

Getting Started With N1MM For QSO Parties

Vic DiCiccio VE3YT

June 3, 2020, updated January 30, 2025

Introduction

N1MM Logger+, usually called N1MM+ or just N1MM, is a very powerful logging program, constantly updated for free by an open source team of about a dozen people, led by Tom N1MM, and including crack contesters, such as Steve London N2IC and Richard Ferch VE3KI. N1MM has very thorough documentation on the web. Just search for the topic of interest and N1MM in Google. My intention is not to supplant or improve that documentation, just get you going quickly in a sort of “guided tour” so you know what to look for. This document is written for hams using N1MM for the first time, and explains how to initialize the logger ‘in particular for participating in state QSO parties and the State QSO Party Challenge.

N1MM has a user guide for new users:

<https://n1mmwp.hamdocs.com/getting-started/>

There are how-to videos that may help:

<https://n1mmwp.hamdocs.com/support/how-to-videos/>

The purpose of the logger is to generate a log of contacts, automatically entering the time and frequency read from the radio via Computer Assisted Transceiver (CAT) commands. The CAT command set for each model of radio is different. N1MM can also automatically generate CW contest exchanges and even can play pre-recorded .wav files for SSB contests, although it is hard to tailor these audio messages with serial numbers and callsigns of the station you’re working. If connected to the Internet, N1MM can download spots into a bandmap, and facilitate you working new stations and mults. You can QSY to spotted stations by clicking on them in the bandmap window. And N1MM can connect to leaderboard websites during the contest to continuously update your results.

N1MM is excellent for Single Operator 1 Radio (SO1V i.e. normal operation), Single Op 2 Radios (SO2R, where you use two radios on two different bands) and Single Operator 2 VFOs (SO2V, where you have VFO A and VFO B in one radio, and work at two different frequencies, typically in one band). It also works well in multiop situations, facilitating each op “logging on” for their shift of the contest. N1MM can be networked among different computers in the same WiFi network, for multi-multi or multi-two configurations where two or more different computers attach to individual radios, and the log needs to be coordinated.

Checklist for the First Time:

- 1. Connect your radio to the N1MM computer using whatever serial cable/converter is required between them.**

(a) Rigs with DE9 9 pin connectors need a USB to RS232 converter cable. People seem to have more success with FTDI chipset rather than Prolific. See “Everything You Need to Know about Serial and USB Interfaces here:

https://www.kkn.net/~n6tv/N6TV_Dayton_2019_Everything_USB.pdf

(b) Some QRP radios use a 3.5 mm TRS jack, and only have RS232 Gnd, Tx and Rx. You will need a suitable cable and a WinKey or similar device to key the radio for CW, or build a circuit from a transistor and resistor if you want to use DTR to key the radio for CW (more later). (c) Recent radios may have a USB connector, so you just need a USB cable to the computer, like the ICOM 7300, Yaesu FTDX10 and the Elecraft K4.

2. In the Windows Device Manager, figure out the COM port for your radio’s serial interface. One way is to watch the COM Ports in the Windows Device Manager while removing and inserting your radio’s USB connector. Some radios such as the Icom 7300, will show a single new COM Port. For the 7300, look for a COM Port called “silicon Labs CP210x USB to UART Bridge”. Note the COM Port number for later.

The Yaesu 710 and FTDX10 have two COM Ports:

“Silicon Labs Dual CP210x USB to UART Bridge : **Enhanced** COM Port (COM5)”

“Silicon Labs Dual CP210x USB to UART Bridge : **Standard** COM Port (COM6)”

I’ve used the COM Port numbers 5 and 6 as examples. Yours might be different, and depends on your computer. Note the numbers for later.

The first **Enhanced** COM Port is used for CAT communications, such as frequency and mode settings. The second **Standard** COM Port can be used for controlling PTT, CW keying and some digital operation.

3. In the N1MM Entry window, under the Tools menu, select Check for New Program Version and Install, to **get the latest version**.

4. In the Entry window, under the Config menu, select Change Your Station Data and **set your station data**. This information can be automatically used in some contest exchanges (for example, your call sign, ARRL section) and will be added to logs (address and email address).

