

# N1MM Logger+ Transaction File Mirror Utility

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## Current Version Information

V1.0 2012-12-17, initial release  
v1.2 2013-01-09, force selection of different directories  
v1.3 2018-07-01, cosmetic changes to reflect N1MM+, documentation updated

## Download

Download Link: <http://www.k8ut.com/File-Gallery/programs>

## Background

N1MM Logger Plus stores its contest logs in an SQLite database using a filename that you specify. The database has filename suffix of **.s3db**. (For example, my contest database might be called **k8ut.s3sb**) In addition to this SQLite primary log storage, N1MM+ also automatically maintains a secondary transaction log based on the *database name*, the *contest name* and the *contest date*. (For example, a transaction log for my 2018 Field Day log might be **k8ut.s3d- FD - 2018-06-23.trn**) N1MM+'s transaction file can be used to restore a contest log in the event of a primary (.s3db) database failure. These .TRN files are located in a separate **\TransactionLogFiles** subdirectory beneath your **\Databases** directory.

## Purpose

This N1MM\_Mirror utility adds another layer of protection against a computer failure by maintaining copies of the .TRN files on another disk drive.

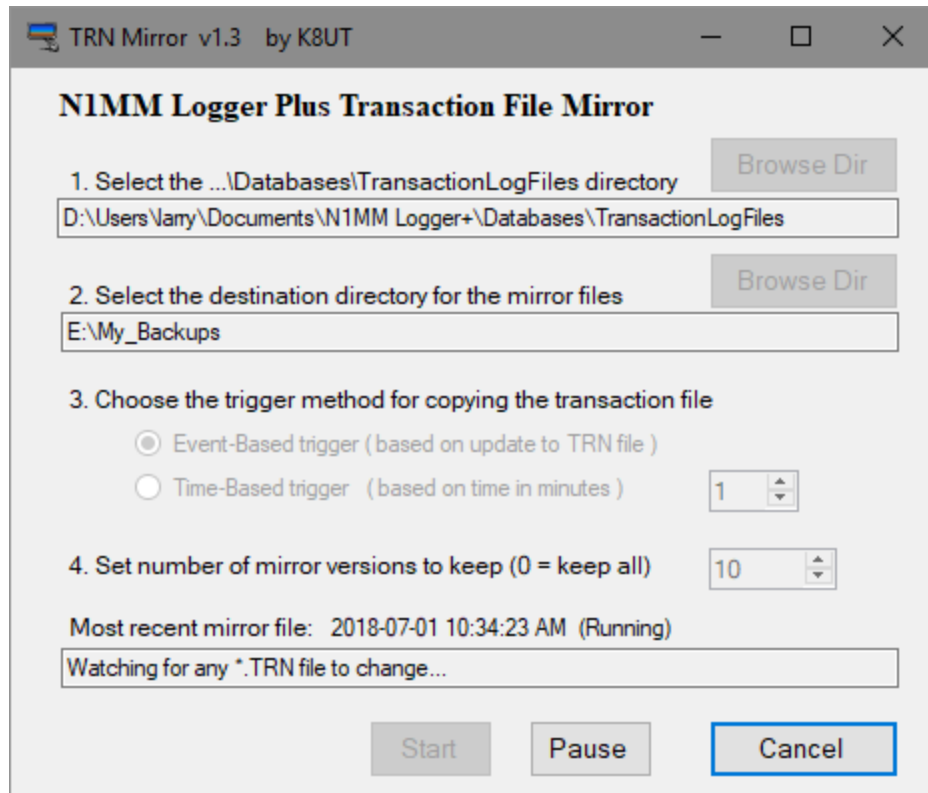
## Features

- Provides a log recovery mechanism in the event of a hard drive or computer crash
- Automatically tracks new transaction files from new databases and new contests
- Creates mirror files on a second hard drive, a flashdrive, a networked drive, or the cloud
- Copies the N1MM+ TRN file based on events (whenever the TRN file changes) or time (after *n* minutes since last copy)
- Avoids any file access errors that occur when accessing the primary database
- Efficiently makes a mirror file only when the TRN file has changed
- Creates *n* versions (generations) of the transaction file, based on configuration settings
- Renames the mirror files using version numbers (filename(1).trn, filename(2).trn, filename(3).trn...)
- Stores latest settings and mirror version counts in INI files

## Lowering Expectations: Problems that TRN\_Mirror DOES NOT solve

The purpose of N1MM+'s transaction files, and this utility program that exploits it, is to save your previous QSOs in the event of a computer failure. TRN\_Mirror does not replace your backup program, your secondary fail-over hard drive, your hot-swap standby PC -- none of the items that you should have

if you expect to recover from a serious failure and be back in the contest chair before the end of the contest.



