



Barracuda® ATA II 100 Family Installation Guide

ST330631A, ST320424A, ST315324A, ST310216A

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► The Easiest Way to Install Your Drive

DiscWizard™ is Seagate's exclusive Windows program that is included with your drive for easy drive installation. You can use this software if you already have a bootable hard drive in your computer and you are running Windows 98 or Windows 95.

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

To run DiscWizard:

- Select Run from the Windows Start menu and type **x:\setup**, where **x** is the drive letter of your CD-ROM.

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

► What You Need

- 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 66 or Ultra ATA 100 (max length: 18 inches)
- An unused drive power cable for your new drive

► Ultra ATA/100 Requirements

The drive can support transfer rates up to 100 Mbytes per second (UDMA 5) in Ultra ATA/100 mode. For your drive to run in this mode, you need the following:

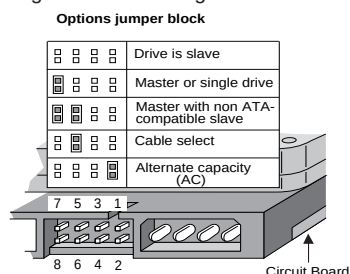
- A computer that supports UDMA mode 5
- A 40-pin 80-conductor cable (available from your dealer)
- A software utility to confirm and activate Ultra ATA/100. Seagate® provides a utility called UATA100.exe. You can download the latest version from our Web site at www.seagate.com or find it on your CD.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

► 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 will minimize 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

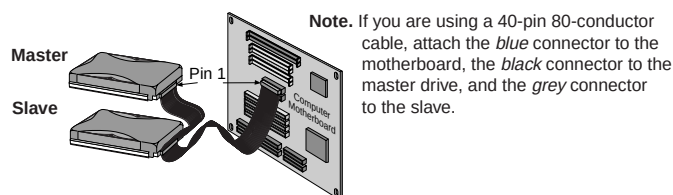
Refer to the jumper settings below to configure the drive for your system.



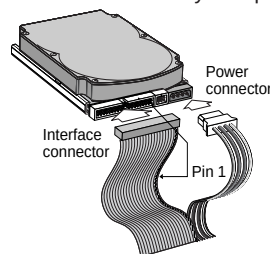
- **Master or single-drive:** The drive is shipped configured for a master or a single drive with a jumper set on pins 7 and 8.
- **Drive is slave:** To configure the drive as a slave, or second drive on the cable, remove all the jumpers.
- **Master with non-ATA compatible slave:** Use this setting if 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:** Limits drive capacity to 2.1 Gbytes.

► 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).



- ⚠ **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. Usually it is mounted 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.
- ⚠ **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 this is not available, select "User-defined drive type" and enter the CHS (cylinder, head, sectors) parameters for your drive from the table listed below. The CHS addressing supports capacities up to 8.4 Gbytes only. To access the full capacity of the drive, use LBA mode.
4. Save and exit the system setup program.

BIOS Settings

Drive Model	CHS Mode			LBA Mode
	Cylinders	Heads	Sectors	Total Sectors*
ST330631A	16,383	16	63	59,777,640
ST320424A	16,383	16	63	39,851,760
ST315324A	16,383	16	63	29,888,820
ST310216A	16,383	16	63	19,925,880

*One sector equals 512 bytes.

► Preparing the Drive with Disk Manager

Installing a Single Drive

If you are installing a single drive, we recommend using Disk Manager to automatically partition and format your drive. This software is stored on the CD provided with your drive. To run Disk Manager:

1. Boot your computer from your Windows 98 or 95 startup diskette.
2. Insert the DiscWizard CD and change the drive letter of your CD-ROM.
3. At the prompt, type **dm**. Then press ENTER. Disk Manager will guide you through the installation process.
4. Proceed to the section on "Loading the Operating System."

Installing a Slave Drive

If you are installing a second drive, or slave, to your system, use the DiscWizard software provided with your drive.

Note. If you *do not* want to install your drive using Disk Manager, see "Standard DOS installation" below to partition and format your drive.

► Standard DOS 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 DOS diskette and restart your computer.
2. Type **fdisk** and press ENTER. If you have two drives installed, select your new drive from option five of the FDISK menu.
3. Select "Create DOS partition or logical DOS drive" by pressing 1. Then press ENTER.
4. Select "Create Primary DOS partition" by pressing 1 again. Create your first drive partition. To make the partition bootable, mark the partition as *active*.
5. Verify that all space on your new drive has been partitioned. If necessary, create an extended partition with additional logical drives.

Drive Formatting

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

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

► Loading the Operating System

1. Boot your computer from your Windows 98 or 95 startup diskette with the Windows CD loaded.
2. At the prompt, type **x:\setup**, where *x* is the drive letter of your CD-ROM drive. Continue with the Windows setup instructions.

► 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, located on your CD, to achieve the full capacity of your drive.

6. **The computer hangs on startup.** Verify that your system is ATA/100 compatible. Some Legacy BIOS can cause hangs on startup or other problems if not ATA/100 compatible. For more information, see earlier section on Ultra ATA/100 Requirements.

Note. If the above steps do not solve the problem, contact your dealer or visit www.seagate.com to download SeaTools disc diagnostics software and for more troubleshooting advice.

► Seagate Support Services

Internet

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

Technical Support

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	Poland	00 800-3111238
Australia	+61-2-9725-3366	Spain	900-98 31 24
Austria	0 800-20 12 90	Sweden	0 207 90 073
Belgium	0 800-74 876	Switzerland	0 800-83 84 11
Denmark	80 88 12 66	Singapore	+65-488-7584
France	0 800-90 90 52	Taiwan	+886-2-2514-2237
Germany	0 800-182 6831	Turkey	00 800-31 92 91 4
Hong Kong	+852 2368 9918	United Kingdom	0 800-783 5177
Ireland	1 800-55 21 22	USA/Canada/	1-800 SEAGATE or
Italy	800-790695	Latin America	+1-405-936-1234
Middle East	+31-20-316-7222	Other European	
Netherlands	0 800-732 4283	Countries	+ 31-20-316-7222
Norway	800-113 91		

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) Before requesting a return authorization, run SeaTools to diagnose your drive. 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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