SeaTools for Windows
User Guide
Rev. 30-Oct-2017, v1.4.0.x

Welcome to Seagate's *SeaTools for Windows* software!

SeaTools for Windows is available in several languages (German, Spanish, French, Italian, English, Portuguese, Japanese, Korean, Vietnamese, Thai, Russian, Chinese Simplified and Chinese Traditional). Go the Help menu to select a language.

This file and a PDF version are located in the folder chosen for installation (usually under C:\Program Files\Seagate\SeaTools for Windows\SeaTools for Windows.en-US.pdf) and are available for printing.

This User Guide contains important information about SeaTools. Please read this entire file before using this software.

SeaTools for Windows is a comprehensive, easy-to-use diagnostic tool that helps you quickly determine the condition of the disk drive in your external hard drive, desktop or notebook computer. It includes several tests that will examine the physical media on your Seagate, Maxtor or Samsung disk drive and any non-Seagate disk drive. *SeaTools for Windows* should run on both internal and external hard drives.

Table of Contents

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1. Why Use SeaTools?

After testing, a large percentage of the drives returned to Seagate for warranty replacement are perfectly good drives with "No Problem Found" (NPF). Returning a drive for warranty service means system downtime and inconvenience for you in packing and returning your drive product. Before you send in a drive, it is in your best interest to determine if a replacement drive is really necessary. This hard disk diagnostic utility will help you make that determination and possibly save you time and money and preserve your data.

   Some typical reasons for No Problem Found are:

   * File System Corruption
   * Driver Corruption
   * Broken Master Boot Record
   * Virus and Trojan Attack
   * Spyware, Adware and Keystroke loggers
   * Hardware Conflicts

In addition to diagnostics tests, SeaTools also offers several features to help you manage your storage product.

Seagate Instant Secure Erase is available for Self-Encrypting Drives (SED), providing U.S government accepted media sanitization. See section 3.Advanced Tests and Features.

The Seagate SeaTools software is simple to use. The following instructions will help you get the most out of this new software tool.

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2. Using SeaTools for Windows

   A. Prepare the System

   You should close all other applications before running a hard disk diagnostic. The main reason for this is to keep the drive focused on SeaTools as much as possible. Otherwise, Windows will continue to give the disk drive commands to access data for the needs of the other applications. When that happens, SeaTools will temporarily suspend its current progress while the drive is busy. This is harmless to the drive and a routine condition of use; however, it causes the SeaTools tests to take much longer time to complete.

   External drives that connect to the system through USB, 1394 Firewire or eSATA do not have the same background activity as the Internal drive. Internal drives are identified as SATA (serial ATA), PATA (parallel ATA or IDE), SAS (serial attached SCSI) or SCSI. Most desktop and notebook systems have one SATA or PATA internal drive.

   Power management controls may need to be suspended while doing very long tests. A complete drive scan may take a few hours to complete. The drive is working on its own at these times and the system may decide it should go into Stand By or Hibernate modes. Windows XP and Vista Control Panel Power Options have a setting "Turn off hard disks" and should be set to "Never" during the test.

Notebook systems should not run the long tests using just battery power. These tests are disk intensive and will draw more current than a typical usage profile. Be sure to attach the AC adapter to ensure adequate power during the tests.

To change language, go the Help pull down menu and select Language.

B. Setting the start up language preference

The software should automatically detect the starting language based on your regional settings. You can set the start up language manually to any of the supported languages. To do this, go the launch icon properties and select shortcut tab. The "Target:" field should have the path and application name already defined. Just add a space and one of the language ID's below to change the default starting language.

Language ID's:
English (US)   1033
German   1031
French   1036
Italian (Italy)   1040
Spanish (Spain)   3082
Portuguese (Brazil)   1046
Chinese (Simplified)   2052
Chinese (Traditional)   1028
Japanese   1041
Korean   1042
Vietnamese   1066
Russian   1049
Thai   1054

"C:\Program Files\Seagate\SeaTools for Windows\SeaToolsforWindows.exe" 3082
will start SeaTools in Spanish

C. Select the Drives to Test

After SeaTools loads, the screen will list the different storage devices in your system. Select the drive you would like to test by making a check mark in the box next to the drive information. This screen also displays information about the drives such as the Model Number and Serial Number. Seagate internal drive model numbers begin with the letters "ST". Maxtor model numbers begin with the word MAXTOR. External drives may show a descriptive name like "FreeAgent" or "OneTouch" under the model number column. Seagate serial numbers are alpha numeric and eight characters long. Seagate and Maxtor drives models are given a gold drive icon. Non-Seagate drives have a silver drive icon. The blue serial number indicates the boot device.

You may select more than one drive at a time for testing. Multiple drives will test simultaneously. You may also start tests on other drives after other tests are already running.

Be sure to choose the correct drive!
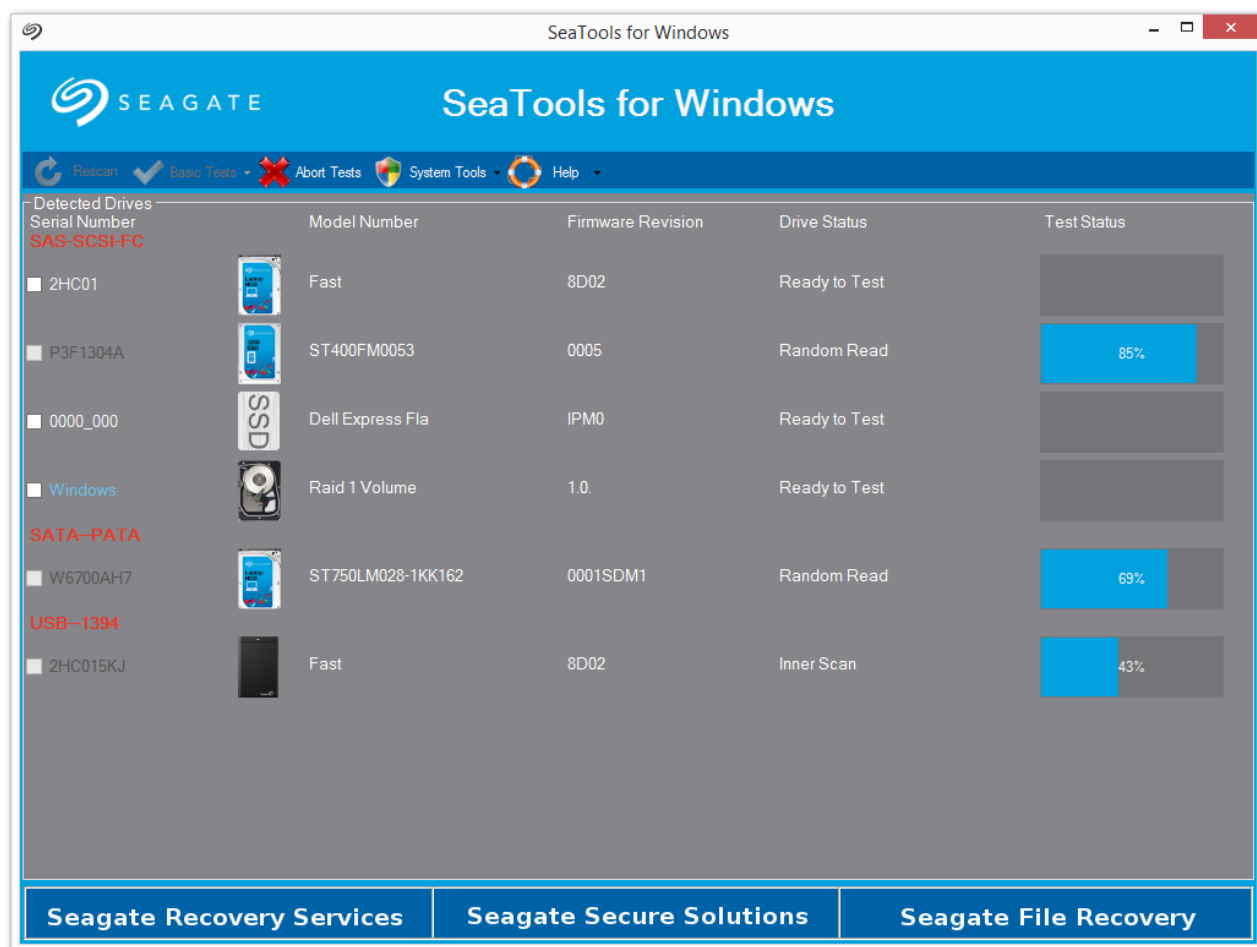
D. Select the Tests to Run

