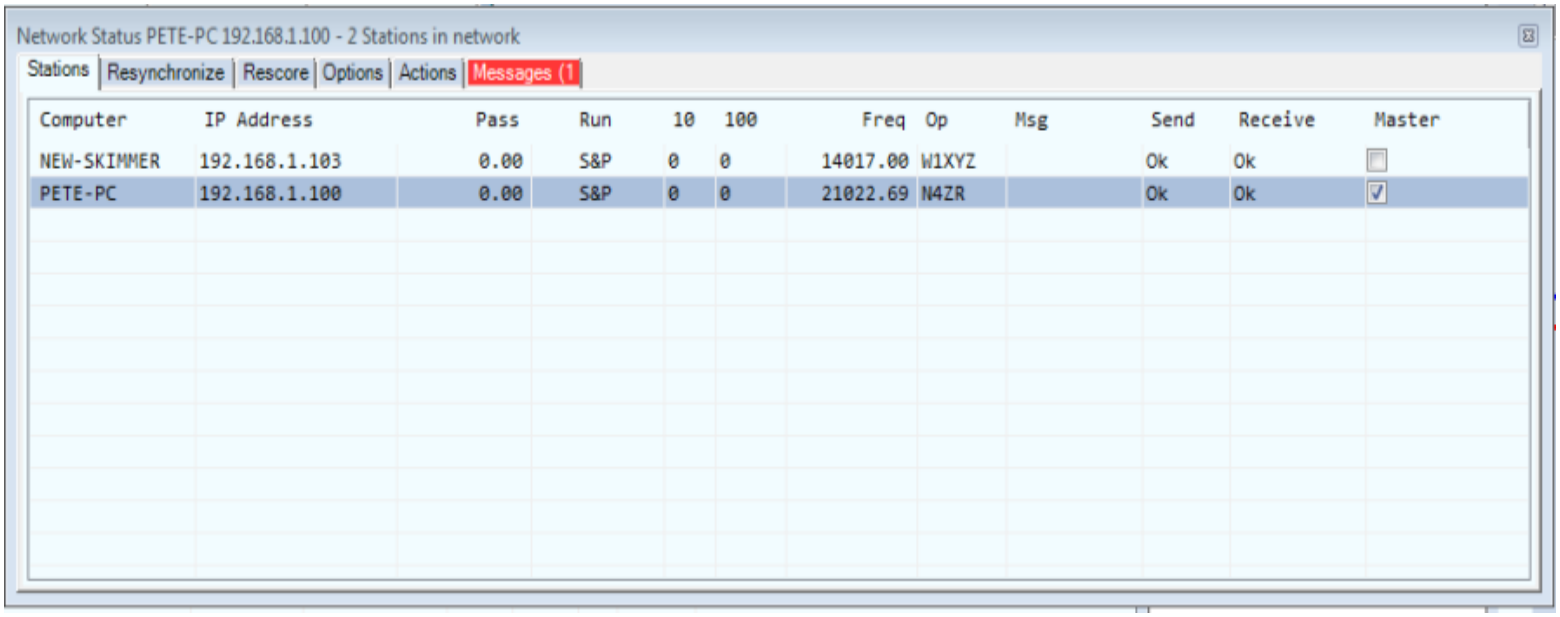
2.6.16 The Network Status Window



The Network Status Window is brand new in N1MM Logger+. **All network-related options and actions have been moved to this new Window, with some minor exceptions for backward compatibility reasons.** Those remain in the Info window. The new network scheme also simplifies and automates the network setup. So long as each computer on the network is running the same version of N1MM Logger, and the same contest and multi-operator class in the Contest Setup, the network will be set up automatically.

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Turning on Networked Computer Mode

If you open the Network Status window without enabling networking, you will see a framed warning: "Networked Computer Mode is off - Click here to turn on." This function replaces the Networked Computer Mode option that used to be on the entry window's Config menu.
Do as it says and the other computer(s) in the network will appear.

1. Tabs

Whenever you open the Network Status window, it comes up in the Stations tab.

1.1. The Stations Tab

As you can see above, this tab contains all the basic information about each station in the network:

- Computer - This is the name assigned by Windows
- IP Address - on the local area network
- Pass - The pass frequency (to which other stations on the network can pass new mults). Each station can set or change this frequency for itself manually (on the Actions tab) and all stations can then see the new frequency.
- Run - Whether each station is in Run or S&P mode
- 10/100 - What its current QSO rate is (last 10 and last 100 QSOs)
- Freq - What frequency it is currently on.
- Op - Who is operating (as set by OPON or Ctrl+O)
- Msg - What, if anything, that station has just done, such as pressing a function key
- Send/Receive - normally reads "OK" unless there is a problem with the network.
- Master - Permits checking to select one station on the network as the master. Check one to determine which connects to the Internet for cluster spots and time synchronization.

