Biwin Intelligence User Guide

1. Introduction

Welcome to Biwin Intelligence! This multifunctional SSD management software is designed to support Biwin consumer-brand SSD products. For a more convenient and more secure storage experience, this software helps users manage their drives with features like performance optimization, data migration, firmware update, and more. This guide provides detailed installation and usage instructions to help you fully leverage the powerful features of this software.

1.1 Supported Models

SSDs: Biwin Black Opal NV3500, Biwin NV7200, Biwin Black Opal NV7400, Biwin Black Opal NV7400 Heatsink, Biwin Black Opal X570 PRO

1.2 Connection type

PCIe or SSD Enclosure

Supported SSD Enclosures: JMS583/ASM2362/ASM2364/RTL9210B

2. Installation Guide

2.1 System Requirements

a. Operating System: Windows 10/11

b. Minimum RAM: 4GB

c. Storage Space: At least 500 MB of free space available

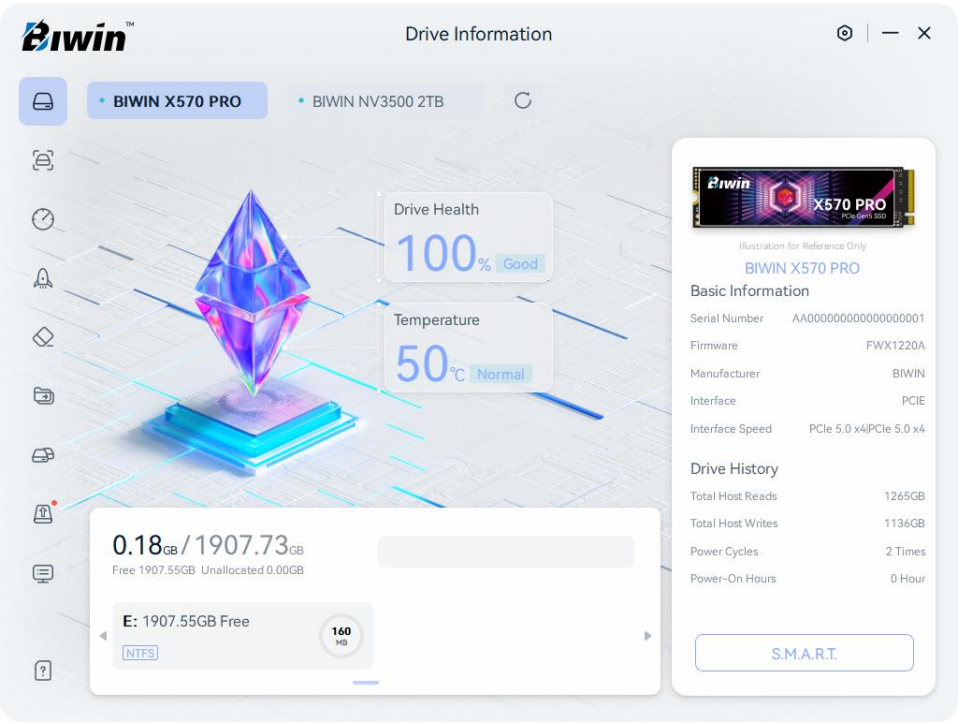
2.2 Download Link

Visit the Biwin Consumer-Grade Website: https://www.biwintech.com/biwin-intelligence/

3. Basic Features

3.1 Feature Modules

Description: Drive Information, S.M.A.R.T, Error Scan, Performance Test, Performance Optimization, Drive Erase, Data Migration, Drive Cloning, Firmware Update, System Information, Settings.



3.2 Drive Information

Description: Provides detailed data to help you quickly understand your drive's status.

Information displayed includes:

Basic Information: Serial Number, Firmware, Manufacturer, Interface, Interface Speed;

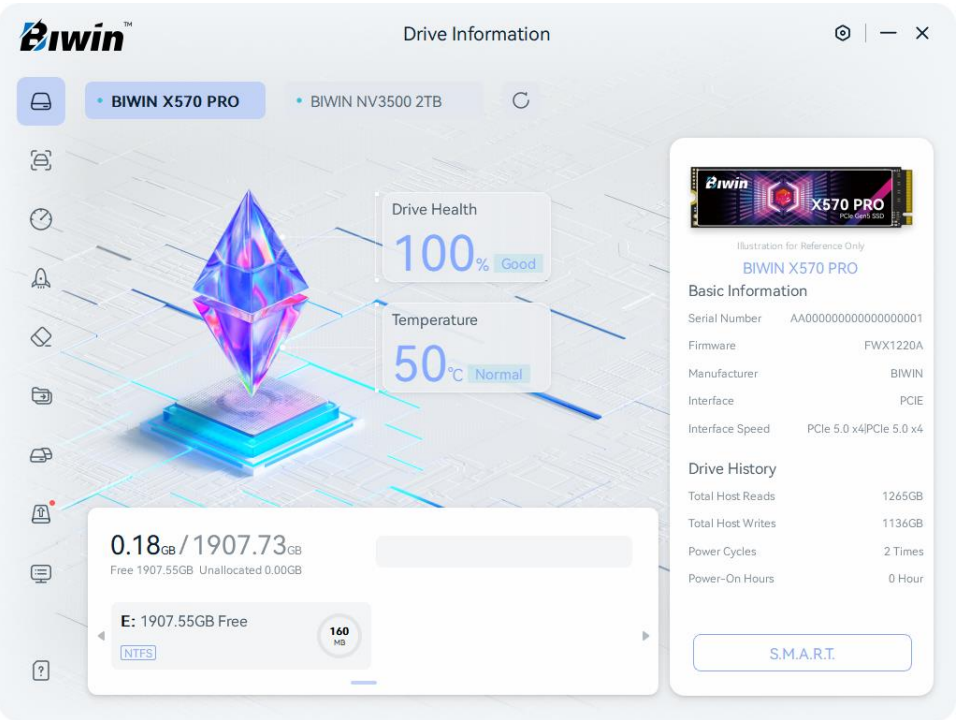
Drive History: Total Host Reads, Total Host Writes, Power Cycles, Power-On Hours;

Drive Status: Health, Temperature;

Drive Partition: Total Capacity, Used Capacity, Unallocated Capacity.

