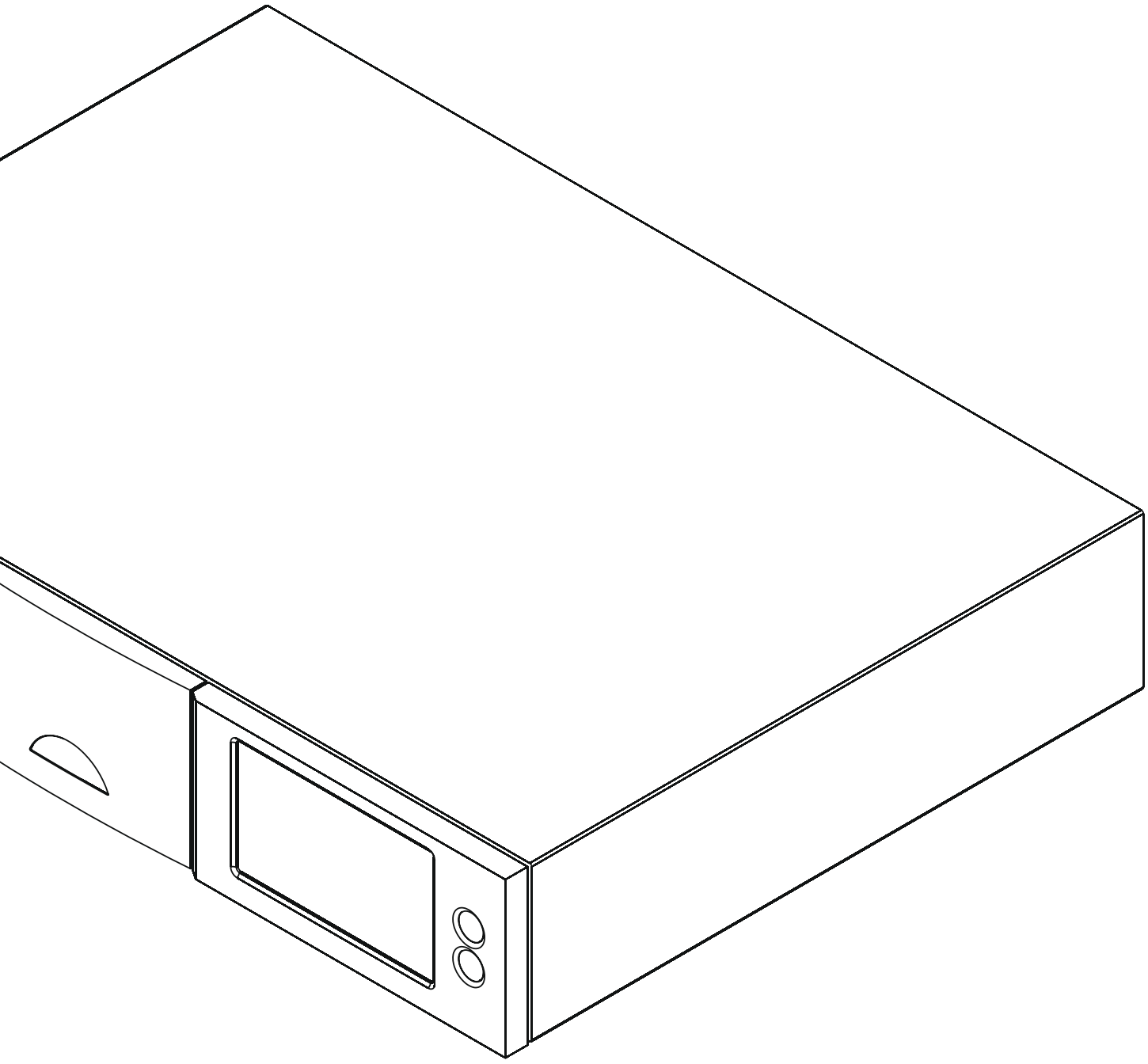
world class sound...