A (((*))) in the title bar of the Network Status window means that your computerjust broadcasted its IP address, usually in the process of establishing a connection to the network. When connection is established, the title bar will reflect the number of stations in the network.

The red highlight on the Messages tab means that there is a network message waiting there that has not yet been read. In most cases, it is normal administrative traffic, such as a connect request from another station on the network. The red highlight may also be seen on the computer name during the connection process,

usually accompanied by a red highlight in the Send or Receive column. These will disappear when a good connection is established.

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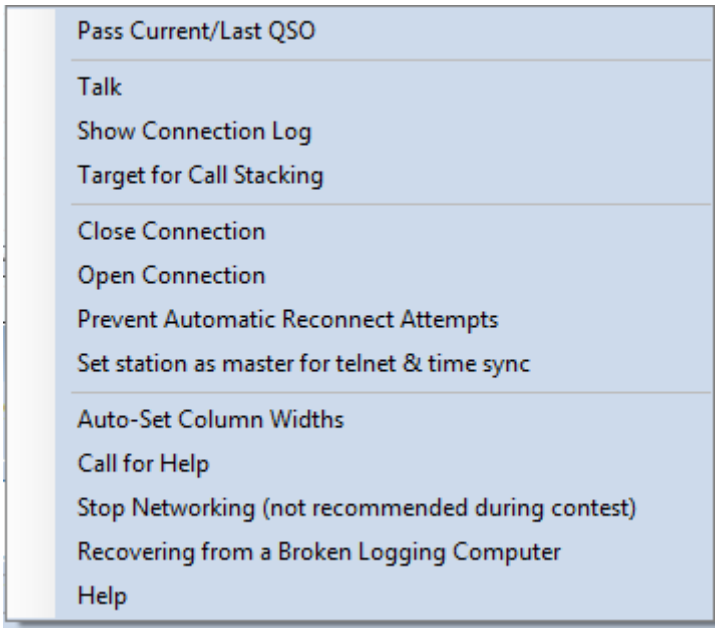
Keeping Computer Clocks in Sync

In order to keep all of the clocks on a network in sync, all "slaves" - computers other than the one designated as "master" - must be run as Administrator (by right-clicking on the desktop icon and selecting "Run as administrator" from the pop-up menu), and the master must be set up to sync with Internet time (at Date/Time in Control Panel).

1.1.1. Right-Click Menu

The right-click menu on the Stations tab opens a menu of powerful functions that most multi-op operators will find important in real time. The rationale for placing it here is that most operators will keep this tab on-screen, since it contains so much important operational information. **Each of these functions requires right-clicking on the line entry of a computer other than the current one, to identify the affected computer and open the right-click menu.**



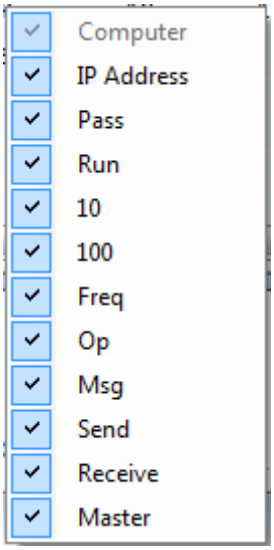
- **Pass current/last QSO** - If you right-click on a computer to which you wish to pass your current or last QSO (assuming that the station just worked has agreed to QSY), and then click this option, a Talk message will be sent to the Info window of the target computer, telling the other operator who to expect and on what frequency. If that computer's Pass Frequency is set to zero, then the Message will show the receiving computer's frequency at that time.
- **Talk** - A right-click on any computer in the network, followed by a click on this option, will open the Talk sub-window with that computer's name already