Steps:

1. Open the software, and the Drive Information page will appear by default;
2. Select the drive to view (if multiple drives are connected);
3. Check the detailed information and status of the drive on the right side.

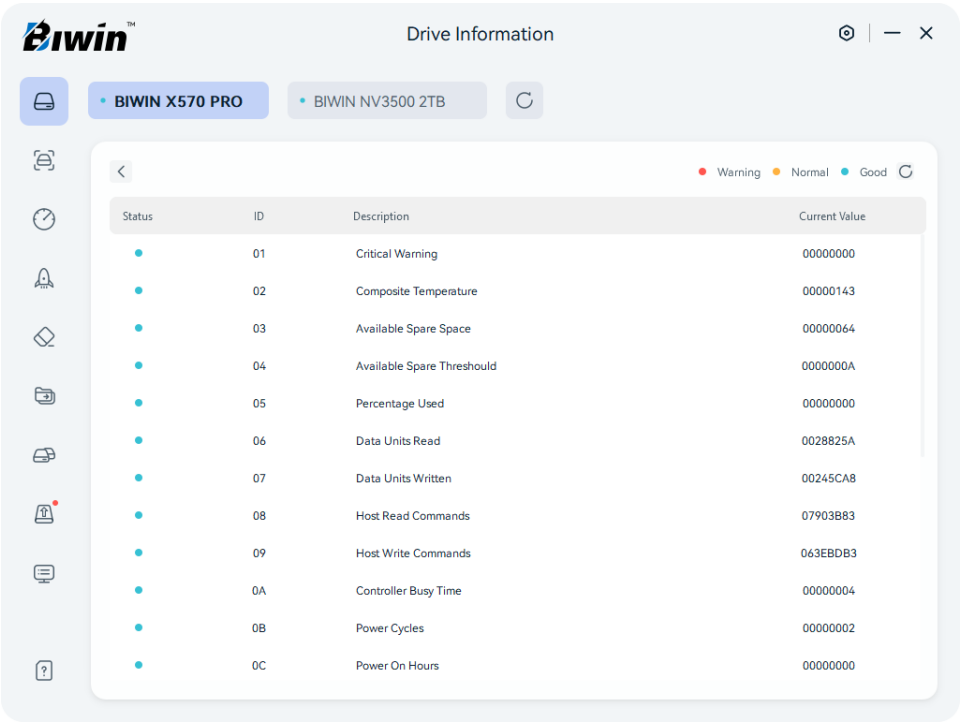


3.3 S.M.A.R.T

Description: S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) monitors and analyzes your drive to detect possible failure early.

Steps:

1. Click the “Drive Information” icon and then the “S.M.A.R.T.” button in the bottom-right corner of the Drive Information page;
2. View the S.M.A.R.T. parameters and their current values;
3. Check the health status using the status indicator (green =good, yellow = normal, red = warning);
4. Click the refresh button next to the status indicator to update the S.M.A.R.T. information.

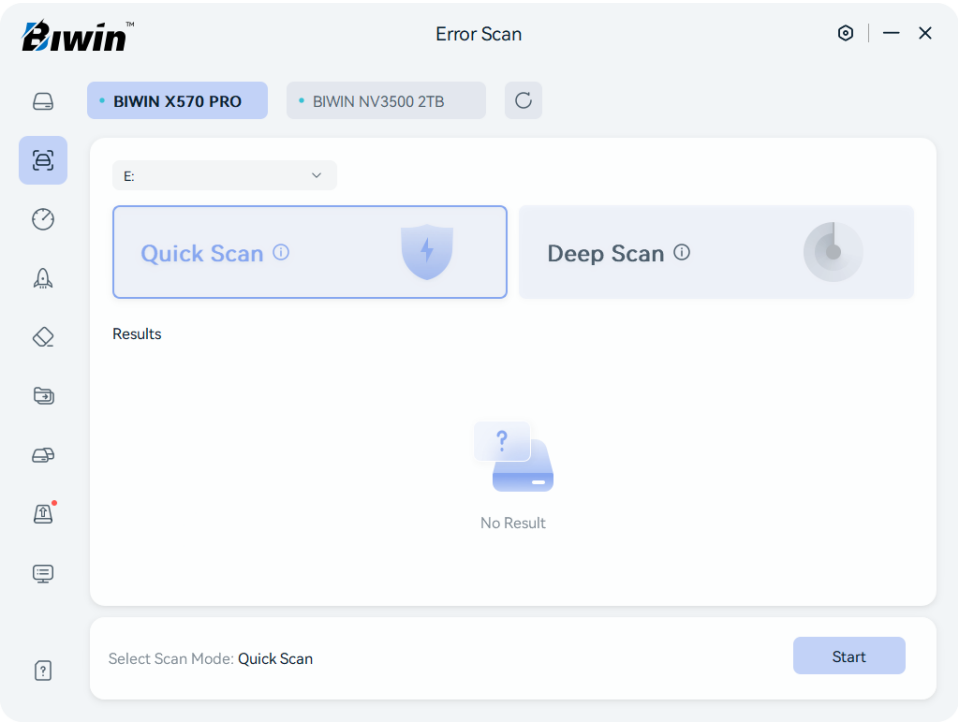


3.4 Error Scan

Description: Provides Quick Scan and Deep Scan modes to detect potential drive faults.

