



Barracuda® ATA V Family Installation Guide
ST3120023A, ST380023A, ST360015A, ST340017A, ST330013A
 Publication number: 100221377, Rev. B

► **The Easiest Way to Install Your Drive**

DiscWizard™ Starter Edition is an exclusive Seagate® Windows program that can be used with your drive for easy installation. Download the software from our Web site at www.seagate.com.

Run the DiscWizard diskette creator *before* installing your drive for customized step-by-step instructions for your system.

To run DiscWizard:

Follow the instructions on the download page at www.seagate.com to create a diskette and complete the installation.

If you cannot run DiscWizard, follow the instructions on this installation sheet to install and configure your drive.

► **What You Need**

- A Phillips screwdriver and four 6-32 UNC drive mounting screws
- A standard 40-pin ATA interface cable, or an 80-conductor cable to run Ultra ATA 100 (max length: 18 inches)
- An unused drive power cable for your new drive
- A version of Windows with FAT32 file system for drives over 32 Gbytes

► **Ultra ATA/100 Requirements**

The drive can be configured to support a default maximum transfer rate. This drive can support transfer rates up to 100 Mbytes per second (UDMA 5) in Ultra ATA/100 mode. Using a software utility, you can set the default transfer rate to the best capability of your system. For your drive to run in this mode, you need the following:

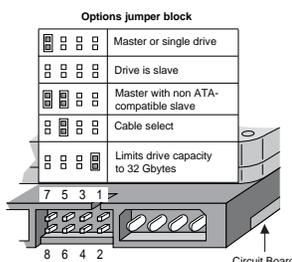
- A computer that supports UDMA mode 5
- A 40-pin, 80-conductor cable (available from your dealer)
- A software utility to confirm and activate Ultra ATA/100. Seagate provides a utility called UATA100.exe. You can download the latest version from our Web site at www.seagate.com.
- Windows XP, Windows Me, or Windows 98 operating system which supports Ultra ATA 100

► **Handling Precautions**

- ⚠ Disc drives are extremely fragile. *Do not* drop or jar the drive.
 - ⚠ Keep the drive in the protective SeaShell™ container until you are ready to install it. This minimizes handling damage.
- The drive has a protective cover called SeaShield®. Do not remove this permanent cover—it protects the drive from electrostatic discharge (ESD) and minor impact damage.
- ⚠ Protect your drive from static discharge by wearing a grounded wrist strap throughout the installation process.
 - ⚠ Always handle the drive by the edges or frame.
 - ⚠ Do not apply pressure or attach labels to the circuit board or the top of the drive.

► **Setting the Jumpers**

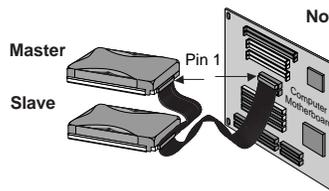
Refer to the jumper settings on your drive label to configure the drive for your system. Jumper settings can also be accessed online from our Web site at www.seagate.com.



- **Master or single drive:** The drive is shipped configured for a master or a single drive with a jumper set on pins 7 and 8.
- **Drive is slave:** To configure the drive as a slave, or second drive on the cable, remove all the jumpers.
- **Master with non-ATA compatible slave:** Use this setting if the slave drive is not recognized. Configure the master drive with a jumper set on pins 5 and 6 and pins 7 and 8 to enable this option.
- **Cable-select option:** Computers that use cable-select determine the master and slave drives by selecting or deselecting pin 28, CSEL, on the interface bus. To enable cable select, set a jumper on pins 5 and 6.
- **Alternate capacity jumper:** Drives with a 40-Gbyte capacity are limited to 32 Gbytes. This jumper is used to provide a solution to specific legacy BIOS problems. When using the alternate capacity jumper, Disk Manager software is required to achieve the drive's full capacity.

► **Attaching Cables and Mounting the Drive**

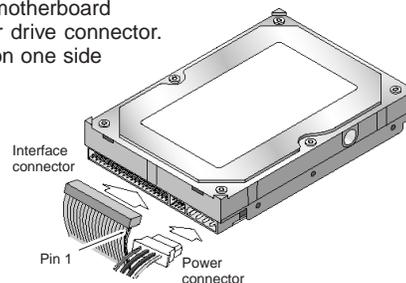
1. Attach one end of the drive interface cable to the interface connector on your computer's motherboard (see your computer manual for connector locations).



