Most hams, myself included, have underestimated these products' sensitivities to RFI. We have made the mistake of putting too little ferrite on the cables connected to these products, or failing to put ferrite on **all** the cables connected to them, and erroneously thinking we have eliminated our RFI problems just because we no longer experience RFI symptoms when we operate on our usual band(s). Then when a higher-frequency band is open, or when the beam is pointed at the shack, all h*ll breaks loose.

RFI trouble recurs also when we rearrange, add, or even disconnect a cable in our shacks. Every cable acts as an antenna and has discrete resonances. All the cables

behind or under your operating desk are coupled to one another, and this coupling affects their resonant frequencies and modes. When I disconnected both ends of a telephone extension cable behind my desk, the K1EL WinKeyer IC in my microHAM microKeyer began misbehaving when I transmitted on the 17-m band.

From my own and others' mistakes I have learned to avoid recurring trouble by installing enough ferrite the first time. "Enough" means at least 1000 ohms of common-mode choking resistance on _every_ cable connected to a vulnerable device. Not only the USB cable, but also the cables for 12-VDC power, paddle, microphone, earphones, footswitch, audio to/from computer and radio, CW keying to the TX, "PTT" or T/R-switching to transceiver and to amp., data-comm. to/from transceiver — every one. You cannot anticipate which cable will be "hot" with RF when you transmit on a particular frequency. If you determine which cable is hot today, then a different cable will be hot tomorrow after you change something. You **will** change something.

I thought that the level of RF in my shack was trivial because, if I transmitted full power on any band, the RF field-strength shown by my laboratory-grade meter increased by less than ten percent above its normal background level due to AM broadcast stations more than a mile away. Wrong! My microHAM microKeyer was insensitive to the AM broadcast signals, but it was disabled by the relatively weak signal from my 18-MHz transmitter.
-Chuck Counselman, W1HIS

## 8. Trouble with Keying Delays or Radio Timeouts

- Verify that the radio timeout is set to 15 seconds or greater.
- All recent vintage radio interfaces are tested at baud rates of 19200 and 38400. Do not assume that slower baud rates will produce better results. If your radio supports 9600 baud and lower data rates, use 9600 baud.
- Verify that multi-user mode is not enabled for single computer configurations.
- Close the Digital Interface when operating CW/SSB.
- On multi-core computers, if WinKey is configured, do not use internally generated CW (COM or LPT CW). Use the WinKey to send CW. Multi-core computers that have WinKey configured will process spots while the CW is sending.
- If you are using Telnet, try setting the spot timeout to a low value (10 minutes).
- Compact the database (File > Copy and Compact Database). Then restart the program and open the compacted database. Computers with limited disk cache or slower hardware interfaces may be susceptible to fragmented databases. Compacting the database will unfragment the database.
- Close all possible programs. Don't place them on the task bar.
- Close all possible N1MM Logger+ windows. Don't place them on the task bar.
- If using any high volume spot source (RBN, skimmer, combined spot sources, etc), delete all spots (right click in the Bandmap) to see if this has an impact.
- Turn off anti-virus or computer security file scanning. Many users have found that the free Microsoft Security Essentials doesn't seem to use many resources and you can set the CPU limit in percentage for scanning activities.
- Microsoft Recovery Console has caused sending delays with internally generated CW on single core 2.8 GHz CPU computers. Recovery Console usually displays

text on the screen after the BIOS boot screen and before the Windows splash screen. Google for the steps to un-install Recover Console.

There haven't been any reports of issues with WinKey generated CW.

Intermittent delays may be caused by any of the following:

- Automatic Windows updates. Change the Windows setting temporarily during contests so Windows doesn't check for updates, install them, or force a reboot.
- Other program update checking, downloads, and installs - again, temporarily disable them during contests
- Anti-virus or computer security file scanning.
- Unreachable time server for Windows or separate time-setting programs. Solve the problem, or disable the time updates for contests.
- Windows scanning/searching/connecting to wireless networks, printer, or other wireless devices that may be unreachable or disconnect/connect due to RF.
- Transmitter RF causing wired and wireless networks to disconnect.
- Some computers may be susceptible to sending delays if the amount of free RAM is not great enough for all active program temporary storage. Be aware that some computers use system RAM for video display and reduce the memory available for Windows by 256Meg. The impacts of disk paging is dependent on the amount of data and speed of all hardware interfaces involved. The hard disk activity LED may be a good indicator of how often and the duration of the disk activity. The Task Manager, Performance tab displays Available Free Memory.

When all of the above actions have failed to produce results:

- Some users have found success by renaming the N1MM Logger.ini file. Starting the program will build a new file with defaults.
- Others have had success with uninstalling and re-installing the software (Full Install, reboot, Latest Update). Do not use any files from the old user files area until you have completely verified that there was no change in the program delay.
- Open Task Manager and look at the number of running processes after a fresh reboot, no programs started. WinXp processes greater than 40 or Win7 greater than 55 may be an indication that unexpected or unnecessary programs are running. There are many websites that provide instructions for eliminating unnecessary programs at program start.
- For advanced computer users: Make a restore point and use *HiJackThis* to scan your computer to display every item that is loaded when the computer starts. Account for each item, Google unknown ID's to see if it's an unwelcome guest.
- For advanced computer users: Measure your computer's DPC latency when N1MM Logger+ is running. It is well known that some drivers misbehave and add significant delays to the PC operation. The Flex folks have found that some motherboard designs are simply not acceptable for low latency tasks. The URL for a DPC latency measuring programs is here .