   A menu of the possible diagnostic tests is shown. With the exception of Long Generic which offers the option to repair sectors on USB external drives, all other **Basic Tests** are data safe, read only tests. Select the tests that you would like to perform. The test will begin immediately. Fix All Fast and Fix All Long also do sector repair on Seagate supported SATA drives. See SATA Repair Properties screen below.
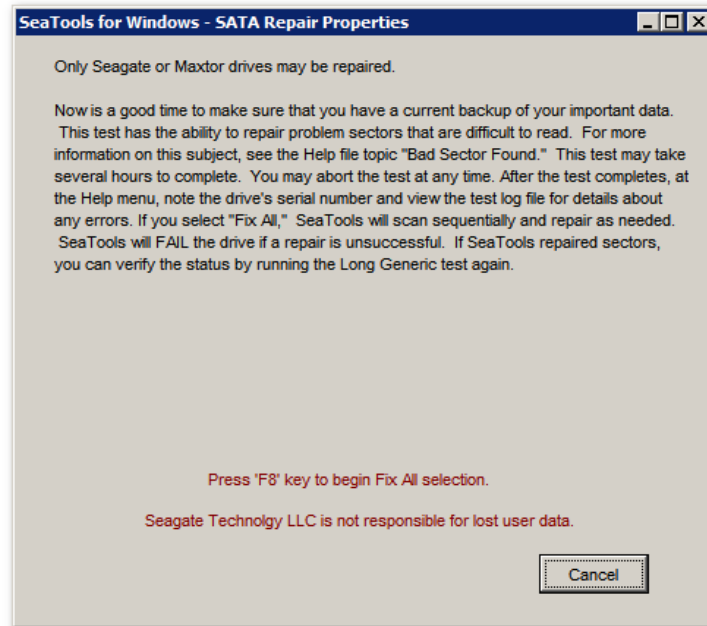
These tests include:

- Fix All   Fast and Long, requires confirmation to begin
- SMART Check
- Short Drive Self Test   20 to 90 seconds long
- Drive Information   can be saved to the Log file
- Short Generic   three-part test
- Long Generic   progress in 1% increments, sector repair option for USB external
- Advanced Tests   see section 3 below

The software will report "Test Unavailable" if the required level of support is missing. For example, Short Drive Self Test may not run on all external USB storage devices.
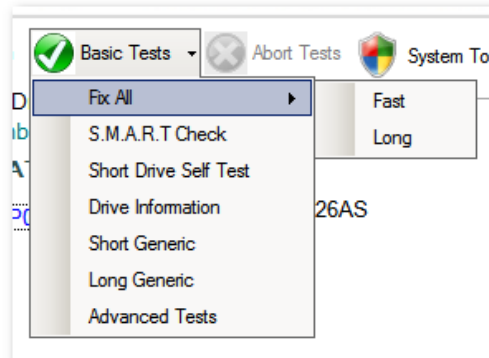
Fix All Fast and Long require the F8 key to be pressed which is your acknowledgement that SeaTools for Windows should attempt to repair any problem unreadable LBAs (sectors) it might detect. It is important to know that when the sector is bad and unreadable then any data in it is already lost. See section 4 "Help Topic: Bad Sector Found" for more information on this topic.

SeaTools for Windows - SATA Repair Properties

Only Seagate or Maxtor drives may be repaired.

Now is a good time to make sure that you have a current backup of your important data. This test has the ability to repair problem sectors that are difficult to read. For more information on this subject, see the Help file topic "Bad Sector Found." This test may take several hours to complete. You may abort the test at any time. After the test completes, at the Help menu, note the drive's serial number and view test log file for details about any errors. If you select "Fix All," SeaTools will scan sequentially and repair as needed. SeaTools will FAIL the drive if a repair is unsuccessful. If SeaTools repaired sectors, you can verify the status by running the Long Generic test again.

Press 'F8' key to begin Fix All selection.

Seagate Technolgy LLC is not responsible for lost user data.

Cancel

When you launch the "Short Drive Self Test" (DST) most drives will run a thorough diagnostic routine that is built in to the hard drive's firmware. DST is completely data safe.

The "Short Drive Self Test" is adequate for most situations. Consider running the long Generic or long DST test, which reads each sector on the drive if you need a more comprehensive test.

The long tests will take time to complete. Because the long tests read every sector on the drive, the amount of time required will depend on the speed and capacity of the disk drive. The highest capacity drives often take 2 to 4 hours to complete. You can abort the test at any time without harming the drive, although the drive will not be fully tested if the test is aborted.

"Short Generic" will run on internal and external drives. It has three segments: outer scan, inner scan and random read.

"Long Generic" will run on internal and external drives. It scans the entire drive, from beginning to end. This test may take several hours to complete. You may abort the test at any time. The test will fail and end if a bad sector is detected on an internal drive.

In the case of USB external drives, the "Long Generic" test has the option to Repair sectors. For more information on this subject, see the topic below "Bad Sector Found" in section 4. If you choose Repair None, the "Long Generic" test will scan the entire drive and simply list any unreadable sectors in the log file.

Data is stored in sectors and each sector has 512 bytes. The "Long Generic" test with USB sector Repair enabled will only repair individual sectors as needed. When a 512-byte sector is unreadable, any data that might have been in that sector is already lost. When a drive has a large amount of free space, odds are in favor of an unreadable sector being empty and not in use. If you choose Repair All, the "Long Generic" test will scan the entire drive after pressing the F8 key and attempt to repair unreadable sectors. If a sector cannot be repaired, then the test will fail and end. See the log file for a listing of any unreadable sectors.