5. In the Entry window, under the Config menu, select Configure Ports, Mode Control, Winkey, etc. A new pane will open with the Hardware tab showing. Set the Port for your radio’s COM port serial interface, and select your model of radio. Probably you want to click the CW/Other box beside your radio (unless maybe you’re SSB-only, or using a Winkey, or have a radio such as Yaesu 710 or FTDX10 that uses a second (standard) COM port for CW keying, in which case that second port will have the CW/Other box checked.) Click the Set box beside your radio and set the baud rate (data speed) to whatever speed your radio is set. Usually the recommended settings shown in N1MM are correct unless you’ve deliberately changed your radio’s settings. Set the DTR to CW and maybe set RTS to PTT, although you probably don’t need this. You probably don’t need to touch anything else.

By clicking on the CW/Other box and setting DTR to CW, you are setting N1MM to send CW characters by using the DTR line as if it is a straight key. So you need to set your radio to accept keying via the DTR line from the CAT control COM Port(s). Some examples:

- On an Elecraft K3, set MENU: PTT-KEY to rtS-dtr or OFF-dtr
- On an Icom 7300, press Menu, select Set, select Connectors, select USB Keying (CW), and select DTR
- On a Yaesu FTDX10 or 710, in the CW Settings menu, select PC Keying and set it to DTR.

(A word about PTT (Push To Talk): For CW, your radio probably internally generates PTT, that is, goes into transmit, when the key or paddles are closed, or when N1MM creates a key down signal on DTR of the serial interface. (Sometimes this requires you have VOX enabled while in CW mode on your radio.) So you don't need RTS=PTT, or any of the PTT via radio command check boxes. (These send a CAT command to the radio to go into transmit.) For SSB, I'm assuming you're using VOX or a PTT switch on the mic or floor. However, if you have .wav files recorded in N1MM playing into the radio, you may have to use PTT via Radio Command to get a PTT to the radio. Also, Elecraft equipment does well with RTS=PTT for CW. Sometimes if there are too many different things generating PTT, such as internally in the radio plus N1MM PTT via Radio Command, you can get weird artifacts such as the radio hanging.)

Click OK to close the Set box.

Now to the right of the Set box, choose SO1V, unless you are going to try using both VFOs in your radio (SO2V), or a second radio (SO2R).

You don't need to bother with other tabs in the Configurer, unless you are using a WinKey, or RTTY, or other advanced features.

Also in the Config menu, fifth item down, select Enter Sends Message (ESM) so it has a checkmark beside it. (more later)

6. In the Entry window, use the Window menu to open the windows you want. I use Bandmap (even if not using spots, for reasons I'll describe later), Check, Grey Line, Info, Log, Multipliers and Score Summary. You can make an argument for Network Status and Telnet depending on what you are doing. I like the Entry window near the middle of the screen nearest the keyboard, at the bottom, with the Log above it and the Bandmap oriented vertically to the left of the Entry window. YMMV. When you have an orientation you like, select Save Window Positions in the Tools menu and then later, after someone messes them up, you can use Restore Window Positions to put them back. Also, if there are multiple operators and you use Cntl+O or the OPON command (typed in the Entry window) to identify yourself, your windows will move into your position (kind of like the individual seat position for each driver in a fancy car.)

In general, you can right click on each window to set parameters pertaining to that window.

7. In the Entry window Tools menu, select **Download and Install the Latest Country File** (6th item) and I like to also Download and Install the Latest Check Partial File (3rd item).

8. Give some thought to ergonomics. You can tell the Entry window becomes your main focus while making Qs during the contest. I like the keyboard and display centred in front of me, with the radio on the left close by so I can change the tuning, RIT and AF Gain easily, and look at the Spectrum display on the radio. I like the mouse and key on the right side. If my screen is too small, I put secondary windows, like the grey line and score, on the secondary screen. Where will you put coffee and snacks? A pillow can increase your “butt in chair” time. Try to avoid using a pen and paper, but have one nearby in case you need to note an error to fix later.

Preparing For a State QSO Party (or any other Contest)

1. Read the rules. N1MM knows a lot of the rules automatically, but sometimes sends an RST in the contest exchange when it’s not needed, etc. You’ll hear this on the air during the contest. It’s best to know the official exchange and what you’re supposed to be doing instead of relying on N1MM.

2. In the Entry window File menu, select New Database and create a database for the current year, e.g. 2025, where your individual contest logs will be saved. (I don’t always do this but I wish I had.) Then select New log in Database, and a new Log pane will open up. (If it doesn’t, you may have some stuff typed in to the Entry window and the program thinks you’re in the middle of a contact.)

3. In Log Type, select the contest from the long pulldown menu. For a State QSO Party, select QSOPARTY. Mid way down the pane is a tab for Contest, and in the Contest pane, on the right you will see a pulldown menu of all the QSO parties supported by N1MM. Choose the state or the regional QSO party that you intend to work. The list includes some QSO parties which are not part of the State QSO Party Challenge. All of the QSO parties in the State QSO Party Challenge are supported by N1MM.