Steps:

1. Click the “Error Scan” icon;
2. Select Scan Mode: Quick Scan or Deep Scan;
3. Click the "Start" button;
4. After the scan is complete, you can review the results and take any necessary action. If needed, you can click the "Retry" button to run it again.

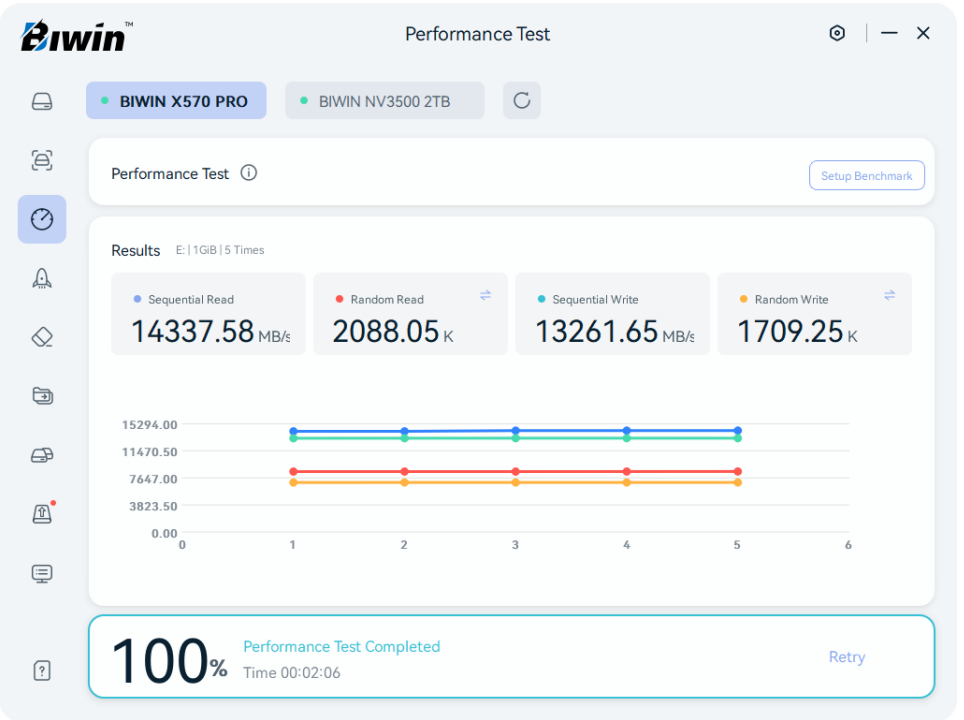


3.5 Performance Test

Description: Provides the drive's read and write performance and detailed data.

Steps:

1. Click the “Performance Test” icon;
2. Set the “Setup Benchmark” with the performance indicators;
3. Click the "Start" button. After the test is complete, you can view the results. If needed, you can click the "Retry" button to run it again.



3.6 Performance Optimization

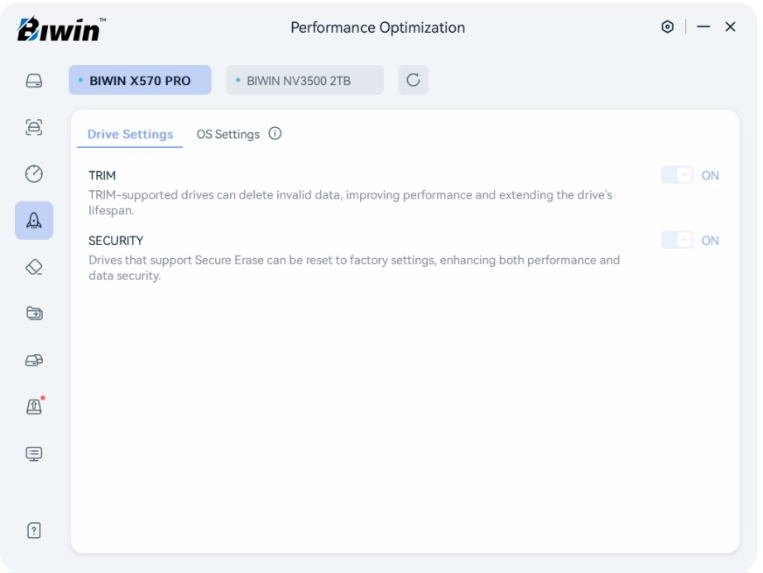
Description:

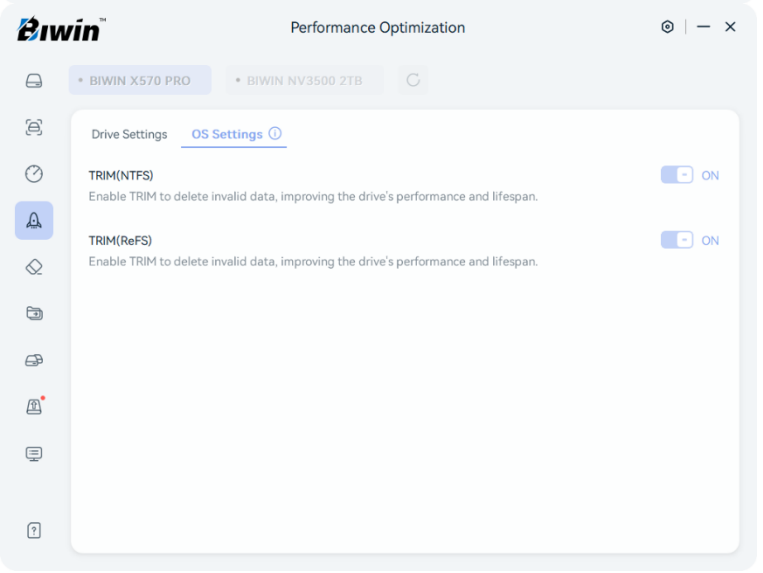
Enhances drive performance by adjusting operational parameters to extend its lifespan. The TRIM (Trimmed Rows Improve Memory) and SECURITY features are enabled or disabled based on the drive's firmware support, and users cannot adjust them;

OS settings optimize the drive's performance through the operating system.