entered.**Talk messages appear in the Info window of the receiving computer.**

- **Show connection log** - Right-click on a computer and then on this option, and a log of communications events between your computer and the one selected will be displayed as an aid to trouble-shooting.
- **Target for call stacking** - The intended use of this feature is for large multi-ops that have more than one radio on a given band, to permit the "helper" operator to identify and queue stations for the run operator to work. If the two computers are on the same frequency (+/- a small tolerance), a right-click on the target computer turns on call stacking. Thereafter, any callsign that the "helper" op enters in his Entry window will appear in the call-frame of the target computer's Entry window. The run operator only needs to hit [Space] to pull the call down into the call-sign textbox, ready to work. **There is a checkbox on the Options tab which, if selected, will clear the sending computer's Entry window if the target computer works the station that has been stacked.**
- **Close and Open connection** - These options are used to open and close connections between the current computer and the one you right-clicked on.
- **Prevent automatic reconnect attempts** - used when trouble-shooting the network to stop the selected computer from sending reconnect requests every thirty seconds.
- **Set station as master for telnet and time sync** - Another way to set any given computer on the network as the Master for receiving DX cluster spots and performing time synchronization. Note that time synchronization requires that N1MM Logger+ be run as Administrator on the receiving computer(s).
- **Auto-set column widths** - used to adjust the format of the Stations display to the minimum required to display the information currently present on-screen
- **Call for Help** - Sends an audio request for assistance to the computer you clicked on, together with a text message in the receiving computer's Info window.
- **Stop Networking (not recommended during contest)** - self-explanatory.
- **Help** - when Internet access is available, displays the appropriate section in the User Manual.

1.1.2. What, Another Right-Click Menu?

There is a second right-click menu associated with this tab. It is made visible when you right-clink on the column headings row of the tab ("Computer", "IP Address", etc.) . It allows you to select which columns on the Stations tab you want to display, in the event that you want to minimize required screen space while still monitoring network activity.



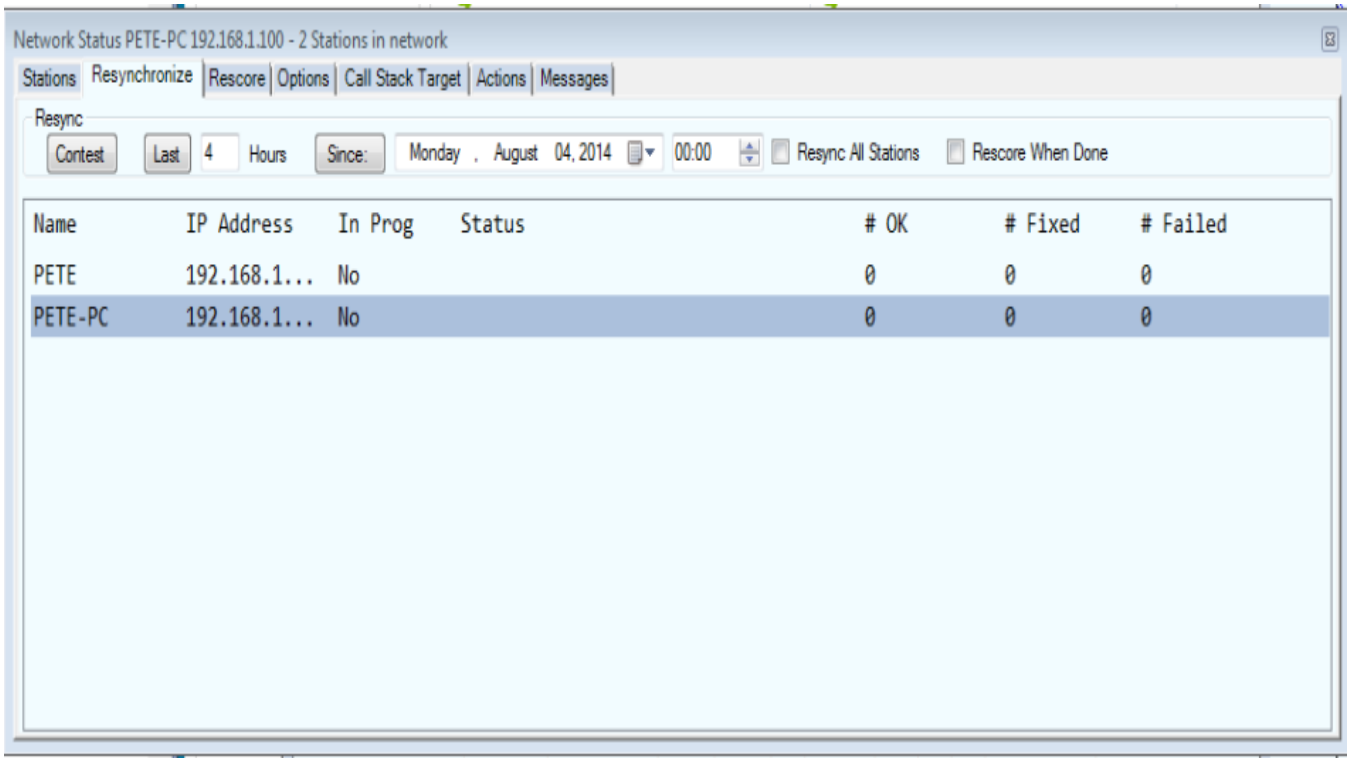
1.1.2.1. Adjusting the Stations Tab's Format

If you put your cursor between column headings in that row and move it rightward almost to the next column to the right, you'll see that it changes to a standard Windows "change width" character (a vertical line with horizontal arrows facing away from it). You can drag that marker right to increase the width of the column to its left, or left to decrease the width of that column.

