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Medalist Pro 6450 (ST36450A)

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Medalist Pro 6451 (ST36451A)

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for ATA (IDE)-Compatible PCs

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Installation Guide

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Publication Number: 32656-001, Rev. C, July 1999

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The easiest way to install your drive

DiscWizard™ is Seagate's exclusive Windows program, provided on a diskette, that makes it easy to install your Medalist® drive.

DiscWizard helps you configure your new drive and your computer. It analyzes your system, lets you select various installation options and creates customized step-by-step instructions. It also allows older computers to access the full capacity of high-capacity hard drives.

You can run DiscWizard to install your new hard drive if:

- You already have an existing, bootable hard drive in your computer with at least 3 Mbytes of available disc space, *and*
- You are running Windows 95 or Windows 98.

If you can run DiscWizard, follow the instructions on the DiscWizard diskette to install your drive. If you need additional information, refer to this installation guide.

If you cannot run DiscWizard, follow the instructions in this installation guide to install and configure your new drive.

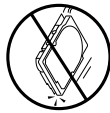
What you need

- Straight-edge and Phillips screwdrivers
- Four 6-32 UNC drive mounting screws
- An ATA host adapter and interface cable (max length: 18 inches) with enough connectors for all your drives
- An unused drive power cable for your new drive
- A bootable DOS system diskette (Seagate recommends using DOS Version 5.0 or later).
- If you are mounting this 3.5-inch drive in a 5.25-inch drive bay, you need a mounting adapter or frame kit. Also, you may need drive mounting rails if your drive bay is not designed for direct mounting.

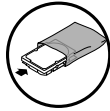
Before you begin

- Make sure your computer is turned off before you open the case.
- Read the handling precautions following and inspect the drive to make sure that it is not damaged.
- Save your foam-lined Seagate® disc drive box. This box has been approved by Seagate for shipping a Seagate disc drive. Using any other container or packing material voids your drive warranty.

Handling precautions



Disc drives are extremely fragile. Do not drop or jar your drive.



Keep the drive in its antistatic bag until you are ready to install it.



Protect your drive from static discharge by making sure you are well grounded before touching the drive. We recommend wearing a grounded wrist strap throughout the installation process. Do not touch the connectors or any part of the printed circuit board.



Always handle the drive by its edges or frame.



Do not apply pressure or attach labels to the circuit board or the top of the drive.

Master/slave jumpers

If your new Seagate drive will be the only drive in your computer, you do not have to change any jumper settings. In this case, skip ahead to "Attaching cables and mounting the drive," on page 6.

If you already have one hard drive in your computer and you are installing a second drive, you must configure one drive as a master and the other as a slave.

The jumper on pins 6 and 8 is a spare and does not affect drive operation.

To configure the drive as a master or one drive only:

- Place a jumper on pins 7 and 8 (see Figure 1 on page 5).
The master drive usually defaults to being the "boot" drive (drive C), from which the computer loads system software when it first starts up.
- If there is only one drive in your system, remove all jumpers.

To configure the drive as a slave:

- Place a jumper on pins 5 and 6 (see Figure 1 on page 5).
- If you need to change the jumpers on your existing hard drive, see the Disk Manager online manual, look on the drive label, or contact the drive manufacturer.