HDX HARD DISK PLAYER
Naim NAS Simulation Tool
Supplement

NAS Simulation Tool Supplement

Introduction

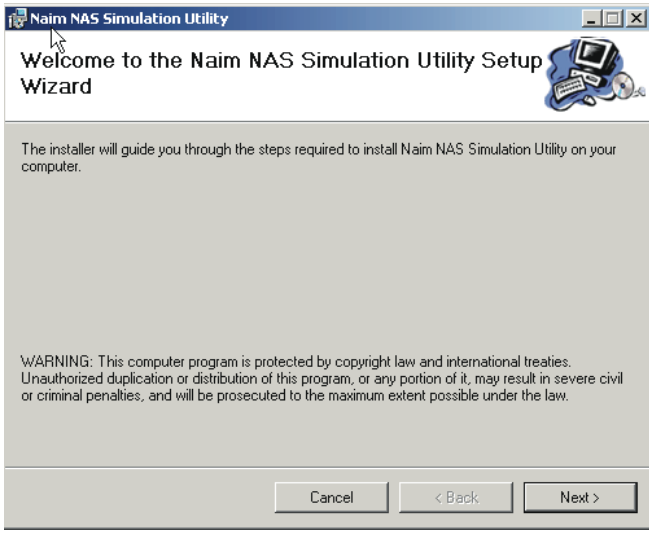
The Naim NAS Simulation tool is designed to stress test any Network Attached Storage (NAS) for suitability for use with Naim hard disk player and music server products. It is not intended to be used for any other purpose. The application is compatible with Microsoft Windows XP, Windows Vista and Windows 7.

The application writes a large amount of data to a NAS drive in a user specified folder then attempts to read the data in a manner that simulates a heavily active network playback scenario. At its default settings the test will take approximately 26 hours to complete. During this time the NAS drive should not be used for any other purpose. Other network activity should also be minimised.

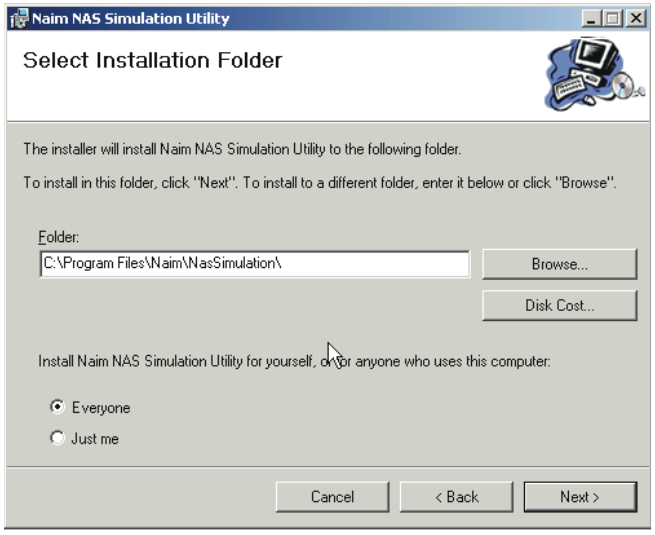
The results are then presented as an overall pass/fail based on conditions that Naim has determined to be the minimum acceptable criteria for a NAS in these situations.

1 Installation

The NAS Simulation Tool folder includes the full installation package and will enable installation of the application without the need for extra software. Double click the **setup.exe** icon in the install folder and follow the on-screen instructions.



Click **Next**.



Select the location in which you wish to install the program and click **Next**.

Note: *The application requires Microsoft .net Framework 3.5 to be installed on the host computer. This is commonly already installed on computers running Microsoft Windows, if it is not installed however the application will request its download from the Microsoft web site and installation.*

Note: *This test application is provided "as is" without warranties of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. The entire risk as to the quality and performance of the application is with you. Should the application prove defective, you assume the cost of all necessary servicing, repair or correction. In no event will copyright holder be liable to you for damages, including any general, special, incidental or consequential damages arising out of the use or inability to use the application (including but not limited to loss of data or data being rendered inaccurate or losses sustained by you or third parties or a failure of the application to operate with any other application).*

Note: *This application will stress test the selected NAS drive. Naim Audio Ltd. is in no way liable for consequences resulting from the use of the application.*