## Computer Requirements

- Microsoft Windows XP or later
- Windows .NET framework v4.0 or later

NOTE: This is a Microsoft .NET application written in Visual Basic 2010. When attempting to run the software for the first time, you may be prompted to install the latest version of .NET on your computer.

## Installation

Installing the program is simple, there is no setup program. Extract TRNMirror.EXE from the ZIP archive and save it to any directory on your PC. To run the program, use Windows Explorer to navigate to the directory in which you saved the program, then double-click on the program icon. You can also create a shortcut to the program on your desktop.

## Operation

### Set up Your Contest Log File First

Use N1MM+ to create your new contest log by selecting >File >New Log in Database.

### Launch TRNMirror.EXE and follow the numbered steps

1. Select the location of the transaction log files in your N1MM Logger+ user directory

- a. This default location is:  
`c:\Users\<loginID>\Documents\N1MM Logger+\Databases\TransactionLogFiles`
2. Select the disk and directory location for the mirror file(s)
3. Choose whether you want the mirror files created based on elapsed time or file update (see explanation below)
  - a. If selecting a time-base trigger, choose how often you want the computer to check to see if the TRN file has changed
4. Set the number of version files to be maintained (see explanation below)
5. Press the <Start> button

## Details

Upon pressing the program <Start> button, TRNMirror makes an immediate copy of all transaction files (named <filename>(1).trn) and then passes control of the program to the selected trigger method

### Trigger Methods - Event-based or Time-based

**The Event-based method** monitors the Windows file system and triggers a file-copying event whenever the transaction file's date/time stamp changes. The advantage of the Event-trigger - when coupled with mirror versioning - is that your backup files can contain an incremental history of every recorded QSO in your contest log. The disadvantage is that the Event-based method consumes a little more CPU horsepower and will probably require more disk space than the Time-based method. *In the interest of complete disclosure, however: to avoid the possibility of a single update being double- or triple- counted (a Visual Basic bug), the copy routine waits for a short time (250 milliseconds) before creating the new mirror file. In the unlikely event that two legitimate updates were made to the transaction file within those 250 milliseconds, only one version file will have been created.*

**The Time-based method** sets a timer and at the end of the timed interval checks to see if the transaction file has been updated. If there had been an update during this interval, it copies the transaction file to a mirror file based on your versioning settings. Regardless whether the file had been updated or not, the program resets the timer and again waits the selected number of minutes before checking to see if the transaction file had been updated. The advantage of the Time-based method is that fewer mirror files are likely to be created during a long contest. The disadvantage is that - in the event of a computer failure - you may not have a complete record of every QSO up-to the point of the crash.

### Mirror Versioning

TRNMirror will maintain any number of previous versions of the mirror files, based on your version settings.

**0 Versions** - with zero (0) versions, the software will create and maintain a new mirror file with every copying event. If you use the Event-based method, that should equate to the number of QSOs in your log. If you use a Time-based method, the number of mirror files will depend on the length of the timed interval and number of QSOs in your log.

**1 Version** - with one (1) version, the software will create and maintain only one mirror file, replacing the existing mirror file with a new file upon every mirror copying event.

**n Versions** - with a setting from 2 to 10000 versions, the software will create and maintain a new mirror file with every copying event, while deleting previous mirror files that are lower in number than the adjusted version setting. For example, if the newest mirror file is <filename>(50).trn and versioning is set for 20, the software will delete <filename>(30).trn upon adding mirror number 50.

### **Resetting the Version Number**

The Version number will continue counting as long as you continue to mirror the same source transaction file. If you select a new transaction file - the equivalent of selecting a different contest - the version count will be reset to one (1).

### **Detail: When Does Version Numbering Fail?**

Your settings are saved in the TRN\_MIRROR.INI file when you press the <Start> or the <Pause> buttons. Pressing the <Pause> button saves the current version number at the end of a session so that you will resume with the correct sequential number. If you press <Cancel>, or your computer crashes, the version number stored in the INI file will not reflect the most recently used version number in your mirror file.