It is possible using this control to make the heading of a column disappear altogether. If you do that and want to recover, right-click in the body of the tab, and select "Auto-Set Column Widths" to get back to the full set of minimum-width headings.

You can also reorder the columns, by clicking on a column heading itself and dragging it where you want it. Be a little cautious in doing this, though, because there is no command for automatically restoring column order to the original - you'll have to do that manually.

1.2. The Resynchronize tab



Normally every computer has a copy of every QSO in the log. If all computers stay connected at all times, new QSOs entered on one computer are broadcast to the other computers in the network so that every computer always has a complete copy of the log.

If it is necessary to edit or delete a QSO, the computer that the QSO was initially logged from must be used to perform the change. Other computers do not have permission to change the QSO. Any such change made at the originating computer will be reflected on all computers that are connected to the network at the time the change is made.

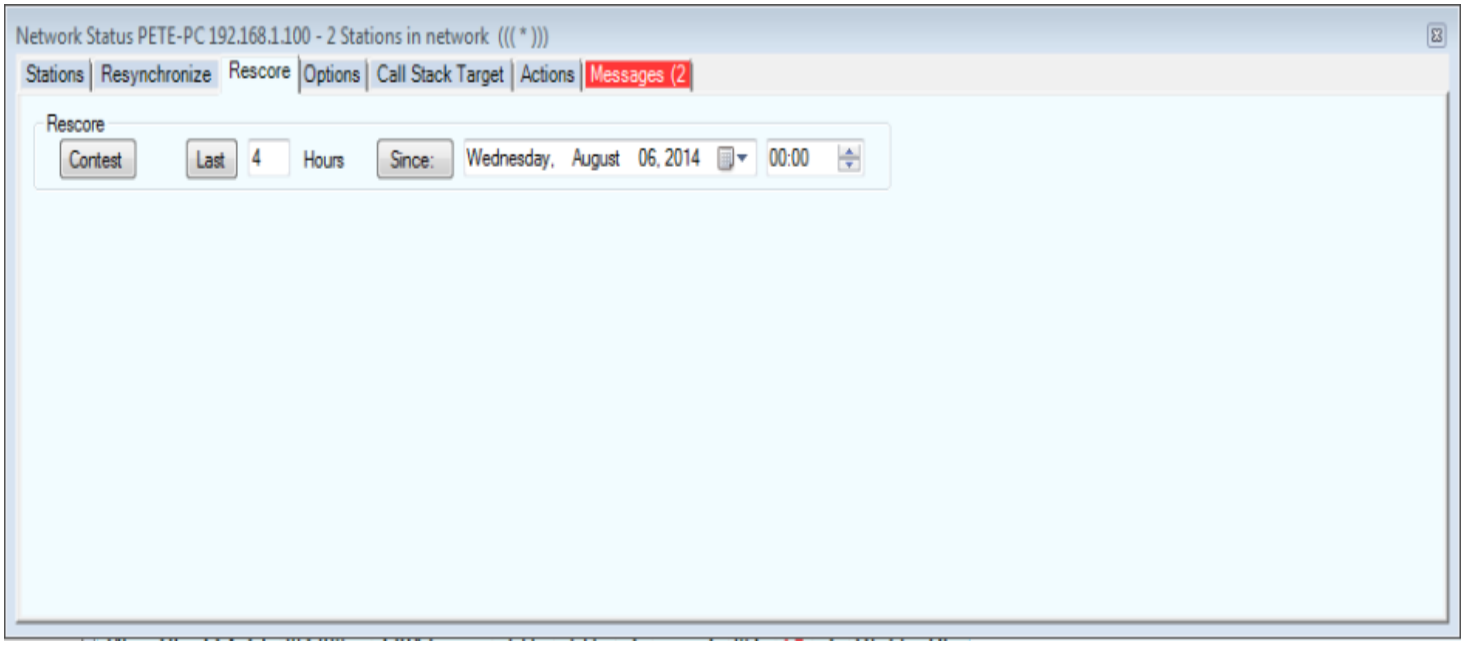
If a computer becomes disconnected from the network, you can continue to log contacts on it. When the computer rejoins the network, all QSOs made on that computer will automatically be sent to the other computers, and all new QSOs made on the other computers will be copied to the rejoining computer. This process is called resynchronization (resync for short).