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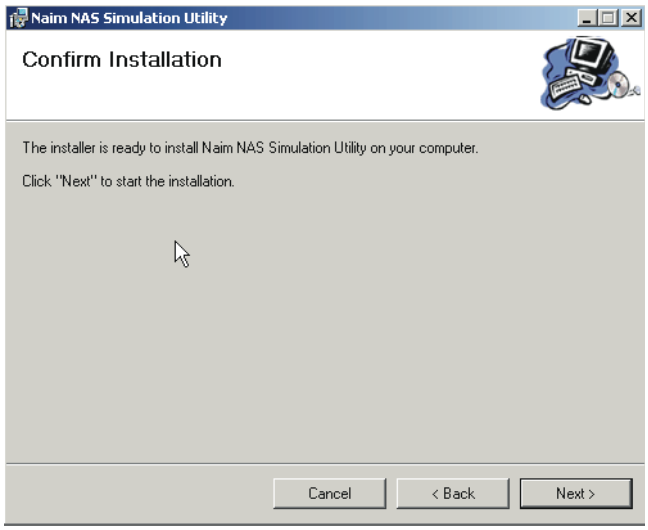
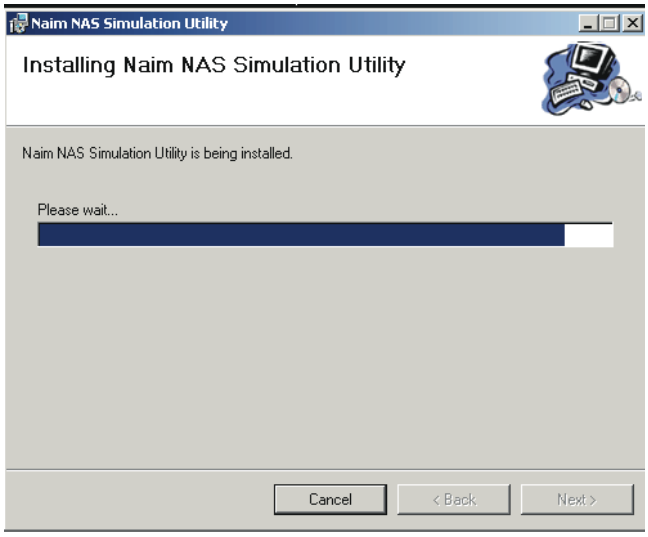
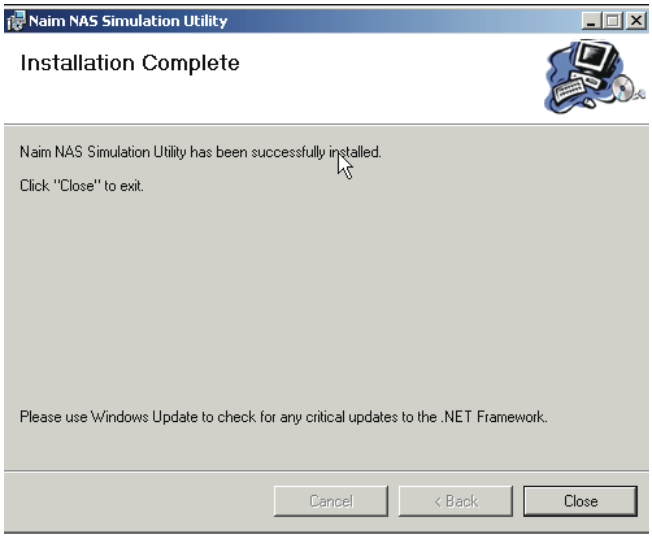


Click **Next**.





Click **Close**.

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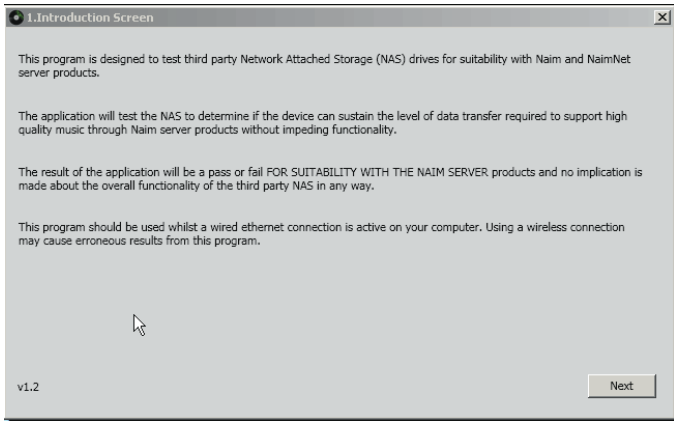
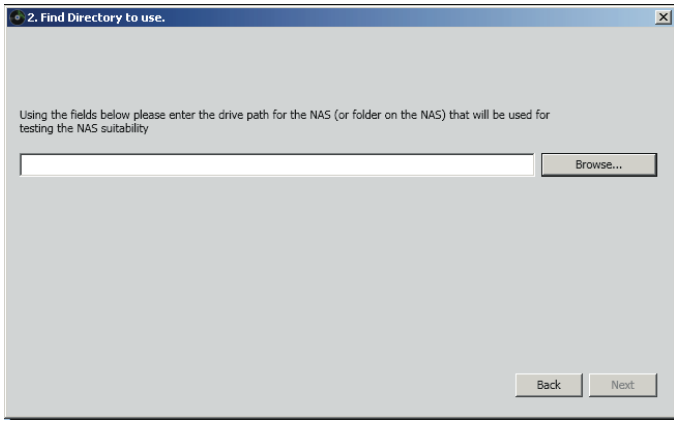
2 Running the Application