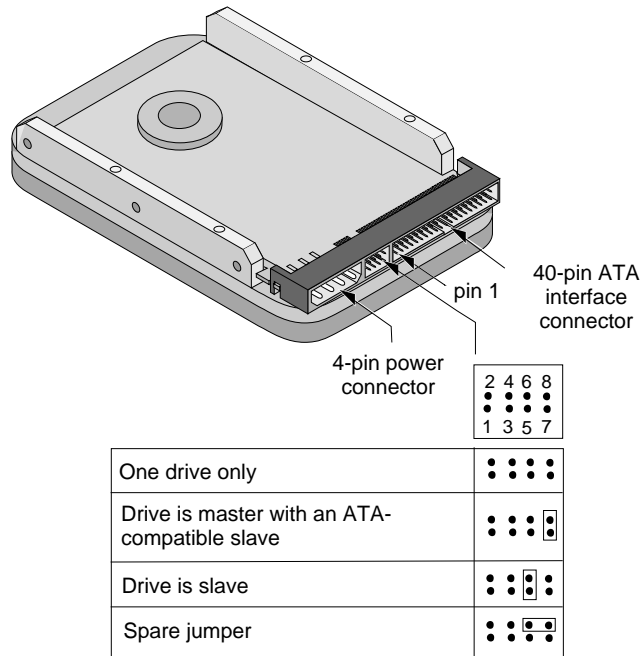


Figure 1. Master and slave jumper settings

Attaching cables and mounting the drive

1. If you are attaching a new ATA interface cable to a single drive, attach one end of the cable to the interface connector on your host adapter or motherboard. Motherboard connectors can be identified by the IDE or HDD 40-pin connector. The ATA cable must be no more than 18 inches (457 mm) long.
2. Thread the interface cable through the drive bay and attach the connector at the end of the interface cable to your new drive.

Note. If you have two drives, attach the second drive to the second connector.

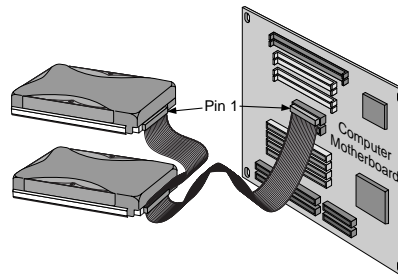
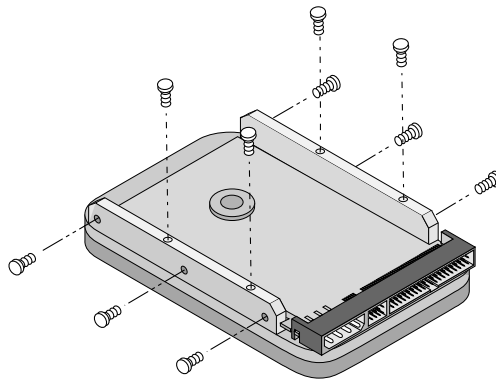


Figure 2. Attaching the cables



Caution. To avoid possible damage to your system, make sure to align pin 1 on the host adapter or motherboard with pin 1 on your drive or drives. Pin 1 on the interface cable is usually indicated by a stripe along the edge of the cable.

**Figure 3. Mounting screws**

3. You can mount the drive in any orientation. Usually it is mounted with the circuit board down.
4. Slide the drive carefully into the drive bay. Secure the drive with four 6-32 UNC mounting screws in either the side-mounting holes or the bottom-mounting holes. The screws should be inserted no more than 0.22 inch (5.58 mm) into the bottom-mounting holes and no more than 0.14 inch (3.55 mm) into the side-mounting holes.



Caution. To avoid possible damage to the drive, do not overtighten the screws or use metric screws.

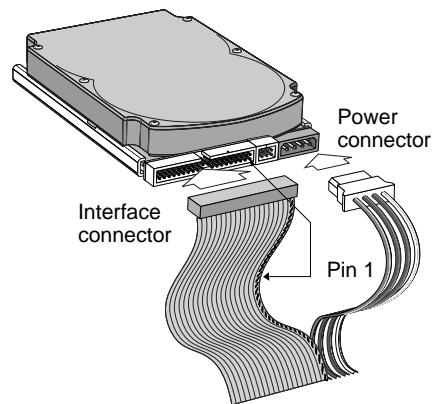


Figure 4. Cable connectors

Note. If you are mounting the drive in a 5.25-inch drive bay, you need a mounting adapter or frame kit. Contact your computer dealer. Some computers also require drive mounting rails, which can be obtained from your distributor or computer manufacturer.

5. Attach a power cable to each drive. If your computer does not have an unused power connector, you can purchase a Y-shaped power cable from your computer dealer.
6. Check all cable connections and then replace your computer cover. Continue to "Configuring your computer."

Configuring your computer

Before you format or partition your new drive, you must configure your computer's BIOS so that the computer can recognize your new drive.