Disclaimer: Seagate Technology, LLC is not responsible for lost user data.
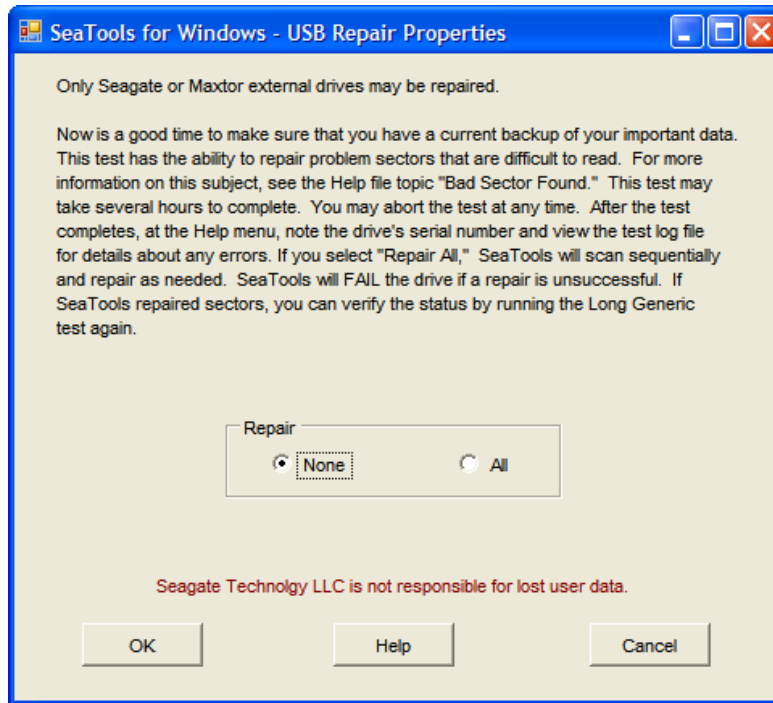
E. Aborting the Diagnostics

The SeaTools performs a data-safe test of the selected hard disk drive or device for possible malfunctions. Long tests may be aborted at any time. Select the "Abort Tests" icon from the menu bar.

F. Summary of Results and Viewing the Logs

After running a diagnostic test, a log file for each drive tested will be saved to the SeaTools for Windows folder under Program Files/Seagate. To view these logs, take note of the serial number of the drive then select the Help pull down menu and choose View Log File.

The following test results may apply: - Passed   - Failed   - Aborted

More often than not, *SeaTools for Windows* will test with a **PASS** status. The fact that the drive is capable of booting into Windows demonstrates that the disk drive is reasonably healthy. *SeaTools for Windows* is a useful testing tool to eliminate the hard disk drive as the source or physical cause of some

system problem. A drive can be perfectly healthy but be holding corrupted data.   If this is the case, then the data needs to be repaired, re-installed or re-saved.
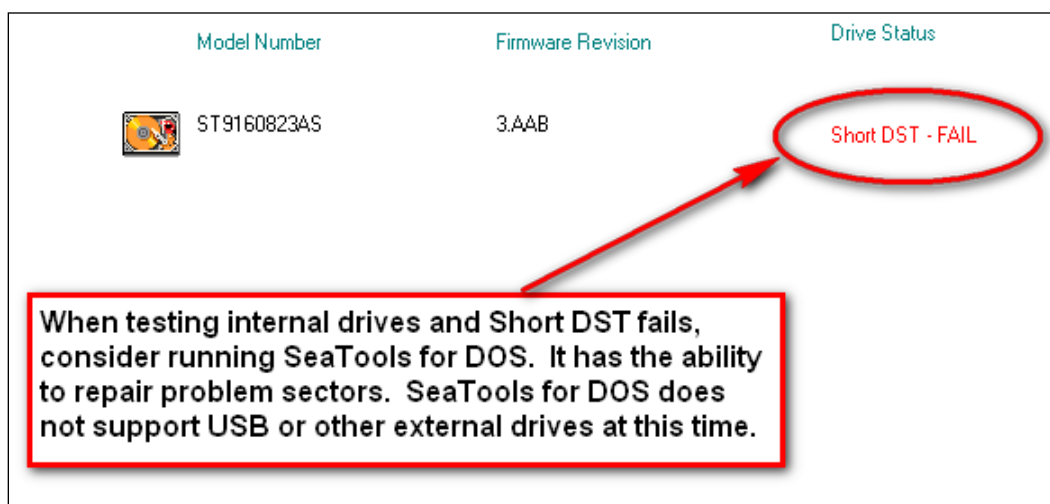
IMPORTANT: If bad sectors (LBAs) are detected during the Short Drive Self Test (DST), then the diagnostic will halt with a **FAIL** status and issue a SeaTools Test Code. (see section G. below)

If you are testing an internal PATA (IDE) or SATA disk drive, in this case, we recommend that you run the Long Test in the bootable version, **_SeaTools for DOS_**, which has the ability to **repair** sectors in most cases. A copy of the bootable CD ISO image file for _SeaTools for DOS_ was copied as part of this software and is available here:
C:\Program Files\Seagate\SeaTools for Windows\SeaToolsDOS223ALL.ISO. For information about how to burn a CD ISO image file, see our web page http://knowledge.seagate.com/articles/en_US/FAQ/201431en

If you are testing an external USB disk drive, we recommend that you run the Long Generic test in this application which offers the option to **repair** sectors on USB drives.