Resynchronization of newly added QSOs is automatic. However, if changes (edits or deletions) are made to previously existing QSOs while a computer is disconnected from the network, those changes will not be applied during the automatic resync process. In other words, the automatic resync when a computer reconnects to the network only updates new QSOs; it does not update QSOs that were already in the log. Because of this, it is a good idea to perform an additional manual resync at the end of the contest in order to ensure that all the logs are identical, and that is the purpose of this tab.

A manual resync operation initiated from this tab requests each other computer in the network to update the requesting station's copies of all QSOs that were originally logged at the other computer in order to take into account the effects of any changes (edits or deletions) that were made during network outages.

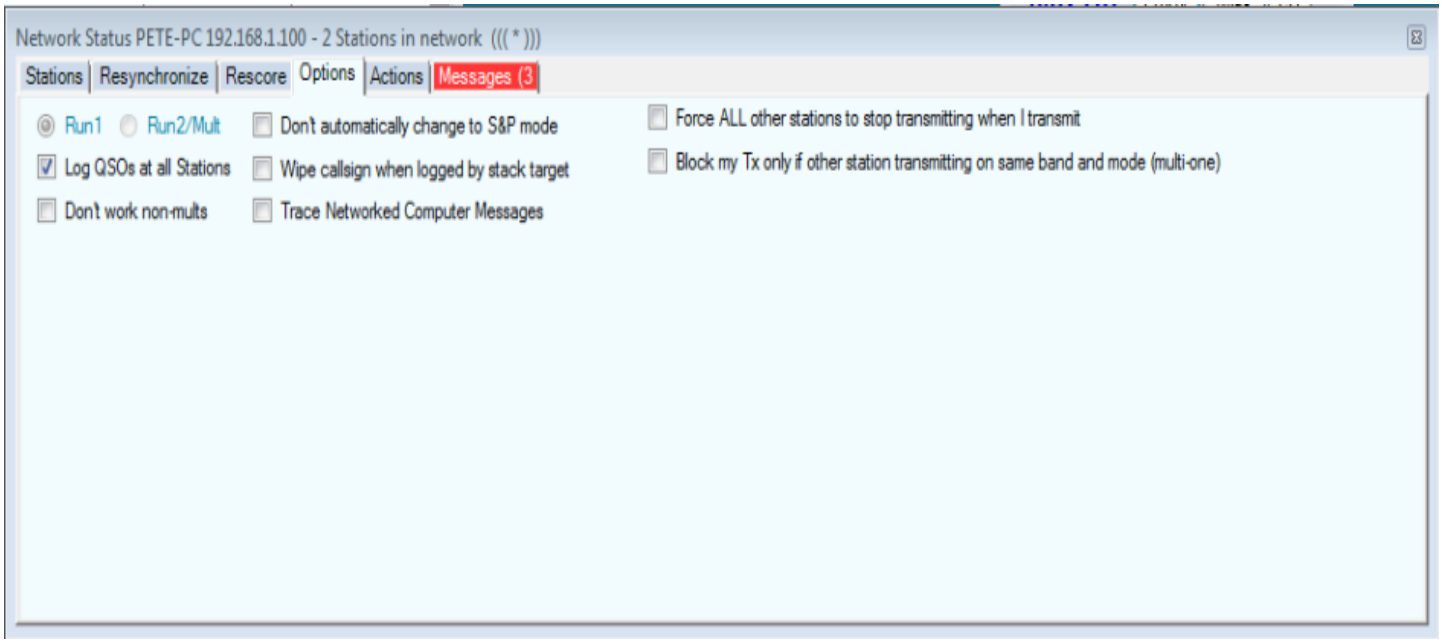
- The "Contest" button will resynchronize from the start of the contest.
- The "Last" button and the textbox next to it are used to resync for a shorter period when you know when the problem occurred.
- The "Since" button works the same way but by resync start date and time rather than duration.
- The "Resync All Stations" checkbox syncs each log with all others simultaneously. Use this after the contest is over to ensure that all logs are identical. This can be a resource-intensive process; in order to avoid disrupting operations at other computers, do not use it during the contest while any computers are still being used to log new contacts.
- The "Rescore When Done" checkbox rescores the contest after the resync is complete on this computer, or all computers if Resync All is selected

1.3. The Rescore tab



This tab controls rescoring the log on the local computer, recalculating QSO points and multipliers, in order to take into account the effects of any changes (edits or deletions) on the final score. This is recommended practice at the end of a contest, before a Cabrillo file is generated for sending to the contest sponsor. The buttons are the same as those on the left-hand side of the Resynchronize tab, and are used similarly .