1. Turn your computer on. As your computer starts up, watch the screen for a message that describes how to run the system setup program (also called BIOS or CMOS setup). This is usually done by pressing a special key, such as DELETE, ESC or F1, during startup. See your computer manual for details. Press the appropriate key to run the System Setup program.
2. Enable LBA mode if it is available. Many BIOS use the logical block addressing (LBA) mode to access drives with capacities greater than 528 Mbytes.
3. If your BIOS provides automatic drive detection (an "Auto" drive type), select this option. This allows your computer to configure itself automatically for your new drive.

If your BIOS does not provide automatic drive detection, select "User-defined" drive settings. If your computer supports LBA addressing, enter the LBA cylinder, head and sector values for your drive from the table at the top of the next column. If your computer does not support LBA addressing, enter the CHS values from the table.

4. Save the settings and exit the System Setup program. Your computer will automatically reboot.

BIOS Settings			
Drive	Cylinders	Heads	Sectors
ST36450A			
LBA addressing	833	240	63
CHS addressing	13,328	15	63
ST36451A			
LBA addressing	833	240	63
CHS addressing	13,328	15	63

Note. This drive does not use the *write precomp* or *landing zone* parameters. Set these parameters to zero.

Recommendation

After you configure your computer, we recommend that you use Disk Manager to partition and format your drive. *If your computer was built before mid-1994, you probably will not be able to access the full capacity of your new drive unless you use Disk Manager. See page 14 for information about "Installation using Disk Manager."*

If you do not want to use Disk Manager, you can use the standard DOS commands to partition and format your drive, as described on page 16.

Addressing drive-capacity limitations

Some DOS-based computers and operating systems are not designed to accommodate large-capacity hard disc drives. The three most common system limitations are listed below, along with suggestions for overcoming these limitations. See your system manual to determine which (if any) of these limitations applies to your computer.

528-Mbyte limit

The BIOS in some older computers cannot accommodate drives with capacities greater than 528 Mbytes. Seagate provides free Disk Manager software with your drive to overcome this limitation. Alternatively, you can purchase a hard drive controller or a BIOS upgrade that supports drives with capacities greater than 528 Mbytes.

The 32-bit disk access feature in Windows 3.1 does not work with drives that have capacities greater than 528 Mbytes. If you want to use 32-bit disk access with Windows 3.1, see the file SEG32BIT.TXT, located on your DiscWizard diskette, for further information.

4,096-cylinder limit

The BIOS in some computers cannot support drives that have more than 4,096 cylinders (approximately 2.1 Gbytes). *If you install a drive with more than 4,096 cylinders in one of these computers, the computer may “freeze” or fail to boot.* If you have this problem, see “Additional troubleshooting tips” on page 24.

Partition-size limit

DOS/Windows and Windows 95 cannot access drive partitions larger than 2.147 Gbytes. You can overcome this limitation using the Disk Manager software or the DOS FDISK command to divide your drive into several smaller partitions. Each partition acts as a separate logical drive, with its own drive letter. If most of your files are smaller than 50 Kbytes, you should divide your drive into partitions of 1 Gbyte or less to make the most efficient use of your disc space.

BIOS upgrades

If you need to upgrade your BIOS, contact the appropriate BIOS manufacturer listed below:

<i>American Megatrends (AMI):</i>	1-800-828-9264
http://www.megatrends.com	
<i>Award Software International, Inc.:</i>	1-800-800-2467
http://www.award.com	
<i>Phoenix Technologies Ltd.:</i>	1-800-767-5465
(Upgrades from Microfirmware)	
www.ptltd.com	

Partitioning and formatting your drive

One drive:

For a quick installation, use the Disk Manager software to partition and format your Seagate drive. Disk Manager also ensures that your computer can access the full capacity of your hard drive. See “Installation using Disk Manager” on page 14.

You can also use the FDISK.EXE command. See “Standard DOS installation” on page 16.

To complete installation using Windows 95 or Windows 98:


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

Two drives:

Use DiscWizard for a complete customized set of step-by-step instructions to install an additional drive. See “The easiest way to install your drive” on page 1.

To add a slave drive without using DiscWizard, use the FDISK.EXE command. See “Standard DOS installation” on page 16.