    If _SeaTools for Windows_ software indicates a **FAIL** test status and you have attempted to repair sectors as described above, then you should consider checking the warranty status of your device. You can check the warranty status for Seagate and Maxtor products at the Seagate website. You will need to write down the serial number for the drive you intend to check. The Seagate Warranty pages begin here:
http://www.seagate.com/support/warranty-and-returns/
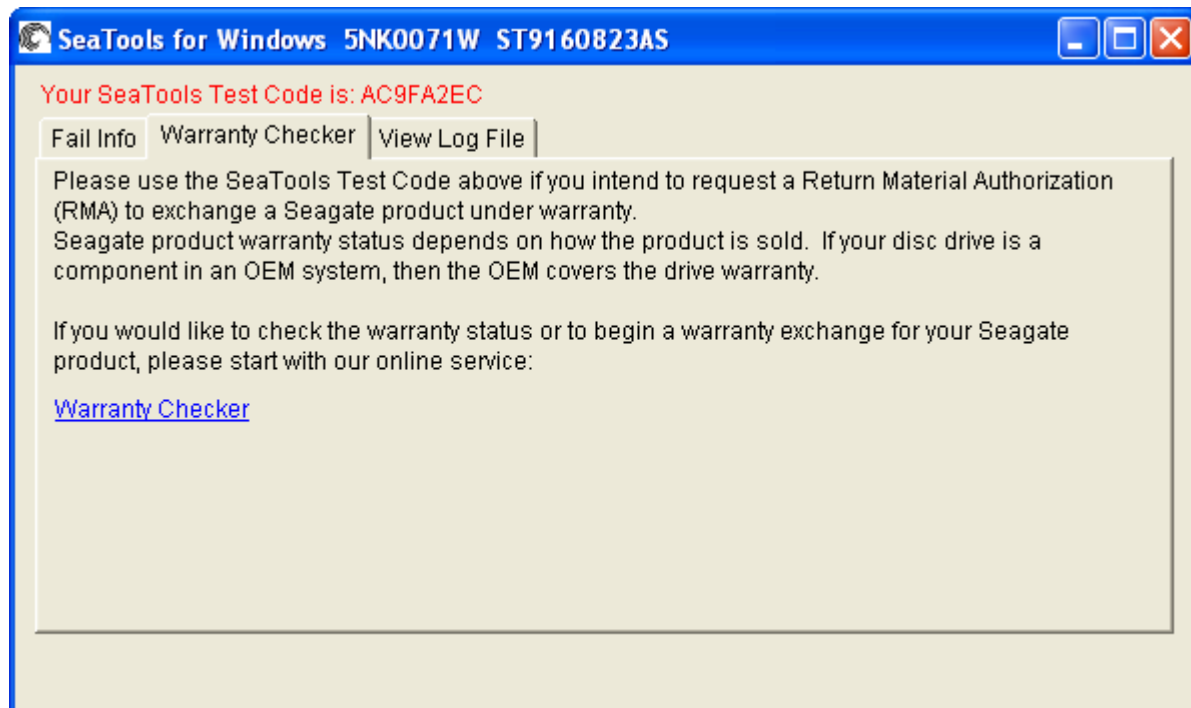
   G. SeaTools Test Codes

    When _SeaTools for Windows_ determines that a drive has failed a valid warranty test, it will display this File Info icon:
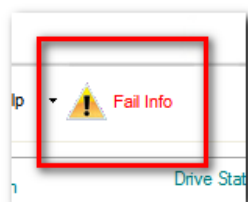
Selecting this icon will display a box with three tabs of information about the failure – hints, warranty checking with a **SeaTools Test Code** and the log file with test results. This is a typical example:

SeaTools Test Codes are based on the type of test that failed and the product serial number. No two codes are the same. The online RMA submission system will use the SeaTools Test Code number to help process the exchange of your product. The code tells Seagate that the drive is, in fact, bad and that there is virtually no chance that a good drive is being returned.

When you submit a drive for return to Seagate through the online Warranty and Returns process, the form will ask for your Serial Number, Model Number and SeaTools Test Code. External USB products like FreeAgent and OneTouch do not have ST model numbers. Instead, they have Part Numbers printed on the plastic case enclosure. You will need to use that part number when returning a USB drive.

H. Miscellaneous Features

**FDE Password Backup and Restore:** (Help Menu, FDE Utilities) Full Disk Encryption drives depend on passwords. This feature is only available if an FDE drive is detected in the system. It will display a screen to collect your input of the drive's password and answers to various challenge questions. The password back up file is saved to the hard drive with a .PWB file name extension. You should save another copy of the file on an external backup storage device or media. The Restore option will require the exact answers to the challenge questions to display your original password.
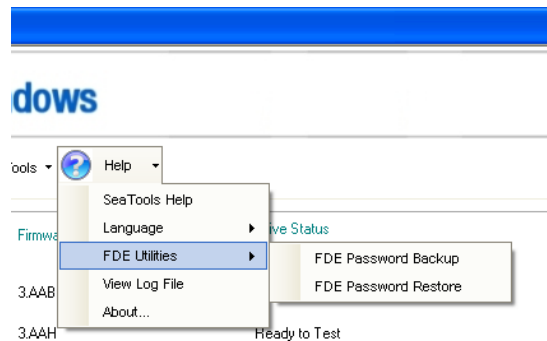
FDE Password Backup and Restore support Seagate first and second generation Full Disc Encryption (FDE) drives. These are 2.5" notebook drives which have "FDE" in the drive family name on the label (i.e. Momentus® 7200 FDE.2 SATA).

Firmware Update Recommendation: Occasionally, Seagate will recommend firmware updates for specific models of disk drives. If *SeaTools for Windows* detects a model and firmware revision that should have a firmware update, it will display the following screen:
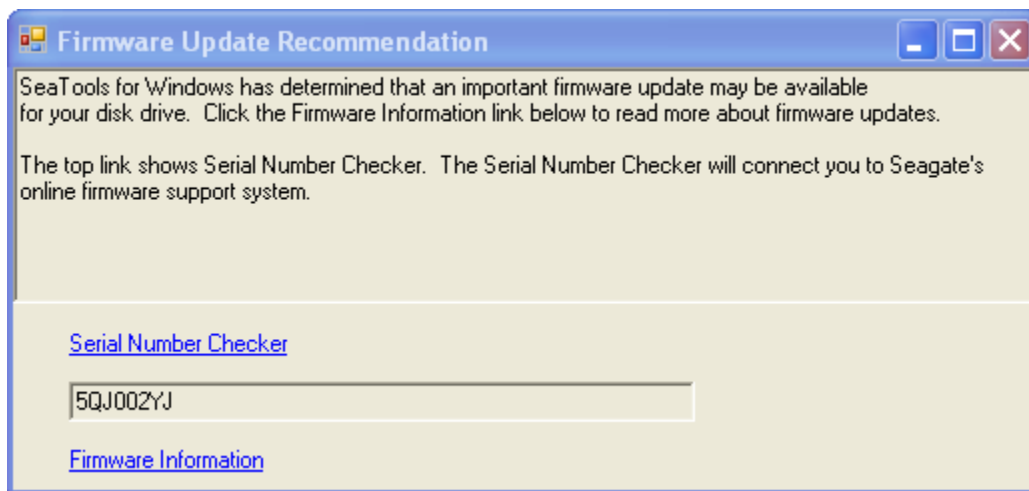
Use the online Serial Number Checker connection to find out if your drive is specifically recommended for a firmware update.

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3. Advanced Tests and Features

SeaTools for Windows supports different types of disk drives. These include different interfaces (SATA, PATA, USB, 1394, eSATA, SAS, SCSI and limited Fibre Channel), and different systems (desktop, external drives and some servers). Seagate storage devices on these interfaces sometimes have additional support

requirements that are available under the Advanced Tests tab. These options are potentially or outright data destructive. Only expert system operators should be using Advanced Tests. RAID controllers are usually not supported in SeaTools for Windows. RAID management software isolates the individual drives from direct access.