Note. If you are using a 40-pin 80-conductor cable, attach the *blue* connector to the motherboard, the *black* connector to the master drive, and the *grey* connector to the slave.

1. **Caution.** Align pin 1 on the motherboard connector with pin 1 on your drive connector. Pin 1 is marked by a stripe on one side of the cable.

2. Attach the interface connector and the power connector to the drive.



Note. You can mount the drive in any orientation, however, the most common orientation is with the circuit board down.

3. Secure the drive in the computer using four 6-32 UNC mounting screws in either the side-mounting or bottom-mounting holes. Insert the screws no more than 0.20 inch (5.08 mm) into the bottom-mounting holes and no more than 0.14 inch (3.55 mm) into the side-mounting holes.

1. **Caution.** Do not overtighten the screws or use metric screws. This may damage the drive.

► **Configuring the BIOS**

For your computer to recognize your new drive, configure your computer's BIOS as follows:

1. Run the system setup program.
2. Enable LBA mode and UDMA mode, if available.
3. Select the auto-detect option. If necessary, refer to the drive parameters on your drive label to configure the drive for your system. BIOS settings can also be accessed at www.seagate.com. To access the full capacity of the drive, use LBA mode or use Disk Manager.
4. Save and exit the system setup program.

BIOS Settings

Drive Model	Formatted Gbytes	Total Sectors*
ST3120023A	120.0	240,067,800
ST380023A	80.0	160,045,200
ST360015A	60.0	120,033,900
ST340017A	40.0	80,022,600
ST330013A	30.0	60,016,950

*One sector equals 512 bytes.

► Preparing the Drive with DiscWizard

Installing a Single Drive

If you are installing a single drive, we recommend using DiscWizard to automatically partition and format your drive. DiscWizard software is available at www.seagate.com. During the download, the Diskette Creator creates a portable bootable diskette. To run DiscWizard:

1. Insert your bootable DiscWizard diskette and follow the instructions. DiscWizard will guide you through the installation process.
2. Boot your computer from the Windows operating system CD-ROM or from your system startup diskette with the Windows CD loaded. At the prompt, type **setup**.

Installing a Slave Drive

If you are installing a second drive, or slave, to your system, use the DiscWizard software available at www.seagate.com.

Note. If you *do not* want to install your drive using either DiscWizard or Disk Manager, see "Standard Microsoft Installation" below to partition and format your drive.

► Standard Microsoft Installation

ⓘ **Caution.** Partitioning or formatting a drive erases all data on it. Seagate assumes no liability if you erase your data.

Drive Partitioning

Partitioning divides the drive into sections or partitions that function as separate logical drives (labeled C,D,E, etc.). To partition your new drive:

1. Insert a bootable startup diskette and restart your computer.
2. Run **fdisk** and create a primary DOS partition.
3. Mark the partition as *active* to make the partition bootable.

Drive Formatting

ⓘ **Caution.** Use the correct drive letters to prevent formatting a drive that already contains data.

1. At the A: prompt, type **format x:** where x is the letter of your first new partition. Repeat the format process for all new partitions.
2. Proceed to "Loading the Operating System" below.

Loading the Operating System

Note. The operating system needs to be installed on the master drive only. It is not required when adding a second drive.

1. Boot your computer from your Windows operating system CD-ROM or from your system startup diskette with the Windows CD loaded.
2. At the prompt, type **setup** and continue with the Windows setup.

► Troubleshooting

If your drive is not working properly, follow these troubleshooting steps.

1. **Does the drive spin up?** A spinning drive produces a faint whine and clicking noise that begins when power is applied. If your drive does not spin, check that the power connector and interface cable are securely attached and the jumpers are installed correctly.
2. **Does the computer recognize the drive?** Verify that the drive is enabled in the system CMOS or setup program. If not, select the autodetect option and enable it. If your drive has a problem, it may not be recognized by the system.
3. **Does FDISK detect the drive?** Run the FDISK program located on your Windows startup diskette. Type **fdisk/status** to verify that your hard drive is present.
4. **Does Scandisk find the drive defect-free?** Scandisk is a utility located on your Windows startup diskette that scans the drive for defects. If defects are detected, this may be an indication of a problem.
5. **Why won't the drive format to full capacity?** Verify that your BIOS has autodetect and LBA mode enabled. Otherwise you may need to use Disk Manager to achieve the full capacity of your drive. Download the latest version from www.seagate.com or find it on your CD.
6. **The computer hangs on startup.** Verify that your system is ATA/100 compatible with the UDMA mode setting. Some legacy BIOS cause

hangs on startup or other problems if not ATA/100 compatible. For more information, see the earlier section on the Ultra ATA/100 requirements. In addition, some legacy BIOS may cause a hang due to the large drive capacity. Consider using the alternate capacity jumper if it is available on your drive model.