Different QSO parties have different exchanges. There are five elements which could be included in an exchange for an “out-of-state” participant in a state QSO party. These are: signal report, QSO serial number, your name, your state and your ARRL section. For example, the Florida QSO Party uses signal report and your state, which is the most common exchange in state QSO parties. The California QSO Party uses a serial number and your state. The Pennsylvania QSO Party uses serial number and your ARRL section. The Minnesota QSO Party uses your name and your state.

When you select the specific state QSO party, look at the Sent Exchange box three up from the bottom of the pane under the Contest tab. It will show the elements of the exchange (except for signal report, which is added automatically as 5nn when needed.) If the Sent Exchange box has an element with a “?” after it, such as MY_NAME? or MY_STATE?, you should replace it with your name or state.

For any other contest, select it from the pulldown menu. If you aren't sure what acronym in the menu pertains to your contest, look at this webpage for the fuller names of the contests supported by N1MM:

<https://n1mmwp.hamdocs.com/manual-supported/contests-list/#the-supported-contests-tables>

There are other contest categories you should set in the Contest tab: Single-op, All bands, Power (QRP, Low Power or High Power), Mode (e.g. SSB+CW) and whether you are Assisted or Non-Assisted. If there are multiple operators, you can list them. The Soapbox text box puts comments from you into your Cabrillo file, when you generate it at the end of the contest, to be passed to the contest organizers. For example, “I had a great time, until my antenna fell down and I had to put it back up in the dark. Good participation, thanks for all you do to organize this great contest.” I never use this, but if you want to, you can fill it out after the contest.

You can always change these parameters (if, say, you decide to change categories by increasing your power or by deciding to use spots) during or after the contest by selecting Open Log in Database from the File menu during the contest – don't be scared you'll lose your log. If you mistakenly select New Log, you can go back to Open Log and open your previous log and continue to add QSOs.

4. While in the New Log pane, note the Associated Files tab beside the Contest tab. We'll come back to this.

5. Function Keys and the Entry Window.

This is the heart of using N1MM, so if you've been skimming until now, slow down and read this carefully. It will save you learning the hard way like I did.

First, look around the Entry window. See the bands on the left side: 10m, 15m, etc.? They change with the contest and mode, based on what's eligible. (If you can't see them, right click on the window and change its options.) If you click on one of them, your radio will change to that band! If you don't have CAT control, clicking on one will log the bottom frequency of the band into the Log window for each Q, which is good enough to submit your Cabrillo log for most contests. (more later)

Look at the Call Sign box and the Exchange boxes beside it. You start a Q by entering the callsign in the Call Sign box. **You move to the Exchange box by typing Space.** You can move among the boxes with Tab. But special stuff happens when you move from the callsign to the exchange with the space bar: N1MM looks in your log, and in your Call History File, to see if it knows any exchange information to automatically load

into the exchange box(es). For example, if you have worked the station on another band (if that is legal for the contest) and already know the ARRL section or state, it will automatically appear. Or if you have that station's info in your Call History File, and have enabled Call History in the Tools menu, it will put that info in the exchange box, which may be wrong because the person may have moved, or changed their name, etc. You still have to listen and verify.

Let's back up. Let's say you're doing S&P, and you move to a frequency with a spotted callsign shown in your bandmap, or maybe you've typed his callsign in the entry window before, and come back to that frequency, then the callsign will appear above the Call Sign box. It will be grey if you've worked it before, and blue if not and red if it's a new mult. If you hit Enter (and have enabled Enter Sends Message in the Config menu), N1MM will send your callsign (more later) and the callsign will be automatically put into the Call Sign box. Then if you hit space, N1MM will fill the exchange boxes if it can. Also, if there is no spot, and you type a callsign into the Calls Sign box, the same will happen. Either way, it's your job to make sure the callsign and exchange is right. (If you have the Check window open, a checkmark will appear beside the callsign to indicate N1MM has found it in your log, your call history file, or in spots, or in Super Check Partial, a database of most callsigns, which you downloaded using the Tools menu. If you get a question mark instead of a checkmark, verify that you have the call sign correct because it's not recognized as a frequent contester).

Back to our tour of the Entry window. Under the Call Sign box are two red and green dots. These show which radio has entry focus and transmit focus when doing SO2R and SO2V, so we can ignore them for now.