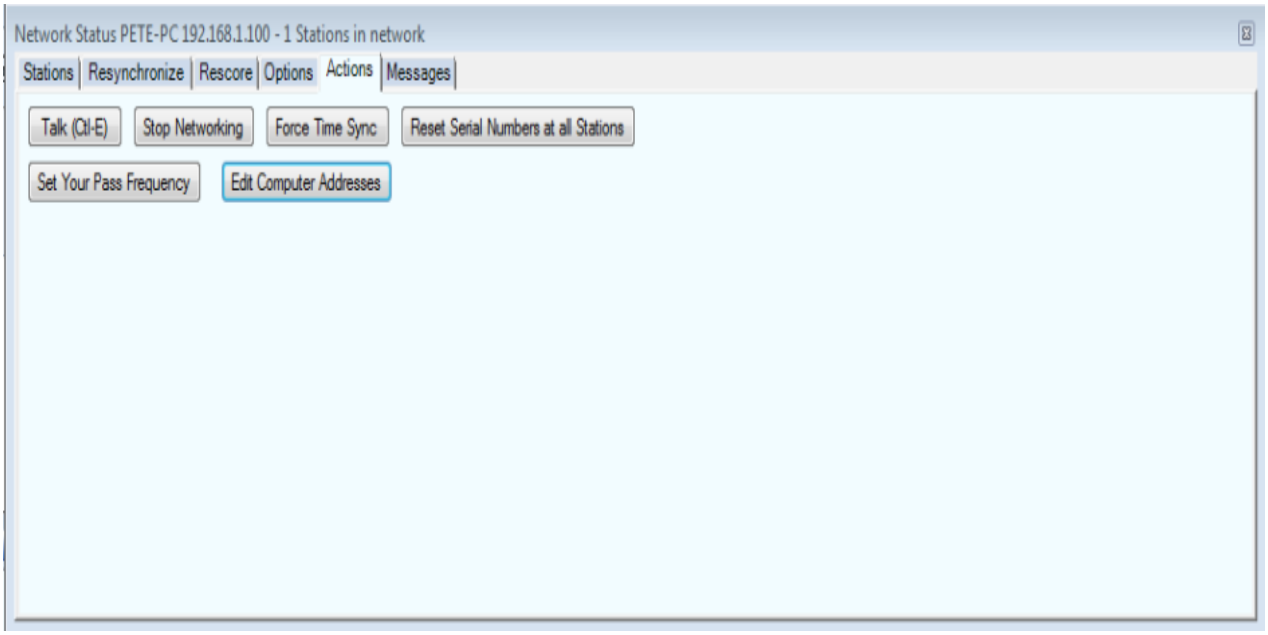
1.4. The Options tab



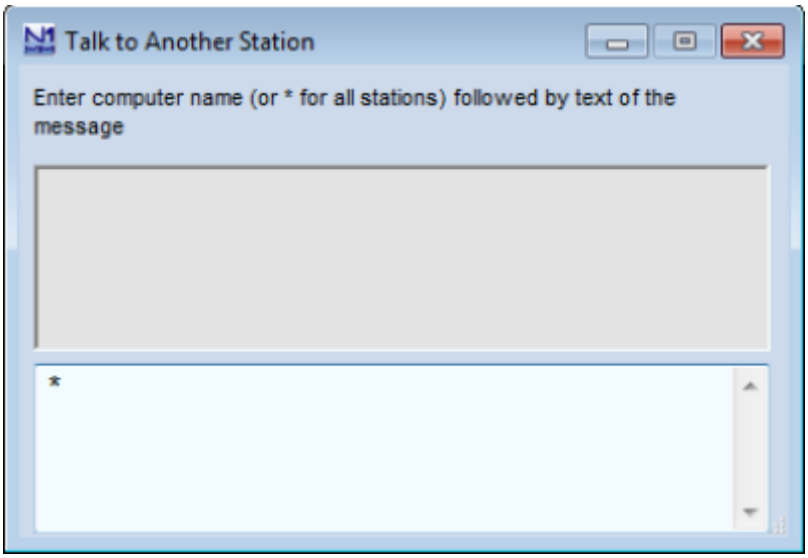
Left to right and top to bottom, following is a description of the radio buttons and checkboxes on this tab.