Use the alternate capacity jumper if your computer does not support higher capacity drives. The jumper will limit 40-Gbytes drives and larger to 32 Gbytes.

Note. If these steps do not solve the problem, contact your dealer or visit <http://seatools.seagate.com> to download SeaTools disc diagnostics software and more troubleshooting advice.

► Seagate Support Services

For online information about Seagate products, visit www.seagate.com or e-mail your disc questions to: DiscSupport@Seagate.com.

If you need further help installing your drive, first consult your dealer. Dealers are familiar with their unique system configurations and can help you with system conflicts and other technical issues. If you need additional help, you can talk to a Seagate technical support specialist. Before calling, note your system configuration and drive model number.

Africa	+31-20-316-7222	New Zealand	0800-443988
Australia	1800-14-7201	Norway	800-113 91
Austria	0 800-20 12 90	Poland	00 800-311 12 38
Belgium	0 800-74 876	Singapore	800-1101-150
Denmark	80 88 12 66	Spain	900-98 31 24
France	0 800-90 90 52	Sweden	0 207 90 073
Germany	0 800-182 6831	Switzerland	0 800-83 84 11
Hong Kong	800-90-0474	Taiwan	+886-2-2514-2237
India	1-600-33-1104	Thailand	001-800-11-0032165
Indonesia	001-803-1-003-2165	Turkey	00 800-31 92 91 40
Ireland	1 800-55 21 22	United Kingdom	0 800-783 5177
Italy	800-790695	USA/Canada/	1-800-SEAGATE or
Malaysia	1-800-80-2335	Latin America	+1-405-936-1234
Middle East	+31-20-316-7222	Other European	
Netherlands	0 800-732 4283	Countries	+ 31-20-316-7222

Warranty To determine the warranty status of your Seagate disc drive, contact your place of purchase or visit our Web site at www.seagate.com for more information.

RMA (Return Merchandise Authorization) Run SeaTools to diagnose your drive before requesting a return authorization. In addition, please verify that your drive is defective by following the troubleshooting checklist in this guide. Seagate offers comprehensive customer support for all Seagate drives worldwide. Seagate customer service centers are the only facilities authorized to service Seagate drives. Drive return procedures vary depending on geographical location and are subject to current International Trade Regulations.

Shipping Your Drive

Caution. Back up the data on your drive before shipping it. Seagate assumes no responsibility for data lost during shipping or drive repair. Shipping a drive in an unapproved container voids the warranty. Pack the drive with foam rubber only. Do not use peanuts, bubble wrap or newspapers.

Keep your original box and packing materials for storing or shipping your drive. To preserve the warranty status of your drive, 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.

Electromagnetic Compliance for the European Union This model complies with the European Union requirements of the Electromagnetic Compatibility Directive 89/336/EEC of 03 May 1989 as amended by Directive 92/31/EEC of 28 April 1992 and Directive 93/68/EEC of 22 July 1993. Compliance of this drive, as a system component, was confirmed with a test system. We cannot guarantee that your system will comply. The drive is not meant for external use (without properly designed enclosure, shielded I/O cable, etc.). **Sicherheitsanleitung** 1. Das Gerät ist ein Einbaugerät, das für eine maximale Umgebungstemperatur von 55°C vorgesehen ist. 2. Zur Befestigung des Laufwerks werden 4 Schrauben 6-32 UNC-2A benötigt. Bei seitlicher Befestigung darf die maximale Länge der Schrauben im Chassis nicht mehr als 3,3 mm und bei Befestigung an der Unterseite nicht mehr als 5,08 mm betragen. 3. Als Versorgungsspannungen werden benötigt: +5V ± 5%, 0,6A; +12V ± 5%, 0,8A (1,9A für ca. 30 Sek. für ± 10%) 4. Die Versorgungsspannung muss SELV entsprechen. 5. Alle Arbeiten auf dem Festplatte dürfen nur von Ausgebildetem Servicepersonal durchgeführt werden. Bitte entfernen Sie nicht die Aufschriftenschilder des Laufwerkes. 6. Der Einbau des Laufwerkes muss den Anforderungen gemäss DIN IEC 950 VDE 0805/05.90 entsprechen.

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