Beside them are "radio buttons" for Run and S&P. You can click on these, or toggle them with Alt+U. There are different F keys definitions for Run and S&P, and these radio buttons show which F key definitions will be used. (more below)

To the right of Run and S&P is the CW speed at which N1MM sends. This is entirely separate from your radio CW speed, so N1MM can blast along at 25 wpm and your paddle can provide "fills" (if someone missed the exchange), at say 18 wpm using the keyer in your radio. You can change the N1MM speed by clicking the arrows or typing Page Up or Page Down on the keyboard.

F-Keys! The whole *raison d'être* for the logger. Pushing F1 through F12 sends their associated messages, .wav files, and/or executes any macros stored in them. There are separate F key definitions for S&P and Run. They are activated by pushing the F key, or by clicking the box in the entry window, or automatically by N1MM by pushing Enter (i.e. Return on your keyboard) if you have Enter Sends Message set in the Config menu. F keys definitions can be viewed and edited by right clicking on the F key box area of the Entry window, and a pane will appear.

There is a lot to know about F keys. You might be tempted to just set a couple of keys to some useful stuff you need to send, like maybe F1 is your callsign and F2 is the

exchange. Then you would press these when you need them to send the CW. Likewise you could have .wav files recorded to be sent in an SSB contest. Don't do it this way!

The F keys have standard definitions, used in an N1MM "state machine" where the state is advanced by you pushing the Enter key, and dependant on whether you're in Run or S&P:

F1 is the CQ key

F2 is the Exchange Key

F3 is the End of QSO (TU) key

F4 is the "My Call" key

F5 is the "His Call" key

If you are in S&P, and enter a call in the Call Sign box, you'll see the F4 button go yellow. The yellow button is what will get sent when you hit Enter (that is, Return). So, if you hit Enter you'll send your callsign. Then you hit space (and maybe the exchange will automatically be entered) to enter the exchange they send to you. You'll see your F2 button turn yellow. When you hit Enter, N1MM sends your F2 exchange. (Typically this is TU followed by the exchange.)

In Run mode, F1 (the CQ message) is yellow, so when you hit Enter, you'll call CQ. If you hit Alt+R during a CQ it will turn on auto CQ Repeat, repeating after 3 seconds of listening. Alt+R toggles it off. After a CQ, if you get an answer and type it in the Call Sign box, you'll see F5 (his call) and F2 (exchange) light up yellow. If you hit Enter, N1MM will send his call followed by the exchange. Hit Space and (maybe the exchange will automatically enter from call history or a previous QSO or) you enter the exchange. You will now see F3 (TU) and the Log It buttons lit up yellow. When you hit Enter, N1MM will send the thank you acknowledgement, which may have your callsign appended to solicit a new caller, and it will log the Q.

It's a good habit to watch the buttons to see what is yellow if you have the mental bandwidth, just to make sure the Q gets logged, and you don't send something you didn't intend because of some weirdness. Weirdness can be that you have a spurious character you left in the exchange box from a guy you almost worked, for example.

So now you're probably feeling ready to right click the F keys and set up your messages. Not so fast, there's more. You can download standard F key definitions for each contest. And there is a macro programming language for the F key definitions.

I would start by downloading the standard key definitions. Go back to the File menu in the Entry window, and select Open Log in Database (or New Log in Database if you haven't started defining the contest yet.) You'll see your contest category information. Look for the Associated Files tab about half way down the pane, and click it.

This tab shows function key definition files and call history file associated with this contest. Go to the change box beside the appropriate Function Key Filename (CW, SSB or digital) or the call history file. For most contests, such as CQWWCW you click the Change box, it will first give you an opportunity to download N1MM's latest file from their site, with their filename. If you click No, it will take you to the appropriate N1MM directory on your computer, and give you an opportunity to select among your own previously stored files (.mc for function key definitions, and .txt for call history files.)

However, with QSO Parties, there is no .mc F Key file tailored to each state QSO party available from N1MM. Your choices are to use the standard F Key definitions in the file CW Default Messages.mc or tailor those messages yourself. Before we dig into the definitions for the F Keys in the CW Default Messages.mc and how to tailor them, let me be more clear about the decision you are making. The CW Default Messages.mc file relies on the contents of the Exchange box in the Contest tab to send the proper exchange for the contest, such as signal report and state for the Vermont QSO Party and your name and state for the Minnesota QSO Party. If you like all the other elements of the CW Default Messages.mc, then you might be happy with relying on the Exchange box to specialize your F Keys for each state QSO party.