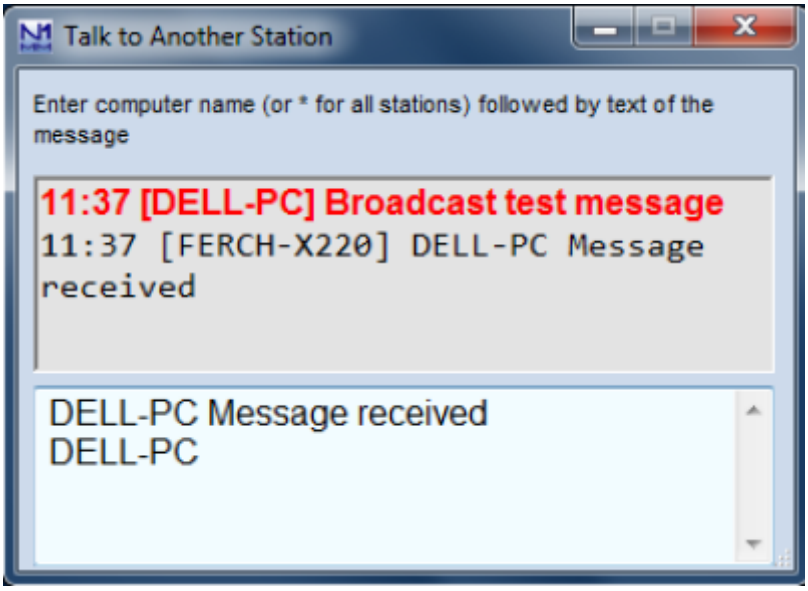
- **Run1/Run2 radio buttons** - these buttons are greyed out except in the case of the Multi-2 class, in which case you can click the radio button to designate the current computer as Run 1 or 2.
- **Don't work non-mults** - check this box if you are entered in the multi-single class in contests where the current computer must not work non-multipliers. When checked, will block the station from working non-mults. Function key messages will not be sent to a non-mult.
- **Don't automatically change to S&P mode** - When checked, prevents the current computer from switching from Run to S&P mode when QSYing by more than the tuning tolerance for its mode. See this page for more details on per-mode tuning tolerance.
- **Wipe callsign when logged by stack target** - Use in conjunction with call stacking. If you stack a callsign for your partner to work, and he works it, your call-sign textbox will automatically be cleared so you can stack another.
- **Trace Networked Computer messages** - a trouble-shooting tool that logs messages between computers on the network to a file titled MultiUserMessages.txt
- **Force ALL other stations to stop transmitting when I transmit** - self-explanatory
- **Block my Tx only if other station transmitting on the same band and mode (multi-one)** - self-explanatory

1.5. The Actions Tab



- **Talk (Ctl+E)** - opens a sub-window, in which you can send or receive talk messages to/from the other station(s) on the network.





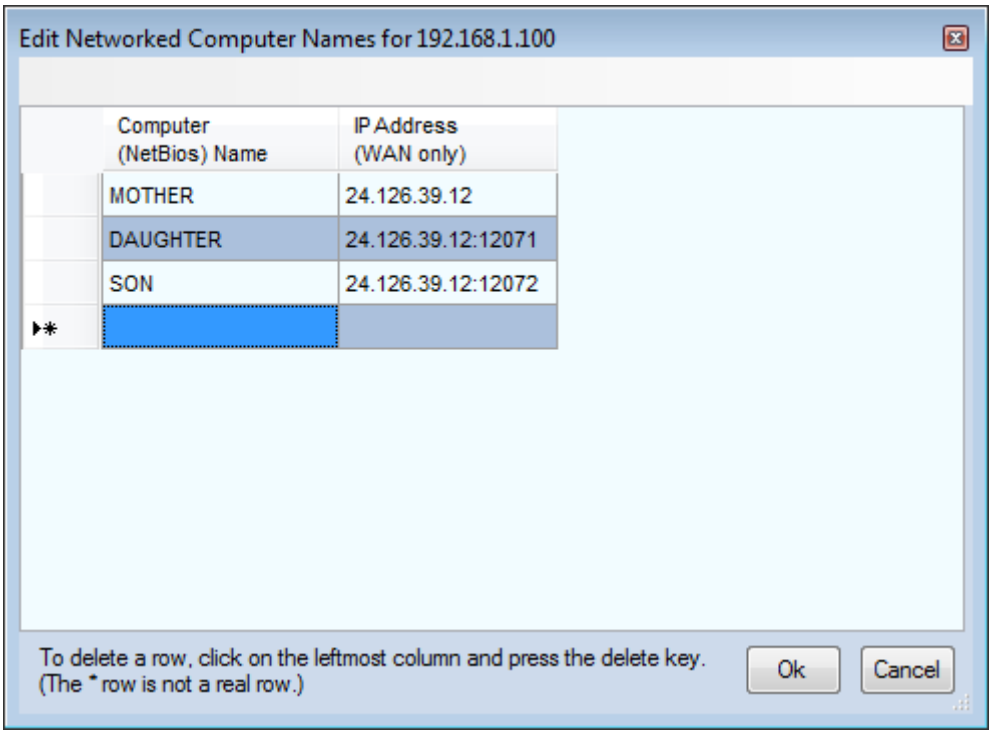
The first of these two illustrations is an empty Talk window. By default, Talk messages are sent to all stations, denoted by the asterisk. If you enter a computer name in place of the asterisk, followed by a space and the text of a message, the message will be sent only to that station. That computer name then becomes the default address for Talk messages from you until replaced. Note: you must enter the computer name exactly as shown in the left-most column of the Stations tab, except that whatever case you enter will be changed to all upper-case to conform with the Microsoft standard.