To add a slave drive using Windows 95 or Windows 98:

1. Click the  **Start** button.
2. Choose **Run...**
3. Type **fdisk** and click OK. See “Standard DOS installation” on page 16.

Installation using Disk Manager

1. Boot your computer from your DiscWizard diskette. Booting from a diskette ensures that the Disk Manager installation does not conflict with any other software. The Disk Manager software is stored on this diskette and automatically starts.

Or at the A: prompt, type **dm** and press ENTER.

2. Follow the onscreen instructions until you see the *Select an Installation Option* menu.
3. Select either *(E)asy Disk Installation* or *(A)dvanced Disk Installation*.

Disk Manager lists all the hard drives that it detects. You should see your new Seagate drive and your existing hard drive, if any.

If any hard drive is not recognized, exit Disk Manager and turn off your computer. Check all cables, jumpers and BIOS settings. Then start at Step 1 to run Disk Manager again.

4. If Disk Manager recognizes all your drives, select the drive you want to install and press ENTER. Disk Manager partitions and formats the drive.

Note. If your computer cannot accommodate hard drives with capacities greater than 528 Mbytes or 8.4 Gbytes, Disk Manager installs a *Dynamic Drive Overlay (DDO)* on your hard drive. If this driver has been installed, you should see a blue Disk Manager banner each time you boot your computer. See the Disk Manager online manual for details.

5. Follow the instructions in the post-installation screens and continue with your Windows 95 or Windows 98 installation.

Windows 95 or Windows 98 installation

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

You're Done!

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 a hard drive divides it into sections (partitions) that behave as separate logical drives (labeled C,D,E, etc.). Because DOS computers cannot access partitions larger than 2.1 Gbytes, you must divide large hard drives into multiple partitions. In creating partitions, keep in mind that the larger the partition, the more drive space is taken up in unused clusters. For this reason, if most of your files are smaller than 50 Kbytes, you should use partitions of 1 Gbyte or less. To partition your new drive:

1. Insert a bootable DOS diskette into your diskette drive and restart your computer. (Seagate recommends using DOS Version 5.0 or greater.)
2. Insert a DOS program diskette that has the FDISK.EXE and FORMAT.COM programs into your diskette drive. At the A: prompt, type **fdisk** and press ENTER.
3. If you have two hard drives installed, the FDISK menu displays five options. Option five allows you to select the drive you want to partition. Make sure that your new drive is selected.
4. Select "Create DOS partition or logical DOS drive" by pressing **1**. Then press ENTER.
5. Select "Create primary DOS partition" by pressing **1** again. Then press ENTER. Create your first drive partition. If you are

creating a partition that will be used to boot your computer (drive C), make sure the partition is marked *active*.

6. Create an extended partition and additional logical drives, as necessary, until all the space on your new hard drive has been partitioned.
7. When partitioning is complete, FDISK reboots your computer.

Drive formatting



Caution. Make sure to use the correct drive letters so that you do not format 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 the new partitions you have created.

Note. From FDISK in Windows 95 or Windows 98, it is not necessary to add the **/s** to the format command because these system files are automatically added.

After you format your drive, it is ready to use.

You're Done!

Additional installation options

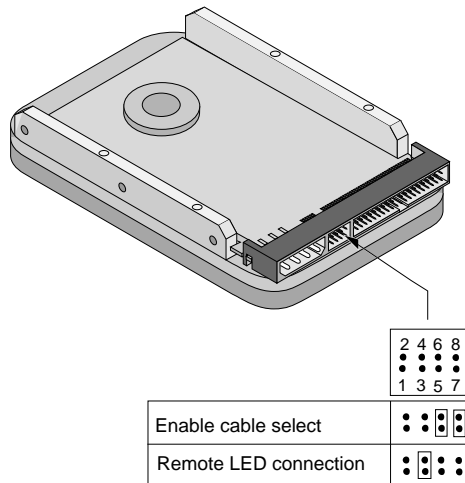


Figure 5. Remote LED connection and cable select jumper

Remote LED connection

If you want to connect the drive to a remote LED that indicates drive activity, attach the LED connector to pins 3 and 4, as shown in Figure 5. The red wire to the LED (+) should attach to pin 4 on the drive. The LED must have a 0.1-inch-wide connector to fit on these pins. *Do not install a jumper on these pins.* Use Seagate connector part number 10562-001 or equivalent.