Or you can tailor the F Key definitions for each individual state QSO party when you set it up, then export it using the Export menu item in the File menu in the Entry window, and give it a name like Vermont_QSOparty_CW.mc. If you then open the contest in the File menu and select that file in the Associated Files tab, N1MM will forever associate it with the Vermont QSO party.

My approach is to tailor the F Key definitions, and export them, for four different flavours of state QSO parties: those that use signal report and state, those that use name and state, those that use serial number and state, and those that use serial number and ARRL section. I give them file names I can understand and remember. When I set up a new state QSO party for the first time, I click the Change box in the Associated Files tab and select the appropriate .mc file for CW. N1MM then remembers that .mc file when I come back to do the same state QSO party next year.

While you are in the Associated Files tab you should also click the Change button beside Call History and **download the latest version of the Call History file available from N1MM if there is one.**

Now lets talk about how to tailor the F Key definitions in .mc files, initially for CW then for SSB messages.

You can hardwire the F key definitions for CW by changing F1, for example, to "CQ test VE3YT", and set F2, the exchange, to "5nn Vic ON". It'll work, and N1MM will send that CW to your radio. By the way, if you leave two spaces between words, it'll send two spaces. If you want a half-dot space, type ~. Sometimes I use VE3Y~T on F6 to make the Y and T just a bit more distinct, for people who hear dah di dah dah dah on F4.

There are some macros and special characters you can use in the F Key definitions. Anything in curly braces {} is an N1MM macro. But there are single character macros that don't need curly braces. Here's the macros I use most often:

- * sends my call
- {MYCALL} sends my call
- ! sends his call (whatever is entered in the Call Sign box)
- {EXCH} sends the Exchange as defined in the Contest pane. (SS is special, because you'll have to "hardwire" your Precedence, Check and Section in the F2 definition.)
- # sends your current serial number of the QSO
- {LOG} causes the QSO to log. (You might have an F Key set for logging.)
- {WIPE} clears the Call Sign box and Exchange box(es)
- {RUN} puts you in Run mode
- {S&P} puts you in S&P mode, handy for sprints were the messages change
- {CAT1ASC} sends an ascii CAT command to the radio (e.g. Elecraft)
- {CAT1HEX} sends a hex CAT command to the radio (e.g. Icom)
- {SENTRSTCUT} Sends the RST you enter in the exchange box as a "cut number". In cut numbers, 9 is an N. I never use this, I just put 5NN right in the F2 definition when the contest exchange has a signal report.

There are many more macros in the N1MM documentation, to do things like zero your RIT, etc.

Special characters:

- > reduces the CW speed by 2 wpm. These can be concatenated like >>>
- < increases the CW speed by 2 wpm.
- ~ inserts a half dot of space

Any other text just gets sent as a normal CW letter.

Here is the CW Default Messages.mc file provided by N1MM:

```
#####
# RUN Messages
#####
F1 Cq,Cq Test {MYCALL} {MYCALL}
F2 Exch,{SENTRSTCUT} {EXCH}
F3 Tu,Tu {MYCALL}
F4 {MYCALL},{MYCALL}
F5 His Call,!
F6 Repeat,{SENTRSTCUT} {EXCH} {EXCH}
F7 Spare,
F8 Agn?,Agn?
F9 Nr?,Nr?
F10 Call?,CI?
F11 Spare,
F12 Wipe,{WIPE}
#
#
```

```
#####
# S&P Messages
#####
F1 Qrl?,Qrl? de {MYCALL}
F2 Exch,{SENTRSTCUT} {EXCH}
F3 Tu,Tu
F4 {MYCALL},{MYCALL}
F5 His Call,!
F6 Repeat,{SENTRSTCUT} {EXCH} {EXCH}
F7 Spare,
F8 Agn?,Agn?
F9 Nr?,Nr?
F10 Call?,Cl?
F11 Spare,
F12 Wipe,{WIPE}
```

F Key definitions use while in Run mode and while in S&P mode are specified separately. Let's look at the F1 Key in Run mode: F1 Cq,Cq Test {MYCALL} {MYCALL} . F1 specifies the F1 Key. The Cq before the comma is the label put on the box for the F1 Key under the Call Sign box in the Entry window. You could change this to CQ, or CQ Run, and see the label change on the box. The stuff after the comma is actually sent by your radio when you activate the F1 Key (either by pressing F1 or clicking on the box in the Entry window or by using Enter to send the F1 message when it is highlighted.) Your radio will send CQ Test, then it will interpret the macros {MYCALL} {MYCALL} as a request to get your call sign from the Station Data and will send your call sign twice. If you are calling CQ in the Vermont QSO Party (and you are not in Vermont), you probably want to send CQ VT then your call sign once, rather than CQ Test. So you could change this line to be F1 CQ,CQ VT {MYCALL}, or just type in your call sign instead of the macro. Your call sign is also represented by the symbol *, so you could type F1 CQ,CQ VT *