To run the NAS Simulation tool, double click on the **NAS Simulation** icon on your desktop.

Note: *NAS drives often incorporate the facility in their setup parameters to specify thay they enter a "sleep" mode after a set period of inactivity. If available, select the sleep mode before starting the NAS test so that the test includes "waking" the drive from sleep.*





Enter the network location (path) for the NAS drive to be tested and click **Next**.

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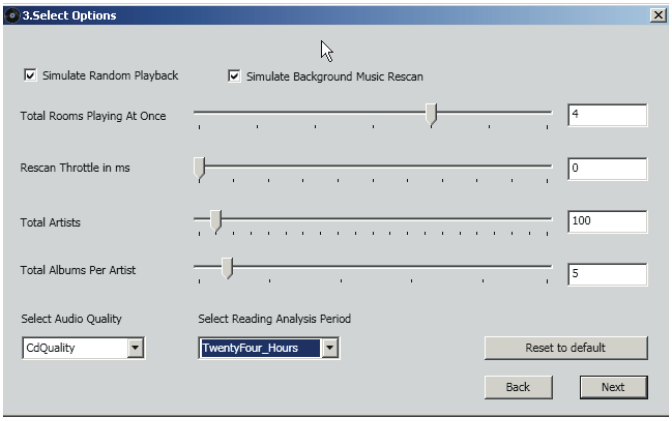
2.1 Selecting Options



The **Select Options** menu enables adjustment of the test parameters. Each parameter is explained in the following paragraphs. The NAS Simulation application simulates a hard disk player or music server accessing audio files from a NAS drive and generally higher parameter settings are indicative of larger systems. Higher settings also generate more data overhead on the network and potentially cause the test to fail. The default parameter settings are appropriate for most tests, however extending the "Read Analysis Period" will produce a more realistic set of results.

Simulate Random Playback:
Simulates a random read process, more indicative of playing a random playlist, quick-play or a user-generated playlist.

Simulate Background Music Rescan:
A hard disk player or music server will scan for changes to the music stores/shares periodically. This setting simulates the player scanning the NAS drive whilst playing back audio streams, thus increasing the network overhead.

Total Rooms Playing At Once:
Enables adjustment of the number of simulated streams (i.e. rooms) being read from the NAS. Specifying more rooms makes the test more realistic for larger setups.

Rescan Throttle in ms:
This setting changes the time (in milliseconds) for the application to access the NAS drive. A higher setting allows more time for re-scanning so giving the NAS more breathing room.

Total Artists:
Enables adjustment of the number of "artists" available during the test.

Total Albums Per Artist:
Enables adjustment of the number of "albums" per "artist" to be read from during the test.

Select Audio Quality:
Allows specification of the quality level of the music files during the test. Higher quality will increase network overhead. The options are CD Quality (i.e. 16bit/44kHz) and High Definition (i.e. 96kHz/24bit).

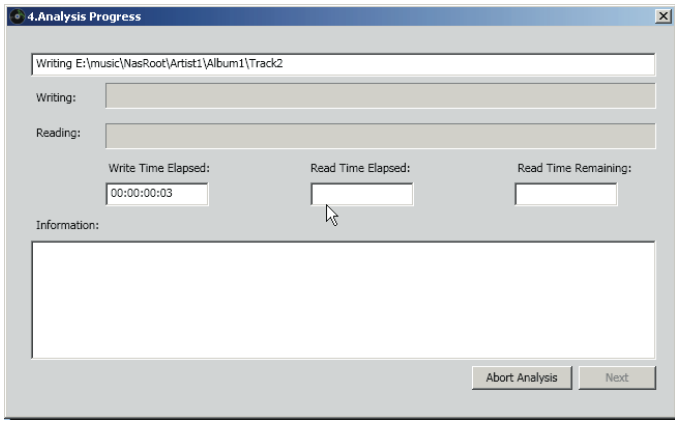
Select Reading Analysis Period:
The Read Analysis Period sets the time allowed for the application to read files back from the NAS. Setting the read period to a higher value gives a more accurate result at the expense of the time taken for the test to complete. The default setting is 24 hours. Do not adjust this seting unless instructed to by Naim technical support.