Disclaimer: Seagate Technology, LLC is not responsible for lost user data.
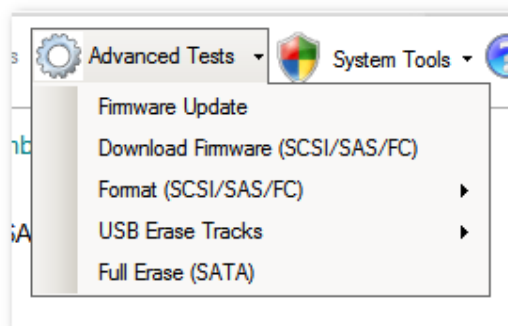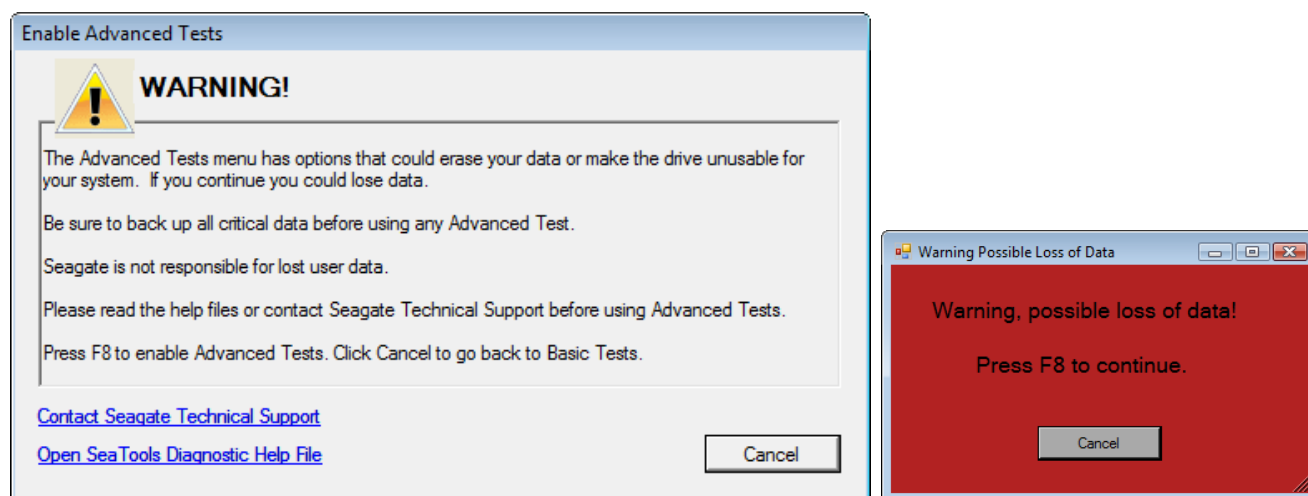
These advanced tests and features include:

- Firmware Update   SeaTools will send the serial number for the selected drive to a Seagate web page called the Download Finder. You may use this online tool to determine if a new firmware update is available for your hard drive or storage device.

- Download Firmware   (SCSI, SAS and Fibre Channel only) The firmware files will be either .LOD or .SEA file types. **These files must be copied to the SeaTools for Windows folder.** (Hint: In Vista, be sure copy the files in using Administrator rights or the files may not be visible.)

- Format   (default format, 512 byte block size)

- USB Erase Boot Tracks   writes zeros to the beginning of the USB drive (for approximately 5 seconds). All data will be lost. Use this erase function to delete a previous partition and format on the USB drive. This causes the drive to appear as empty and unallocated to the operating system.

- Full Erase (SATA)   Full Erase will write zeros to all sectors on the drive. Full Erase will take several hours to complete and may be aborted at any time. The boot drive should not be listed as an available choice. Boot drive detection is sometimes difficult so be careful to confirm that the boot drive is not available or selected.

- SED Crypto Erase   Self-Encrypting Drive Instant Secure Erase. If the drive supports hardware encryption, this menu will be displayed. Like Full Erase this command will permanently destroy access to all user data on the drive, but will do so by the erasure of the drive encryption key which takes less than one minute to complete. Both SAS and SATA drives are supported, but the boot drive should not be listed as an available choice.

Caution: Boot drive detection is sometimes difficult so be careful to confirm that the boot drive is not selected.

Once this menu item is selected the user will need to enter the PSID (Physical Security IDentification number) password located on the drive label. This is a 32 number & capital letter sequence at the top of the label. Enter the PSID without spaces. It can also be read by 2D barcode reader.
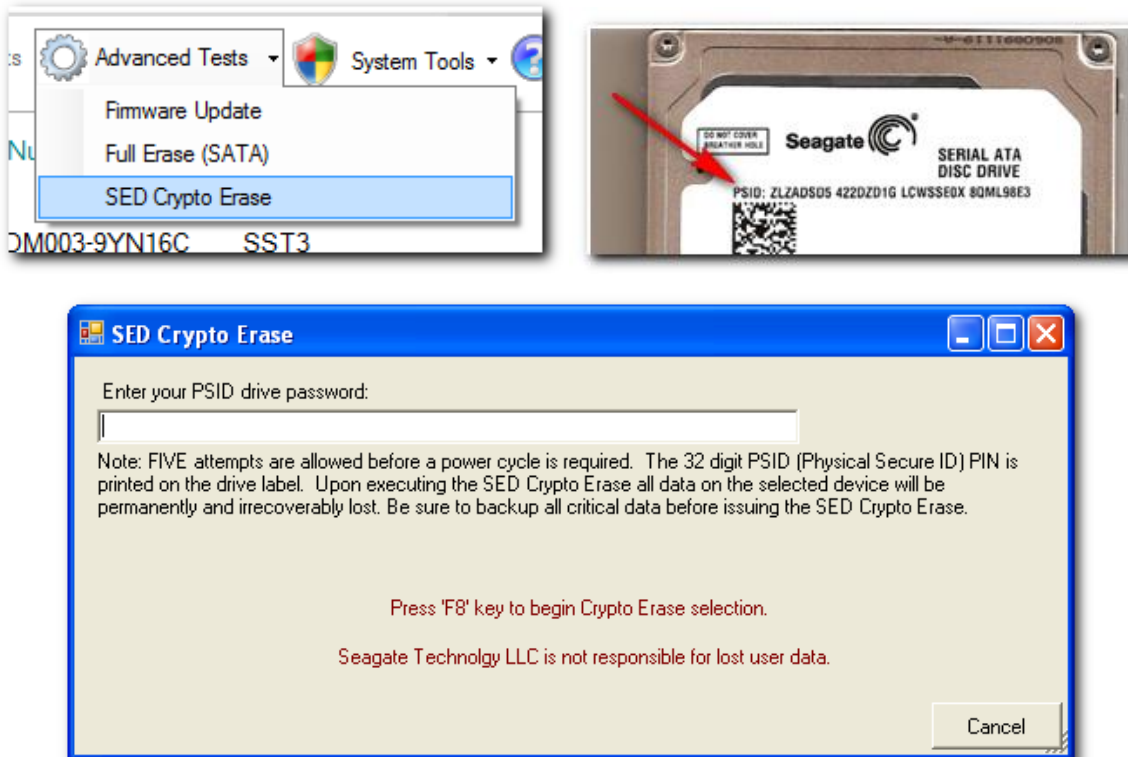
See the Seagate Secure website for more information about Seagate Instant Secure Erase.