Let's assume you're S&P in the Vermont QSO Party, and you're not in Vermont. When you tune to a Vermont station calling CQ VTQP, you will automatically have the F4 button highlighted. You would enter their callsign in the Call Sign Box in the Entry window, then press Enter to send F4 which is set to send {MYCALL} once, to send your call sign. Then hit space and N1MM will enter the Vermont station's county in the Exchange box if it has that information in a Call History file, or will wait for you to enter it (or correct the pre-fill) from what you hear on the air. N1MM will also highlight the F2 box under the Call Sign Box so that when you hit return it will send your exchange as defined by the F2 Key definition in the .mc file. You can see above that F2 is specified to be F2 Exch,{SENTRSTCUT} {EXCH} which will send the Cut Numbers version of the signal report, that is 5nn, followed by whatever you have defined in the Exchange box in the Contest pane when you set up the contest, which is probably your state. Or, you could just change the definition in the .mc file to read F2 Exch,5nn OH if you are in Ohio.

When you are logging the running station's county, it is important to use the proper county abbreviations specified by the QSO party organizers (often available on their website) and "baked into" N1MM. If you use a different abbreviation, N1MM won't

accept it. So it is good practice to print out the abbreviations in advance, especially for phone contacts where the runner sometimes gives the full name of the county instead of the abbreviation.

If the runner is on a county line, they might give two counties. These can be entered into N1MM as a single exchange with the counties separated by a "/" (slash). N1MM will log two QSOs, one for each county, with the same call sign and time. Some runners on county corners might give three or even four counties, which can all be separated by slashes.

So what about SSB? The Associated Files pane when you set up the contest has a separate .mc file for SSB, and uses it when your radio is in SSB mode. The F Keys can send .wav files, following the same state machine logic based on Enter Sends Message. Normally you keep the .wav files in this directory, where you replace my callsign with your own:

C:\Users\{username}\Documents\N1MM Logger+Wav\VE3YT

You record messages for CQ.wav, Thanks.wav, Mycall.wav, QRZ.wav, and whatever else you want, and put them in that directory. (Use Audacity, or try recording directly in N1MM by going in Run or S&P, then typing Ctrl+Shift+FKey to start recording, and Ctrl+Shift+FKey to stop. Make sure to identify you are the Operator in the log when you start the contest, using the OPON command in the Call Sign box, or the Ctrl+O command, and use the same callsign as the directory for the recordings. (This permits multiple ops to have their own recordings in multiops. Probably you can get rid of the {Operator} macro and the callsign in the directory, but I've never tried it. Here are typical F-Key definitions:

Run F Keys:

F1 CQ,{OPERATOR}\CQ.wav
 F2 Exch,{OPERATOR}\Exchange.wav
 F3 TNX,{OPERATOR}\Thanks.wav
 F4 {MYCALL},{OPERATOR}\Mycall.WAV
 F5 His Call,empty.wav
 F6 Spare,empty.wav
 F7 QRZ?,{OPERATOR}\QRZ.wav
 F8 Agn?,{OPERATOR}\AllAgain.wav
 F9 Exchg?,{OPERATOR}\Exchange query.wav
 F10 Spare,empty.wav
 F11 Spare,empty.wav
 F12 Wipe,{WIPE}

S&P F Keys

F1 CQ,{OPERATOR}\CQ.wav
 F2 S&P Exch,{OPERATOR}\S&P Exchange.wav
 F3 Spare,empty.wav

F4 {MYCALL},{OPERATOR}\Mycall.WAV
 F5 His Call,empty.wav
 F6 {MYCALL},{OPERATOR}\Mycall.wav
 F7 Rpt Exch,{OPERATOR}\Repeat Exchange.wav
 F8 Agn?,{OPERATOR}\AllAgain.wav
 F9 Spare,empty.wav
 F10 Spare,empty.wav
 F11 Spare,empty.wav
 F12 Wipe,{WIPE}

Or, you can use {CAT1ASC} or {CAT1HEX} macros in F Key definitions to play messages recorded in the radio. Here are some examples for different radios:

For an ICOM 7300 you could set F1 as follows:

F1 CQ, {CAT1HEX FE FE FE 94 E0 28 00 01 FD} to play the message recorded in memory 1.
 F2 Exch, {CAT1HEX FE FE FE 94 E0 28 00 02 FD} will play the message recorded in memory 2. (Hopefully the exchange is constant, without a serial number specific to each Q.)
 F4 MyCall, {CAT1HEX FE FE FE 94 E0 28 00 04 FD} will play the message recorded in memory 4, which could be your call sign.