OS Settings Steps:

1. Click the “Performance Optimization” icon;
2. Click the “OS Settings” button, and select the corresponding optimization scheme based on the user's OS needs;
3. Click the toggle button to enable the optimization option.





3.7 Drive Erase

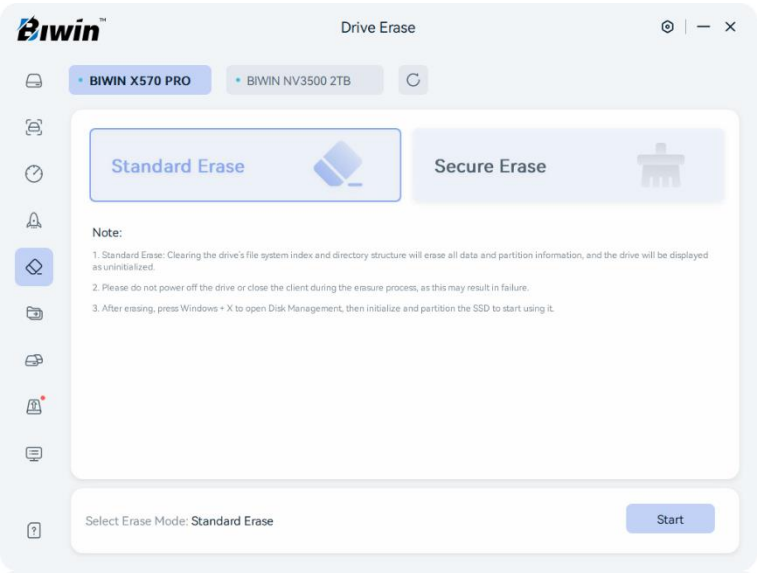
Description: Erases the file system index and directory structure or resets the drive to its factory settings.

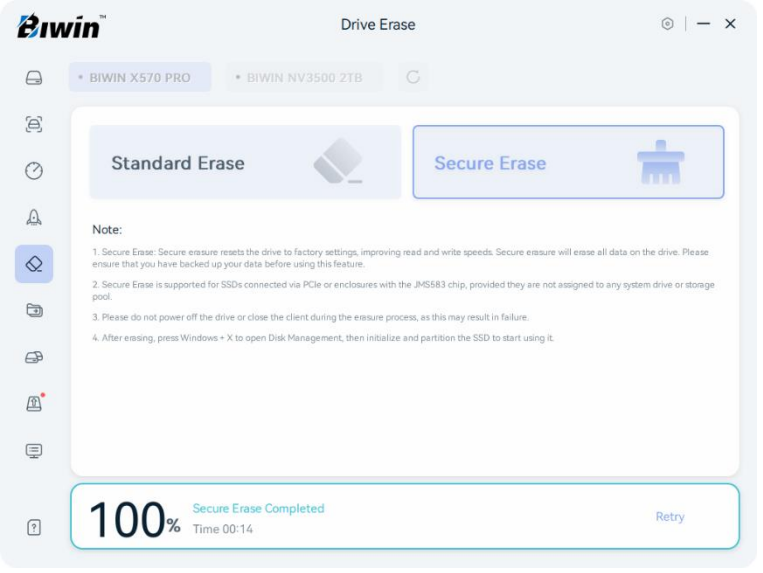
Steps:

1. Click the “Drive Erase” icon;
2. Select the drive to erase and choose the erasure method;
3. Click the "Start" button and confirm the risk;
4. After completion, view the results and click the "Retry" button to run it again.

Notes:

1. Standard Erase: Erases the drive’s file system index and directory structure, losing the original data and partition information, and the drive will be uninitialized;
2. Secure Erase: Resets the drive to factory settings, enhancing read/write speeds. Secure Erase will delete all data, which cannot be recovered, so back up important data before proceeding.