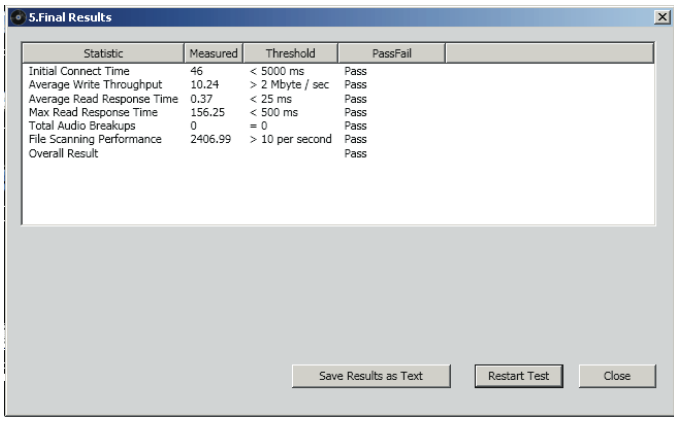
Reset to Default:
Sets the parameters back to their defaults.

With the options set as required click **Next** to begin the test.

Note: *The write portion of this test copies "music" files to the NAS device, prior to the read test. This on average will take around two hours on most NAS devices. This has to be taken into account in the overall test time of the storage device.*

2.2 Results





When the test is complete a window will display the results. The parameter, measured result, pass threshold and pass/fail status are tabulated. The pass/fail threshold values are set for ideal Naim streaming use. The result parameters are described in the following paragraphs:

Initial Connect Time:
Time taken for the application to connect to the NAS. A lower value is better. If the NAS is in "sleep mode" and fails on this section, it may be beneficial to alter its power management settings.

Average Write Throughput:
Average time taken for continuous data to be written to the NAS.

Average Read Response Time:
Average time taken to read back data from the NAS.

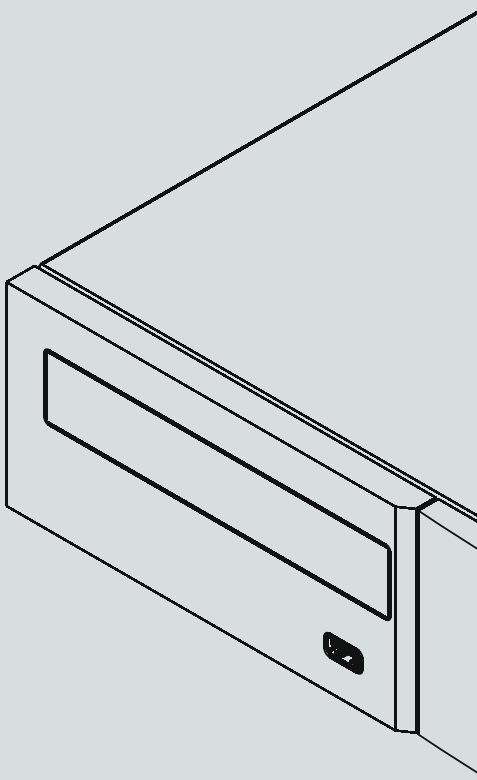
Max Read response time:
How long it took for the longest data read period (in milliseconds) overall (includes drive spin-up time if NAS set to spin down drives before the test is commenced).

Total Audio Breakups:
Ideally this value should be as close to zero as possible. Values other than zero suggest low network bandwidth, low NAS file buffering or the application settings being too high.

File Scanning Performance:
Shows how many files can be scanned a second from the NAS drive. Higher values suggest better performance.

Overall Result:
Confirms that the NAS drive passed or failed the test.

We suggest that the results are saved as a text file and sent to Naim Technical Support: **customer.service@naimaudio.com** . Otherwise, select **Close** to quit the NAS Simulation Tool.



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