In general in for the 7300, change the two digits before the FD to anything between 01 and 08 to play the messages recorded in memory 1 to memory 8. If you want an F Key that instantly stops the message being played, say by pressing F11, then set its definition to F11 ESC, {CAT1HEX FE FE FE 94 E0 28 00 02 FD} I labeled this ESC because you also use the ESC button to stop N1MM CW messages midway through.

For a Yaesu 710 or FTDX10, you could use the following macros to play messages:

F1 CQ, {CAT1ASC PB01;} will play the message recorded in memory 1.
 F2 Exch, {CAT1ASC PB02;} will play the message recorded in memory 2.
 There are five voice message memories in these radios, available by using PB0#: where # is between 1 and 5. You could set F4 MyCall, {CAT1ASC PB04;} to send the recording of your call sign in memory 4.
 To stop playing a message, you could set F11 ESC, {CAT1ASC PB00;} to send the command to the radio to end voice message playback.

For an Elecraft K3:

If you have the Digital Voice Recorder option, there are four voice messages, triggered from the front of the radio by tapping the switches in a circle. These CAT Macro strings will play back the DVR voice keyer messages by emulating a tap of those switches:

- M1 = {CAT1ASC SWT21;}
- M2 = {CAT1ASC SWT31;}
- M3 = {CAT1ASC SWT35;}
- M4 = {CAT1ASC SWT39;}

So you could use M1 for CQ, M2 for Exchange and M4 for you call sign by typing in the following F Key definitions:

F1 CQ, {CAT1ASC SWT21;}

F2 Exch, {CAT1ASC SWT31;}

F4 MyCall, {CAT1ASC SWT39;}

6. Multiple State QSO Parties on the Same Weekend

Some weekends have multiple state QSO parties with overlapping time periods, or there may be other contests you want to enter simultaneously. Each of these requires an individual log in N1MM and then you switch among these as you work individual stations in different contests.

Set up an individual log in your database for each QSO party using New Log in Database from the File menu in the Entry window. Be sure to set the exchange box properly for each contest, and choose the appropriate .mc files and Call History files in the Associated Files tab for each one. N1MM will remember these on a per contest basis and will change the F Key messages and the call history file as you switch among contests.

There are two ways to switch among contest logs. Click on the File menu in the Entry window and you will see a list of the last nine contest logs you created at the bottom of the pane that pops up. You can select other logs there by clicking on them. You can also select logs from this list by typing ALT+F to open the pane, then typing a number from 1 to 9 to select a log. So, if you have two logs, you can toggle between them by typing ALT+F then 2.

One big weekend, in early May, has four QSO parties: the 7th Call Area, New England, Indiana and Delaware. N1MM has an integrated logger for this contest called XXX. Each of the four QSO parties will accept this integrated log included QSOs for the other three. However, to post your results on www.3830scores.com for each individual QSO party, as required for the State QSO Party Challenge, you will need to tease your log apart to get the number of Qs, mults and score for each individual QP. The parsing tool at <http://www.b4h.net/cabforms/multiqplogparser.php> will do this automatically for you.

7. Bandmap Window

The Bandmap window has more value than just spots. If you turn your radio on and off, but leave your computer on, you will have to watch for a “Reset Radio” notification at the bottom of the Bandmap window. If you do not click this notification button to reset the connection to the radio, you will not log the proper frequency to which the radio is tuned. In fact you may be on a different band, which can mess up your scoring and the logger’s ability to detect duplicate call signs (“dupes”).

There are also rectangular buttons near the top of the Bandmap window which can be programmed with macros to send CAT commands to the radio. If your radio has a rich programming language and no ability to store sufficient macros internally, these four programmable buttons can be useful.