The upper pane is now where talk messages are received, as in the second illustration. Messages in red have been received, and are also displayed in the bottom pane of the Info window, Ctrl+E can now be used to toggle the Talk window between full size and minimized to the lower left corner of your screen.

The first time you receive a Talk message while the Talk window is open but minimized, you will notice a new icon in the right-hand end of the Windows taskbar, with a message balloon above it. The icon will remain there until the Talk window is closed. This is in addition to the N1MM+ logo you will see over to the left, which is present any time the program is open. Thereafter, each time a new talk message comes in while the Talk window is minimized, a message balloon will appear above the new icon, as illustrated below. The message balloon is displayed for 5 seconds and then disappears.

If you want to send a message only to a particular station, right-clicking on that station's line on the Stations tab and then selecting "Talk" will relieve you of having to fill in the computer name. Other operation is as above.

- **Set Your Pass Frequency** - enter the frequency you want other stations on the network to pass stations to. It will appear on all stations' Stations tab.
- **Stop Networking** - Self explanatory - strongly discouraged during a contest.
- **Force Time Sync** - Self-explanatory
- **Edit Computer Addresses** - N1MM Logger+ networking is automatic within a single subnet, which is usually the case in local area networks. However, if you want to network across a Wide Area Network, or in rare instances where your network involves more than one subnet, auto-configuration will not work. In that case you will need to fill in computer addresses in this table **exactly as assigned by the network(s)**. For WAN networking you must enter the external IP addresses of each LAN and also port numbers for all the computers you wish to connect to, in the format XX.XXX.XX.XX:port number}. The port number is needed to permit operators to set up forwarding through their router firewalls to the right computer. If going subnet-to-subnet, you do not need to enter port numbers and the IP addresses would be the **internal** IP address. Here's an example in the WAN case, such as would be needed for a distributed IARU HQ "station":



    - You'll note that the first computer listed has no port number - this is because 12070 is the N1MM+ networking port for all computers on any LAN. The port numbers on the others are ones you assign, for use only in port forwarding.

    - Please refer to your router help file for instructions on setting up port forwarding.

- **Reset Serial Numbers at All Stations** - only for use when you have screwed up. Sets the serial numbers on all computers to the highest value in any of the logs, plus 1, so you can start a new serial number sequence without duplicate numbers. This does not change the serial numbers of QSOs that are already logged.

1.6. The Messages Tab

Displays networking messages

1.7. Recovering from a Broken Logging Computer

What do you do if one of your computers no longer works?

DO NOT ADD ANOTHER COMPUTER WITH THE SAME NAME!

If you do not replace it on the network

1. Each computer will have a copy of the QSOs logged by the broken computer. If they all agree on the number of QSOs, then you should be fine. If not, you will need to compare the lists from each one and determine which QSOs are missing.

If you replace it on the network

1. Locate a running network computer whose log includes the QSOs from the broken logging computer. **SHUT THE PROGRAM DOWN** on this computer.
2. Copy that computer's <log>.S3DB. <log>.s3db-wal and <log>.s3db-shm database files (The last two are temporary files that usually do not exist) to a network drive, diskette or flash drive.
3. Copy the <log>.S3DB* database files from the temporary medium to the replacement computer's \database directory

4. Configure the replacement computer and N1MM Logger and begin logging. Any new QSOs will be identified by the replacement computer's name, **which MUST not be the same as the broken machine.**
5. Restart the source computer and resume logging

Notes:
Each computer is the "book of record" for the QSOs logged on that computer, even though all QSOs are normally logged on every computer, for redundancy. Resync simply compares what your log shows for QSOs by a particular computer to what that computer has. If there is a difference, the computer that logged the QSO sends the updated QSOs to the requesting computer.

The best way to avoid all this is to keep a spare computer up and running N1MM+ on the network. You can then just swap it in for the broken one.

http://n1mm.hamdocs.com/tiki-index.php?page=Network+Status+Window