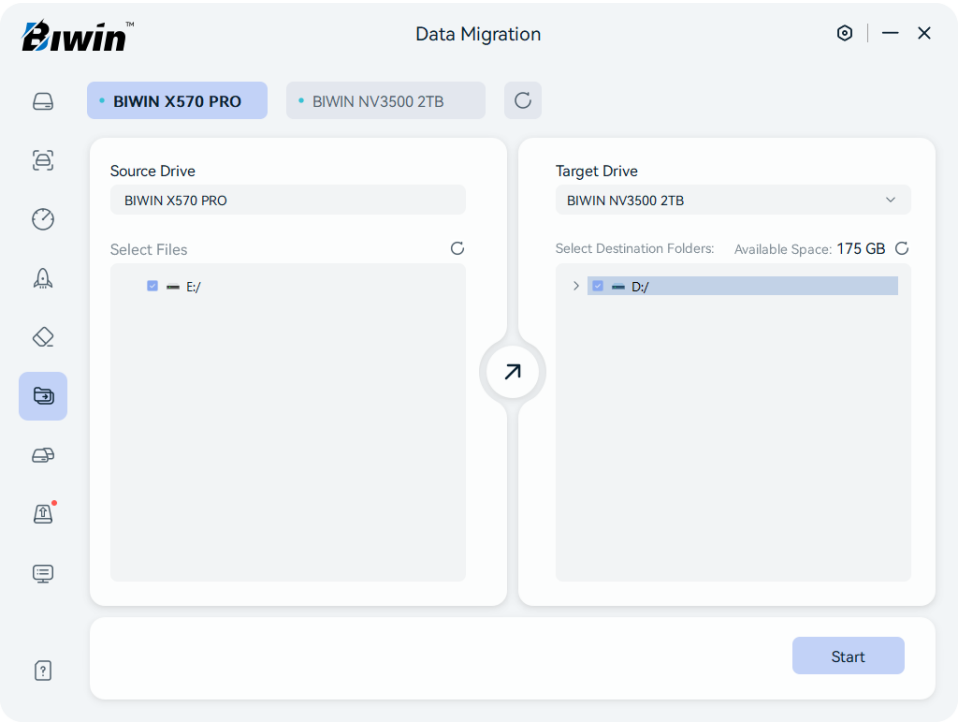


3.8 Data Migration

Description: Transfers data from the source drive to the target drive.

Steps:

1. Click the “Data Migration” icon;
2. Select the source and target drives;
3. Choose the files to migrate and the target directory;
4. Click the "Start" button. After the migration is complete, you can view the results. If needed, you can click the "Retry" button to run it again.

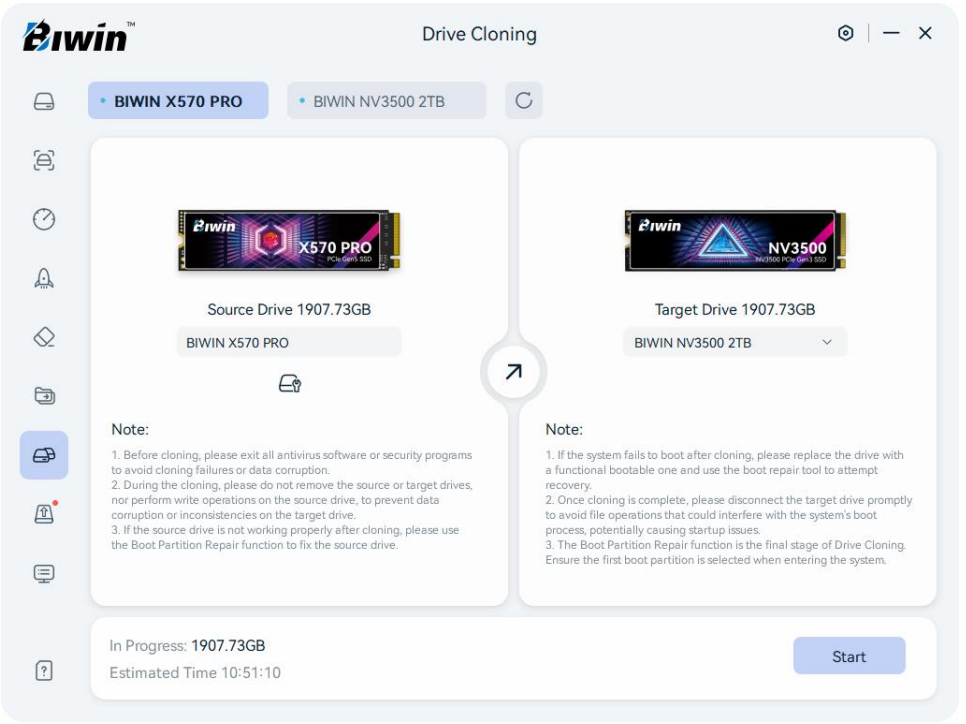


3.9 Drive Cloning

Description: Duplicates data from the source drive to the target drive. This feature is recommended for system cloning.

Steps:

1. Click the “Drive Cloning” icon;
2. Select the source and target drives;
3. Click the "Start" button;
4. After cloning is complete, you can view the results. If needed, you can click the "Retry" button to run it again.



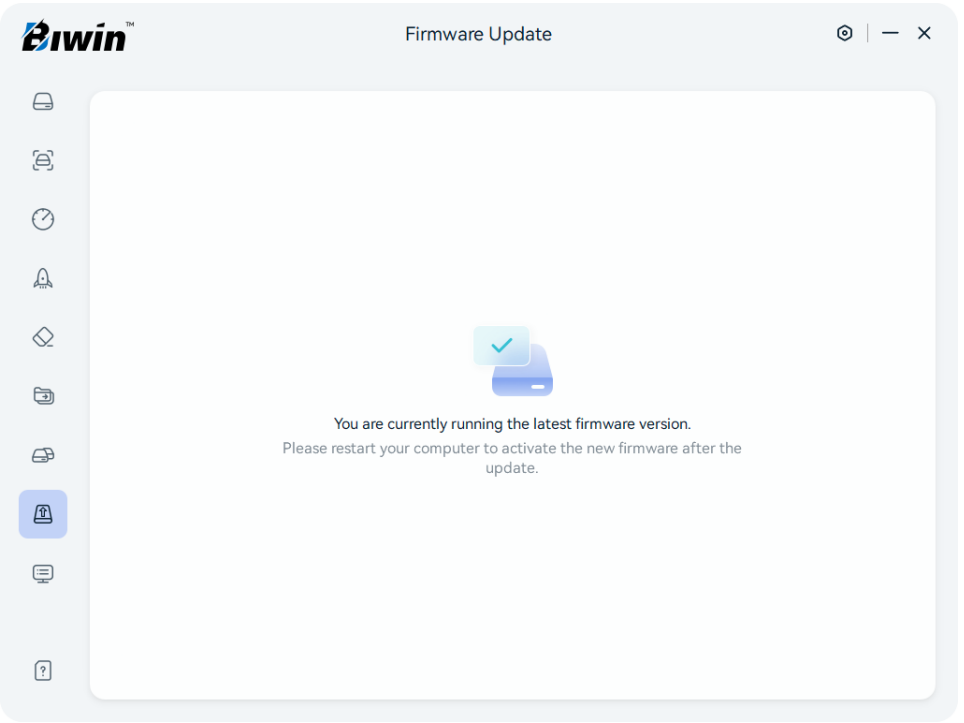
3.10 Firmware Update

Description: Improves the drive's performance, resolves issues, or enhances compatibility.