- Sanitize Erase   Write zeros to all user data sectors on the drive including unallocated and cache sectors. This command is mostly found on SSD drives.
- Remove Data Locking Capability   Causes all attempts to authenticate SID to fail. Removes capability for anyone to personalize, or take logical ownership, of the Opal SED device. You can re-enable the SID authority object only by doing a SED Crypto Erase with PSID (all data on the drive is lost).
- IEEE 1667 Disable or Enable   If disabled, then all support for the IEEE 1667 TCG storage silo is turned off. Device will report no support for IEEE 1667. Disables ability for Microsoft Windows 8 Setup to automatically provision device with Enhanced Storage support. If required, then disable the silo support before setting up Windows 8.
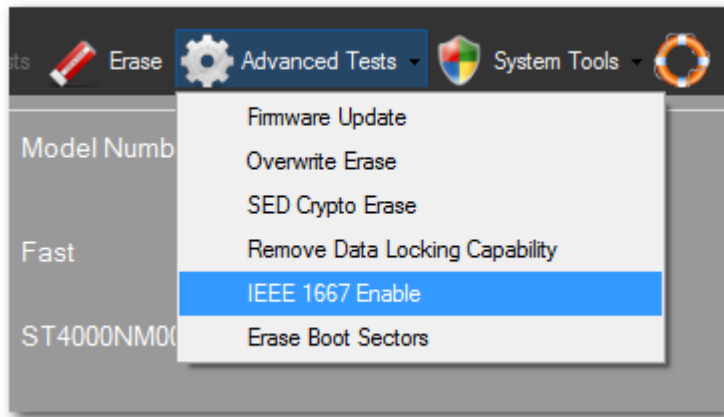
4. Bad Sector Found

MPORTANT: Please read and carefully consider all of the following information about your "Bad Sector Found" options.

A bad sector is a small 512-byte area on the disk drive that is reporting errors and cannot be accessed properly. New bad sectors, sometimes called grown defects, are often caused by some kind of physical damage. If a file or folder uses this sector, then the file is already incomplete or corrupt because the bytes are not readable.

**** NOTE **** The following information applies only to Seagate Technology or Maxtor brand disk drives:

When SeaTools discovers a bad sector through reading, it displays a count of the bad sectors.

Sectors are often not in use. If a sector is in use, then that file is incomplete or corrupt. When a bad sector happens to align with a folder or directory listing structure, then the links to files and sub-folders it manages may be broken.

You should carefully consider the importance of your data. While the sector is currently unreadable, if the file or folder is important to you then you may need professional recovery services to possibly reclaim the data. In this case, select NONE to scan without trying to repair sectors on the drive.

If you have decided that the file or folder is replaceable, already backed up or just not important to you, then you can tell SeaTools to attempt to attempt to repair the sector.

By design, modern disk drives maintain spare sectors for reallocation purposes. Usually, sectors become difficult to read long before they become impossible to read. In this situation the actual data bytes in the sector are preserved and transferred to the new spare during a sector reallocation. Similarly, when a disk drive writes data and encounters a problem, the drive firmware retires the problem sector and activates a replacement before giving successful write status.

If you give permission to attempt to repair a bad sector, then SeaTools will attempt to write a 512-byte pattern of zeros to that single error sector. Usually, this action will assist the disk drive firmware in managing the problem by retiring the problem sector and activating a spare in its place.

Note: Seagate Technology is not responsible for lost user data.

5. System Tools Shortcuts

Many times a disk drive will be healthy and pass SeaTools for Windows and the system is not operating correctly. While troubleshooting the problem, you may need to access various Microsoft tools, such as Device Manager. SeaTools for Windows offers convenient shortcuts to a few of the Microsoft System Tools commonly used in troubleshooting. Seagate does not support Microsoft System Tools.
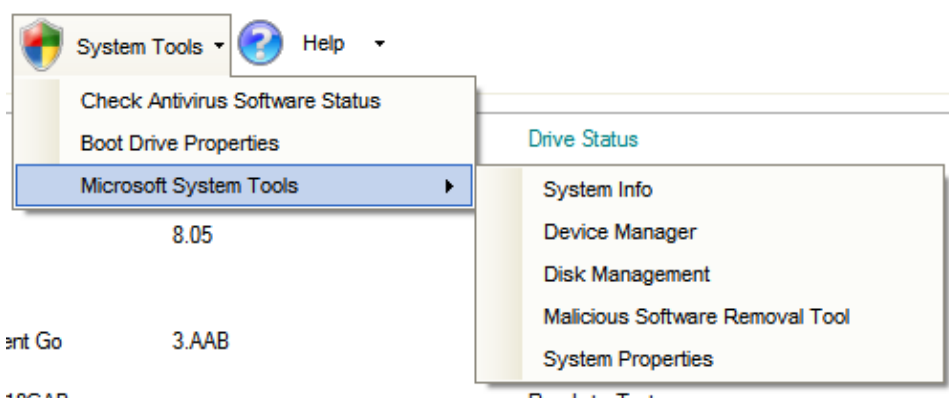
6. Serial Numbers, Model Numbers, Part Numbers and Warranty

You can check the Warranty status of your Seagate product online here:
http://support.seagate.com/customer/en-us/warranty_validation.jsp

The online form requires the product Serial Number and the Model OR Part Number. The Serial and Model Numbers are usually displayed on the *SeaTools for Windows* main screen. Occasionally, SeaTools is unable to read the numbers due to system or component incompatibility, or due to product failure.

You can also find this information and the Part Number printed on the top label of a bare disk drive or on the external drive enclosure. Seagate Serial Numbers are S/N: with 8 alphanumeric digits. Model Numbers begin with the letters ST for bare drives or may have a name such as FreeAgent for external drives. Part Numbers are 6 alphanumeric digits, a dash -, and 3 numeric digits. P/N: 1A2345-678

The online Warranty Checker may indicate that your Seagate product warranty is classified as an OEM component. This means that the disk drive was sold to a computer manufacturer who used the drive as a part in the assembly of their computer system. In this case, the manufacture of the system is responsible for all disk drive warranty and technical support.

7. Troubleshooting

  IF YOU CALL

- If you call to report problems please provide as much information as possible. If you can, please provide the following details:

  When does the problem occur? On the boot up of the diagnostic operating system? During the hard disk drive tests? After exiting SeaTools?

- Can the problem be recreated? If so, please outline the steps necessary to recreate it.

- What is your system configuration? List the details about your
  system as tested. Such as:
    - Make, model, processor and system memory
    - Hard disk drives (internal and external) connected to the
      system, including make, model, size, and type
    - Make and model of hard disk drive controllers
    - Make and model of the video adapter
    - Additional adapter cards, including sound and multimedia
    - Peripherals attached (mouse, tape backup, printer, etc).

8. Known Limitations and Issues

- Long and Short Drive Self Test (DST) may not respond to Abort Tests command button on some systems. The Short test is never more than 90 seconds and will quickly finish. The Long test, however, could take several hours. A simple Windows Shut Down and Restart will cause the drive to abandon the Long DST test .
- SeaTools may not find or access hard disk drives when CMOS is set to "none" for those drives.
- *SeaTools for Windows* cannot find a drive that is completely non- functional. No make, model or error codes are available. If the drive is under warranty, you can contact your system supplier.
- SeaTools may not detect individual drives attached to RAID controllers.
- Windows Vista incorporates new levels of security control and authentication. Depending on your security settings, you may need to run *SeaTools for Windows* as an Administrator.
- The ARIALUNI.TTF font is required to view Asian languages.