8. Online Scoreboards

Online Scoreboards, sometimes called leader boards, allow contesters and others to watch the progress of contest participants in real time. You can configure N1MM to automatically upload your results periodically to contestonlinescore.com or cqcontest.net or any other online scoreboards that can get information from the online score distributor server. In the Entry window, under the Config menu, select “Configure Ports, Mode Control, Audio, Other...” and click on the “Score Reporting” tab. Click the box for “Report Real-Time Score to Server”. At the present time, the pulldown menu for the Score Reporting Server lets you choose score distributor server (which connects to other online scoreboards) or specifically to contestonlinescore.com or cqcontest.net. Put in your username and password for the Contest Online ScoreBoard site, or the cqcontest.net site, or whatever site you are using.

9. After the Contest – Submitting the Log

After the contest, to participate in the State QSO Party Challenge, **it is important to submit your score to www.3830scores.com** which is how the State QSO Party Challenge gets your information. Within a few minutes you should see your score reflected on the State QSO Party leaderboard, which can be accessed by selecting Leaderboards from the menu near the top of this page <https://stateqsoparty.com/sqp-challenge-results/>

On www.3830scores.com it is important to select your contest club so that your participation also counts towards that club’s results in the State QSO Party Club Challenge.

To participate in the Worked All QSO Parties program, you need to submit your log to the QSO party organizers for each QSO party in which you participate. Just submitting to 3830 isn’t sufficient. To create the Cabrillo format version of your log to submit to the contest organizers select Generate Cabrillo File in the Entry window File menu. N1MM will ask if your exchange is defined correctly for inclusion in the log. (If not, you can go back to the File menu, select Open the Log and change it on the Contest pane.) Then it will ask if your category is correct and also valid for the contest. (If not, you can Open the Log and change it too.)

N1MM will then give you a file save window in which you can choose a directory and filename. I suggest using filenames that include the year and contest type, such as 2025 Florida QP.log. You don’t need your name or callsign in the filename for the organizers to know whose log this is.

The .log Cabrillo files are actually .txt files so you can open them in a text editor and see what is in the header (such as your name, callsign, address and category) and even edit these.

To figure out where to submit the Cabrillo file, I use the WA7BNM contest calendar at www.contestcalendar.com and select the contest to see its detailed description, which always has the URL for log submission. These log submission pages usually ask a few questions about your power level, in or out of state, number of operators, etc., to determine your category independently of the Cabrillo header, and then give you a way to browse your filesystem to identify the file to upload. You often get an email from a log checking robot that has done a preliminary check on your log, with a confirmation of submission.

The State QSO Party Challenge website has a detailed checklist for submitting your results to 3830, your log to the organizers, and then adding the log to your global log, to QRZ and to LOTW.

10. Digital Modes – RTTY and FT8/FT4

Don AA5AU has done a great job of explaining how to set up various programs with N1MM for RTTY and FT8/FT4 contesting.

<<https://www.rttycontesting.com/tutorials/n1mm/plus/>> for RTTY, and

<<https://www.rttycontesting.com/tutorials/n1mm/operating-ww-digi-with-n1mm/>> for FT8/FT4.

7. Shortcut Keys

Essential:

Alt+w	Wipe log entry
Ctrl+o	Set Operator callsign in log (or enter OPON in Call Sign box)
Alt+u	Toggle S&P and Run
Ctrl+k	Enter or exit CW text window (type text and it sends as CW, close it to use the other logger functions)
ESC	Stops sending
Page Up	CW speed up
Page Down	CW speed down
Alt+r	Toggle CQ Repeat
Alt+Enter	Log Q without sending anything (Only works in ESM Mode)

I Use Mouse Clicks or Button Pushes Instead of These:

Ctrl+r	Set CQ Repeat interval time
Ctrl+n	Add note to log
Ctrl+d	Delete last logged QSO
Ctrl+q	Quick edit last QSO
Alt+F10	Swap VFOs
Alt+F8	Return to last frequency
Alt+q	Return to last CQ frequency if in S&P

Split Shortcuts:

Ctrl+Enter	Set Split frequency
Ctrl+s	Enter Split Mode
Ctrl+Alt+S	Toggle Split Mode on and off
Alt+F7	Set Split frequency or offset to specified frequency

SO2V and SO2R Shortcuts:

\	Change receive focus among Entry windows
PAUSE	Swap both receive and transmit/keyboard focus among Entry windows
`	Toggle receive both VFOs/radios on and off
Alt+F5	Swap frequencies between Entry windows (VFOs/radios)
Ctrl+Enter	Send next ESM State on "other radio"
Ctrl+F1 to F12	Send F Key message on "other radio"
Ctrl+B	Toggle Duelling CQs on and off