Steps:

Please be sure to back up your data.

1. Click the “Firmware Update” icon;
2. Check the drive's current firmware version;
3. Select the drive to update, then click the "Update Now" button;
4. After the update, follow the shutdown prompt to complete the firmware update. The firmware will be updated to the latest version after restarting.

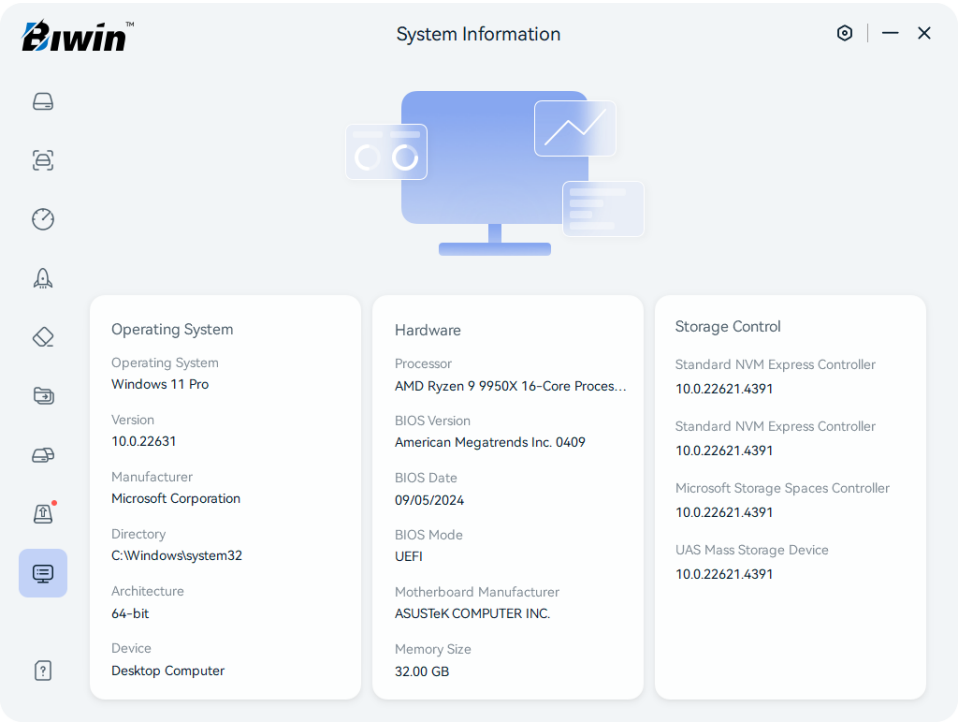


3.11 System Information

Description: Provides details about the system configuration.

Steps:

1. Click the “System Information” icon;
2. The interface will display information about the current host, including operating system information, hardware specifications and storage controller details.

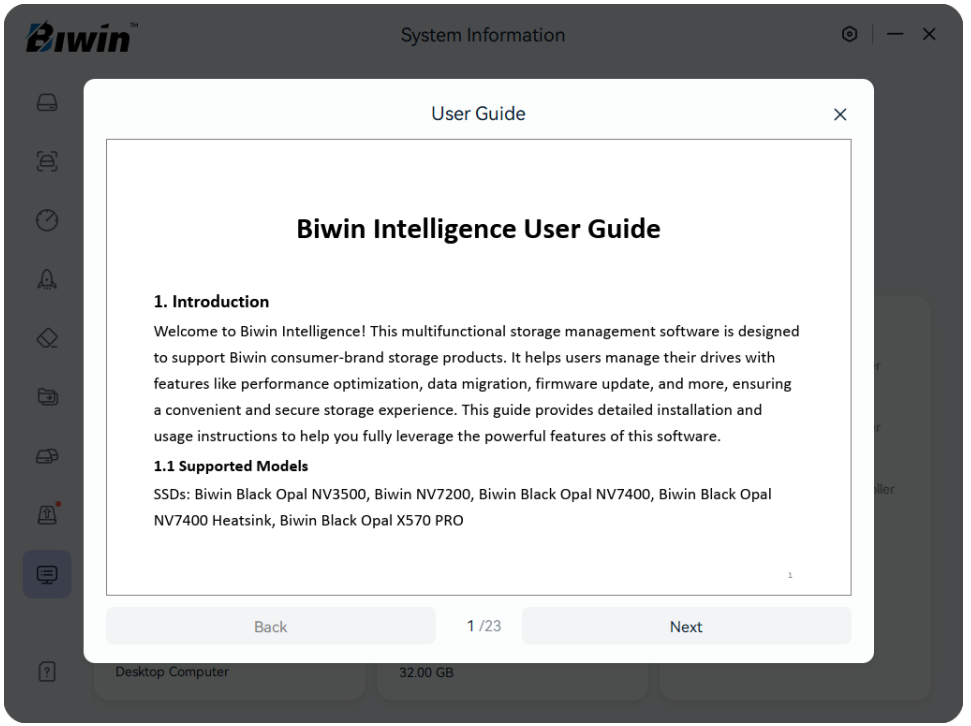


3.12 User Guide

Description: Provides detailed instructions, usage notes, and solutions to common issues for reference.