Cable select jumper

Some computers differentiate between master and slave drives using specially designed interface cables that have the line to pin 28 (the Cable Select pin) removed or cut at one connector. The connector that has pin 28 disabled is used for the slave drive. See your computer manual to determine whether your computer supports this feature. To configure your Seagate drive for cable select, place a jumper on pins 5 and 6 and pins 7 and 8, as shown in Figure 5.

Advanced Disk Manager options

The Disk Manger online manual

Disk Manager contains an extensive online manual. This manual includes detailed installation instructions, troubleshooting and a list of master/slave jumper settings for many popular hard drives. To view the Disk Manager online manual, insert the Disk Manager diskette into drive A and type **A:\dm /h**. Then press ENTER. You can also view the online manual from within Disk Manager by selecting *(V)iew/Print Online Manual* in the main menu.

Booting from a diskette

If Disk Manager installs the dynamic drive overlay (DDO) to access the full capacity of your drive, the DDO must load into memory before the operating system loads. This occurs automatically when you boot from your hard drive (drive C). However, if you boot from a diskette, the DDO will not be loaded and you will not be able to access your hard drive. The following procedure allows you to boot from a diskette and still access your hard drive.

1. Boot the computer from the hard disc (with no diskette in the diskette drive).
2. When the Disk Manager banner appears on the screen, immediately press the SPACEBAR (you have about 2 seconds).
3. Insert your boot diskette and press the SPACEBAR again.

If you boot from a diskette regularly, you can create a Dynamic Drive Overlay boot diskette. It loads DDO into memory and then loads the operating system. See the Disk Manager online manual for more information about creating a dynamic drive overlay boot diskette.

Supported operating systems

The Disk Manager dynamic drive overlay provides support for drives with capacities greater than 528 Mbytes under MS-DOS, Windows 3.x, Windows 95, Windows NT 3.51, Windows NT 3.50 (requires DM upgrade drivers), OS/2 V3.0 (Warp full pack), and OS/2 V2.0–3.0 (requires DM upgrade drivers).

Before you install a non-DOS operating system on the drive, install DOS and Disk Manager and make sure that the drive is bootable. Instructions for running the dynamic drive overlay with other operating systems are available in the Disk Manager online manual.

Removing the dynamic drive overlay

If Disk Manager installs a dynamic drive overlay (DDO) and you do not need this software to access the full capacity of your drive, you can remove the dynamic drive overlay without losing your data. However, you will lose access to the full capacity of your drive unless you have another method for accessing high-capacity drives (see “Addressing drive-capacity limitations” on page 11).



Caution. Before you attempt to remove a DDO, make a backup copy of all the data on your hard drive. Also, run CHKDSK, SCANDISK or a third-party equivalent to detect and repair any damaged files before you follow the procedure below. If the DDO migration program encounters a serious file problem or is interrupted by a power loss or hardware failure, the migration will fail and your data will be lost.

Follow these instructions to remove a DDO from a drive.

1. Boot the computer to drive C.
2. Insert your DiscWizard diskette into drive A.
3. Type **A:\dm** to start Disk Manager.
4. Select the *Select Installation Options Menu*.
5. Select *(M)aintenance Menu*.
6. Select *(M)igrate Dynamic Drive*. This program moves the data on your drive so that it can be accessed without the DDO. The migration may take up to an hour to complete, depending on the size of your drive.
7. When the migration program has finished, exit Disk Manager.
8. Remove the diskette and reboot the computer. Enter your system setup program (see your system manual for details).
9. Configure the hard drive with the Cylinder/Head/Sector parameters shown for your drive on page 10. Save your changes and exit the system setup program.
10. When your computer has rebooted, insert the DiscWizard diskette into drive A.
11. Type **A:\dm** and choose the *Maintenance Menu*.
12. Select *Uninstall (D)isk Manager*.
13. Select the correct drive to uninstall.
14. When the uninstall is complete, exit Disk Manager and reboot.