Check http://www.seagate.com often for new and updated versions of *SeaTools for Windows* software as well as updates to the "Frequently Asked Questions" (FAQ's) list. Seagate will continue to add new features, functions and capabilities to this software.

9. System Requirements

- 32-bit or 64-bit Windows XP or greater
- Microsoft .NET Framework v4.0 Available for download (approximately 48 MB) from www.microsoft.com. Search the site for .NET 4.0 or go directly here: http://www.microsoft.com/download/en/details.aspx?id=17718
- Microsoft Visual C++ 2010 Redistributable (included with SeaTools for Windows Setup)
- VGA 1024x768 or higher graphics capability
- The ARIALUNI.TTF font is required to view Asian languages.

10. Revision History

v1.1.0.3   09-Mar-2007   Initial public release *SeaTools for Windows*.
v1.1.0.7   12-Apr-2007   First Multi-language public release *SeaTools for Windows*.
v1.1.0.15 17-Sep-2007   Additional SATA chipset support. New languages (Chinese and Japanese).
v1.1.0.18 06-May-2008   Button states consistent with tasks. Cache size, Power On Hours and temperature shown in Drive Information. Short Generic Test now simulates Drive Self Test (DST). USB Drive Information on supported chipsets. Compatible with Windows XP 64-bit and Vista 64-bit. Aborts more responsive. Language translation fixes. Start up language can be set from command line. New compatibility fixes for nVidia chipsets and Intel Turbo Cache.

v1.1.0.19	08-Jun-2008	SAS and SCSI support for Inquiry, Firmware Download and Format.
v1.1.0.20	03-Sep-2008	eSATA drive information, SCSI DST Abort. Link to Seagate Services added.
v1.1.0.21	01-Oct-2008	USB unit serial numbers as printed on the Seagate external drive case. These serial numbers are the ones needed for warranty exchange. Fixed timing delay where the display progress bar fell behind actual test progress.
v1.1.1.0	10-Dec-2008	Added System Tools menu. Added USB sector repair on Seagate and Maxtor USB external drives.
v1.2.0.0	26-Mar-2009	Added Password backup for FDE drives. Added firmware checks for Barracuda 7200.11 and Barracuda ES.2 SATA model drives; will report if a firmware update is necessary.
v1.2.0.1	20-Oct-2009	Added SeaTools Test Code number result when warranty tests FAIL. Use the SeaTools Test Code when submitting a Return Merchandise Authorization (RMA).
v1.2.0.2	27-Apr-2010	Korean language added. All sections fully localized. Localized User Guides added as PDF files.
v1.2.0.3	30-May-2010	Added USB Erase Boot Tracks to Advanced Tests menu.
v1.2.0.4	28-July-2010	Vietnamese, Russian and Thai languages added.
v1.2.0.5	18-Nov-2010	Added USB Full Erase. Added Long Test time out failure for drives with excessive retries. Added SMART log update. Removed Long DST. New End User License Agreement.
v1.2.0.6	15-Oct-2011	Added Fix All Fast and Fix All Long tests for internal drives. Zero Fill erase SATA non-boot drive. Time Remaining count down on long tests. New firmware checker. Check for newer SeaTools updates.
v1.2.0.7	24-Aug-2012	User Interface clean up. Windows 8 compatibility fixes. SSD % Endurance added to Drive Info. Limit on max number defects fixed on USB interface. Cryptographic erase on Seagate Self-Encrypting Drives (Instant Secure Erase).
v1.2.0.8	20-Nov-2012	USB3 compatibility fixes. Cryptographic erase on Seagate Self-Encrypting Drives (Instant Secure Erase) now supported on most Seagate USB adapters.
v1.2.0.9	31-Mar-2013	USB testing more robust due to change in underlying architecture. Better detection and test implementation of SATA on SAS adapters. Added the Sanitize Erase test for SATA SSD drives (Seagate and non-boot only). S.M.A.R.T. Check now available for USB drives.
v1.2.0.10	12-Sep-2013	Updated SSD Usage language, Fixed Short DST not showing up for SAS drives, Added the scroll bar to the drive window. Made the application re-sizable and maximizable.
v1.3.0.x	22-Apr-2014	Changed the way we do version numbers. (major).(minor).(revision).(build number).. Improved device discovery. Added support for SMART check over spti (ATA on SAS card), Added support for short DST over spti. Added full overwrite after a cryptographic erase. Fixed SMART temperature for Samsung drives. Drive Workload Rate "odometer" calculation for SATA and SAS. Updated ATA and SCSI drive information windows. Added Hybrid Drive info gathering. USB drives to use the Fix All tests. Support for 4K SAS and 4K SATA (logical sector size). Added LaCie product detection. Added device information for: MaxTransfer speed, negotiated transfer speed, spec supported (ATA only). Long DST is available for SCSI devices once again. Advanced Tests: New erase button functionality. Advanced Tests: Added ATA Enhanced Security Erase for SED/FDE. Advanced Tests: Added in the IEEE1667 port enable/disable test. Advanced Tests: Remove Data Locking for Opal drives. New command line flags to exclude scanning interfaces: /NOATA /NOSCSI /NOUSB can be used to skip the interfaces.
v1.4.0.x	22-Apr-2015	New corporate logo.
v1.4.0.6	30-Oct-2017	Improved device discovery.

11. USER LICENSE AGREEMENT

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FOR SEAGATE SOFTWARE

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12. Seagate Technology Support Services

Seagate Technology Support Services
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Online Services

Internet
www.seagate.com for information about Seagate products and services. Worldwide support is available 24 hours daily by e-mail for your questions.

Technical Support:
http://www.seagate.com/www/en-us/about/contact_us

SEAGATE SERVICE CENTERS

Presales Support
Our Presales Support staff can help you determine which Seagate products are best suited for your specific application or computer system, as well as drive availability and compatibility.

Technical Support
If you need help installing your drive, consult your system's documentation or contact the dealer's support services department for assistance specific to your system. Seagate technical support is also available to assist you online at support.seagate.com or through one of our call centers. Have your system configuration information and your drive's "ST" model number available.

SeaTDD (+1-405-324-3655) is a telecommunications device for the deaf (TDD). You can send questions or comments 24 hours daily and exchange messages with a technical support specialist during normal business hours for the technical support call center in your region.

CUSTOMER SERVICE OPERATIONS

Warranty Service
Seagate offers worldwide customer support for Seagate drives. Seagate distributors, OEMs and other direct customers should contact their Seagate service center representative for warranty-related issues. Resellers or end users of drive products should contact their place of purchase or one of the Seagate warranty service centers for assistance. Have your drive's "ST" model number and serial number available.

Data Recovery Services

Seagate offers data recovery services for all formats and all brands of storage media. Our Data Recovery Services labs are currently located in North America and Europe. To get a free quick quote or speak with a case management representative, call 1-800-475-0143. Additional information, including an online request form and data loss prevention resources, is available at http://services.seagate.com/index.aspx.