Steps:

Click the "User Guide" button to view detailed content.



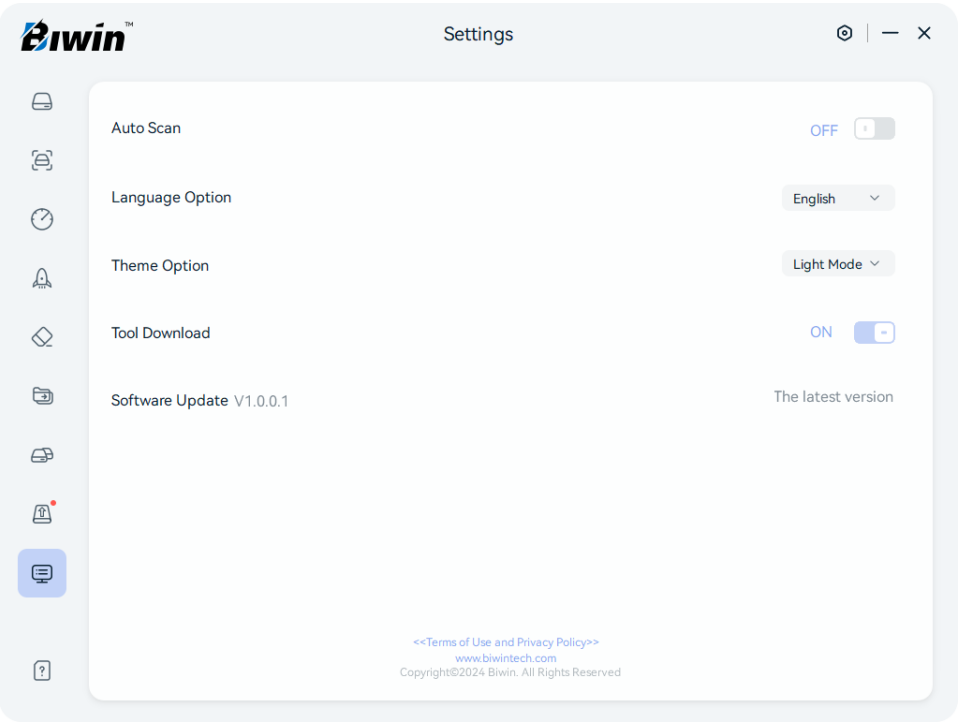
3.13 Settings

3.13.1 Auto Scan

Description: Allows users to choose whether to enable the Auto Scan feature.

3.13.2 Language Option

Description: Supports a multilingual interface with Simplified Chinese, Traditional Chinese and English for global users.



3.13.3 Theme Option

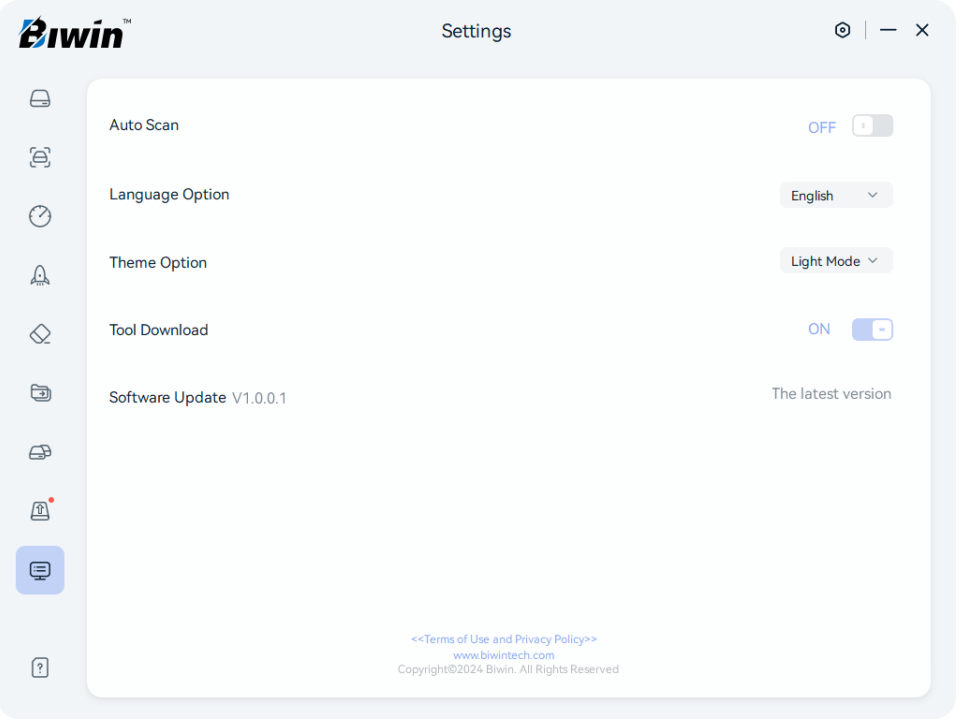
Description: Supports Light/Dark mode, allowing users to switch between themes based on their preference.

3.13.4 Download Updates

Description: Allows users to choose whether to enable the automatic download of software updates.

3.13.5 Software Update

Description: Allows users to update the software to access the latest features.

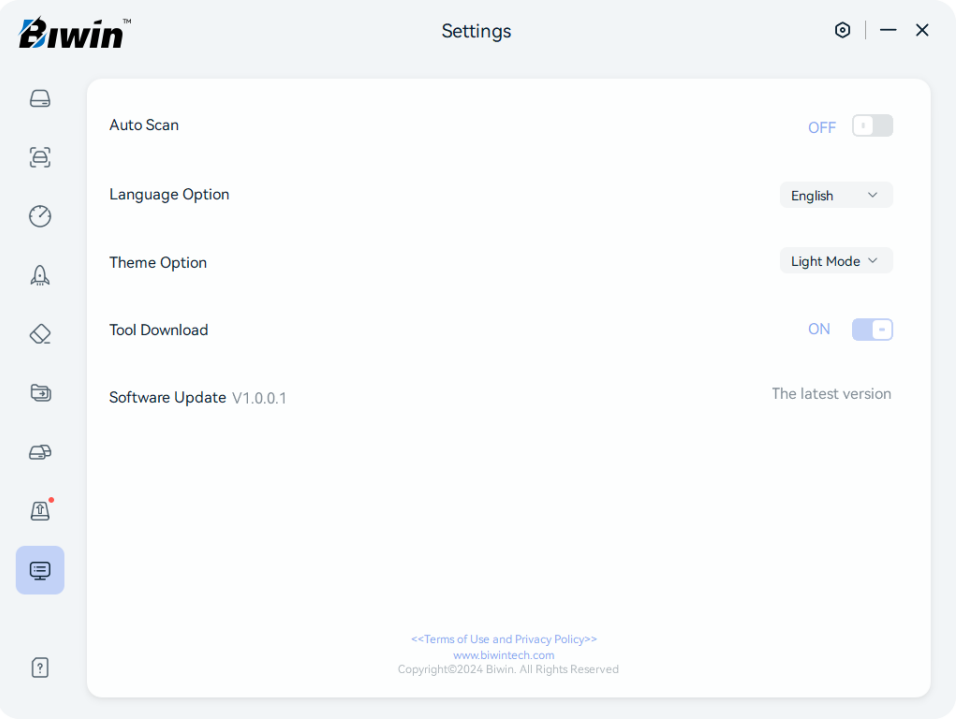


3.13.6 Terms of Use and Privacy Policy

Description: Includes legal disclaimers and policy terms for reference.

3.13.7 BIWIN Consumer-Grade Website

Description: Links to www.biwintech.com for more support and resources.



4. Notes

1. If the drive fails to load in Biwin Intelligence, please check its status under "Disk Management" to confirm it is properly mounted.
2. Before performing Drive Erase, please ensure that all important data has been backed up.
3. Before performing Drive Cloning, please ensure that all important data has been backed up.
4. Before performing Data Migration or Drive Cloning, please ensure that the target drive has sufficient storage capacity.
5. Performance Optimization and Firmware Update may take some time. Please wait.
6. Biwin Intelligence automatically refreshes detected drive information every five minutes. This feature can be turned off in the Settings menu.
7. Biwin Intelligence will automatically download updates. This feature can be turned off in the Settings menu.
8. When using Biwin Intelligence, please avoid performing irregular read/write operations on the drive, such as formatting partitions or overwriting the drive.

9. Resilient File System (ReFS) partitions created on higher operating system versions (e.g., Windows 23H2 or later) are recognized as RAW partitions on lower OS versions, which may impact the functionality of certain features.
10. The duration of the Deep Scan increases exponentially as the remaining free space grows. Error Scan does not support partition operations, which may result in failure.
11. Deep Scan includes a preparation phase followed by the actual scanning phase.
12. During Data Migration, a new folder will be created in the selected path of the target drive to store the migrated data.
13. S.M.A.R.T. values are displayed in hexadecimal format.
14. At least 1 GB of free space is required in the partition for Performance Test.
15. If a partition lacks a drive letter or is identified as a partition of another system type, Biwin Intelligence will classify it as a Vol partition with an available capacity of 0 MB and mark the drive as unsupported.

16. If "No Partition Detected" is displayed, press WIN+X to open the Disk Management interface, initialize the SSD and create partitions before proceeding.
17. The source drive for Drive Cloning and Data Migration is selected from the drive list, while the target drive is chosen from a dropdown menu.
18. The drive must not be disconnected during Deep Scan or Performance Test, as this may cause functionality issues.
19. During the installation and use of Biwin Intelligence, third-party antivirus software may issue warnings. However, Biwin Intelligence ensures user privacy and security remain uncompromised. Please add the C:\Windows\Biwin Disk Master directory as a trusted directory in Security Manager.
20. If a user hot-plugs an M.2 hard disk, the environment needs to be powered off again.
21. Data Migration may fail if the source drive is the system drive due to read permission issues.
22. If Secure Erase fails, please update your Windows version and try again.

23. If the Biwin X570 PRO 4TB SSD fails to erase when connected through an external enclosure, please reconnect the SSD via PCIe to the host and try again.

5. FAQs

1. Why is the Drive Information not displayed?

    Ensure the hard drive is correctly connected via PCIe or the required enclosure.

    Restart the software and try again.

2. What should I do if yellow or red warnings appear in S.M.A.R.T.?

    Yellow: Back up important data and perform regular checks.

    Red: Immediately back up data and replace the hard drive.

3. Why are the Performance Test results lower than expected?

    Check if the hard drive is under high load.

    Ensure the drive is connected to a high-speed interface (e.g., PCIe).

    Verify the Performance Test is running with default settings.

    Close other programs running in the background.

4. What should I do if Firmware Update fails?

Check your network connection.

Restart the system and try again.

Contact technical support for assistance.

5. What happens if the Drive Erase is interrupted?

Data may not be completely erased. Restart the Drive Erase process to ensure complete data removal.

6. What should I do if the hard drive health is low or if many bad sectors are detected during the Deep Scan?

Back up your data immediately and replace the hard drive. For further assistance, please contact technical support.

With Biwin Intelligence, users can efficiently manage their hard drives and enhance their device experience. For further assistance, please visit the Biwin website or contact technical support.