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USA/Canada/Latin America Support Services

Americas   1-800-SEAGATE   +1-405-324-4700 +1-405-324-3339

Worldwide Support Services

For the most current list of telephone numbers please see the Contact Us section on www.seagate.com.

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SeaTools for Windows is a product of Seagate, a leading provider of technology and products enabling people to store, access, and manage information. Seagate is committed to providing best-in-class products to help people get their information when, where and how they want it.

The Company is recognized as the world's largest manufacturer of disk drives, magnetic discs and read-write heads. Founded in 1979, Seagate can be found around the globe and on the World Wide Web at www.seagate.com.

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13. Product Return Procedure

Service by Seagate

A. Seagate Disk Return Procedure
B. Shipping and Handling Information - Packaging Instructions
C. Seagate Approved Packaging
D. Limited Warranty
E. Service Warranty Terms

A. Seagate Disk Drive Return Procedure

Seagate offers comprehensive worldwide customer support for all Seagate disk drives both online and through our regional Seagate Customer Service Centers and Authorized Service Providers (see "Seagate Technology Support Services" section, above). Drive return procedures can vary by geographical location and are subject to current International Trade Regulations.

1. Before you return a disk for warranty service, verify whether a replacement drive is necessary to solve the problem you are experiencing. If so, contact your place of purchase; if they have an exchange policy, it may be your most convenient solution.

2. Read the appropriate Seagate Warranty Statement for new or replacement products (see "Service Warranty Terms" section, below).

3. Know your Seagate product model number and serial number. See the label on the top of the drive.

4. Verify the warranty status of the drive you wish to return. If the product is still under warranty, obtain an RMA (step 5). If the warranty is expired, contact a local service facility, a Seagate Service Center Representative, or an Authorized Service Provider. If Seagate records indicate that the warranty is expired and you believe this is incorrect, contact your place of purchase or a Seagate Service Center Representative.

5. Obtain an RMA. To obtain an RMA online, use the Warranty Validation application at www.seagate.com/support. It will lead you into the RMA request application. To obtain an RMA by phone or fax, contact an Authorized Service Center (see "Seagate Technology Support Services" section above).

6. Obtain a "ship to" address. Service Centers are located throughout the world. The ship to address of the facility nearest you will be included with the RMA.

7. Package and return the drive. IMPROPER PACKAGING WILL VOID THE WARRANTY. Be sure to read the Shipping and Handling Information (below). Your original drive will NOT be returned to you, so be sure to backup any data you wish to keep and return only the bare drive. If you are unable to retrieve needed data, you may want to consider data recovery services.

Once Seagate Technology receives your drive for service, Seagate will ship you a replacement drive. You may check the status of your replacement drive RMA shipment online or by contacting a Seagate Service Center Representative to obtain that information.

B. Shipping and Handling Information - Packaging Instructions

1. When you return a drive for replacement, all data and software will be lost. The replacement drive will be low-level formatted. If you need the data on the drive and do not have a backup copy, you may want to consider data recovery services before shipping the drive to Seagate for replacement.

2. Remove all accessories or spare parts and return only the bare drive! Accessories include, but are not limited to, side rails, manuals, removable media, cables, mounting brackets, face plates, and controller cards. Accessories will not be returned.

3. Enclose the drive in an anti-static container. If packaging more than one drive, use a separate bag for each drive.

4. Secure the drive in Seagate approved packaging. Use 2-inch thick foam rubber in a corrugated box. Multiple drives in a single box should be packaged with foam rubber between each drive. Do NOT use foam packing pellets, bubble wrap, or newspaper. (See Seagate Approved Packaging section, below.)

5. Write the RMA number on the outside of each box.

6. A shipping address will be given to you along with the RMA number. Ship the drive to the address provided using the carrier of your choice. You should choose a carrier with the ability to trace the shipment. Seagate Technology will not be responsible for shipments for which the carrier cannot provide proof of delivery.

C. Seagate Approved Packaging

Shipping a drive in an unapproved container voids the warranty. Any product returned to Seagate must be properly packaged in the original box or a Seagate-approved container to prevent physical and electrical damage while in transit. FAILURE TO PROPERLY PACKAGE THE DRIVE WILL VOID THE WARRANTY.

What is Seagate Approved Packaging?

We recommend you ship your drive in its original box and packing materials, which you should always keep for storing and shipping purposes. If you do not have your original packaging materials, use 2-inch thick foam rubber in a corrugated box. Multiple drives in a single box should be packaged with foam rubber between each drive. Do NOT use foam packing pellets, bubble wrap, or newspaper.

Where can I get Seagate Approved Packaging?

Seagate does not separately sell packaging materials. While Seagate does not endorse any one third party vendor, companies that provide packaging materials can be found at:

Western Industries - For additional information, see https://www.wicokc.com/orderform/seagate.html

SiongBee - For additional information, see https://www.siongbee.com/sgorder.nsf

Disclaimer: All packaging vendors mentioned in this message are independent of Seagate Technology LLC; Seagate makes no warranty, implied or otherwise, regarding the performance or reliability of these companies or their products. This information is provided, as is, solely for your information. To obtain product specifications and warranty information, please contact the respective vendor directly.

D. Limited Drive Warranty ("Products")

Beginning on the date of shipment to its direct customer and continuing for the published warranty period, Seagate represents that the Products are new or, if they contain remanufactured or used components, are the equivalent of new in performance and reliability and warrants that each Product failing to function properly under normal use, due to a defect in materials or workmanship or due to nonconformance to the published specifications, will be repaired or exchanged, at Seagate's option and expense. Customer should obtain a Return Material Authorization ("RMA") number from their point of purchase or from Seagate prior to returning the nonconforming Product freight prepaid. Seagate will pay for transporting the repaired or exchanged Product to Customer. Repaired or exchanged Product will be warranted for a period of ninety (90) days for Disk Products and six (6) months for Tape Products from the date of shipment by Seagate, or the remainder of the original warranty, whichever is the longer. This Limited Warranty extends to Seagate's direct customer only and is not assignable or transferable. Seagate makes no representation, warranty or guaranty, express or implied regarding the Products except its standard form of limited warranty ("Limited Warranty"). Seagate may in its sole discretion modify its Limited Warranty at any time and from time to time.

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E. Repair Warranty Terms

All Seagate repaired disk products are warranted for 90 days or the balance of your original warranty, whichever is greater. All Seagate repaired tape products are warranted for six months or the balance of your

original warranty, whichever is greater. Customer shall be responsible for saving or backing up data contained in any Product returned to Seagate for in-warranty or out-of-warranty repairs or service.

DISCLAIMER: SEAGATE SHALL HAVE NO RESPONSIBILITY FOR DATA AND SHALL HAVE NO LIABILITY ARISING OUT OF ANY DAMAGE TO OR LOSS OF DATA WHILE THE PRODUCT IS IN SEAGATE'S POSSESSION.

THANK YOU

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