Note. Disk Manager can also remove a drive overlay placed by the EZ-Drive program. Select *(C)onvert Drive Format* from the Maintenance Menu.

Troubleshooting

If you have installed your drive and it does not function properly, perform the following basic checks:



Warning. Always turn off the computer before changing jumpers or unplugging cables and cards. Wear a ground strap or use other antistatic precautions while working on your computer or handling your drive.

- **Verify compatibility.** Verify that the host adapter and drive are appropriately matched to each other and to your computer. Refer to the relevant documentation for details.
- **Check all cards.** Verify that all cards are seated in their slots on the motherboard and secured with mounting screws.
- **Check all connectors and cables.** Make sure all ribbon and power cables are securely connected. Ribbon cables are easily damaged, especially at the connector. Try a new cable that you know is good. Make sure no connector pins are bent. Verify that pin 1 on the interface cable is aligned with pin 1 on the drive and host adapter (see Figure 2 on page 6).
- **Verify jumper settings.** Review the instructions in this guide and in your host adapter installation guide. Make sure all appropriate jumpers are installed or removed as necessary.
- **Check your power-supply specifications.** Each time you add a new device to your computer, make sure your computer's internal power supply can support the total power demand. If necessary, consult your dealer for a new power supply.

- **Verify the drive-type settings in the system setup program.** The drive-type settings in the system BIOS must not exceed the physical specifications of your drive. Also, the settings must not exceed the limitations set by the operating system and BIOS.
- **Check for viruses.** Before you use someone else's diskette in your system for the first time, scan the diskette for viruses.

Additional troubleshooting tips

If you have performed the preceding basic checks but the problem persists, follow these guidelines for troubleshooting specific cases:

After you install your new drive, your computer will not boot, and no error message appears on the screen.

Check your computer manual or BIOS manufacturer to determine whether your BIOS supports drives that have more than 4,096 cylinders. If your system has this limitation, use the following procedure to configure your computer:

1. Turn off your computer, open the case, and remove your new Seagate drive.



Caution. To avoid electrostatic discharge damage to your computer or hard drive, make sure you are well-grounded before touching the drive, cable, connector or jumpers.

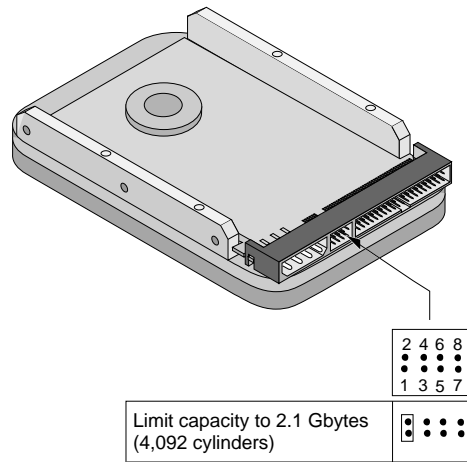


Figure 6. Alternate capacity jumper

2. Move the jumper on the alternate-capacity jumper, as shown in Figure 6. This causes the drive to appear to your BIOS as having a 2.1-Gbyte capacity.
3. Remount your drive in the computer and replace the computer cover.
4. Insert a bootable system diskette into drive A and turn on the computer. It should boot from drive A and automatically detect the new drive as a 2.1-Gbyte drive.

5. Insert your DiscWizard diskette into drive A and type **A:\dm**. Then press ENTER. This runs the Disk Manager program.
6. Follow the Disk Manager instructions to install the dynamic drive overlay and to partition and format your new drive to its full capacity.
7. After Disk Manager is done, reboot your system. You should see the Disk Manager banner and be able to access the full capacity of your new drive.

The screen remains blank when you power up the system.

If the steps listed above do not remedy this problem, try the following:

- Make sure the monitor is plugged in and turned on.
- Check all cards.
- Make sure the video card is seated in its slot and secured with mounting screws.
- Turn off the computer and remove the drive host adapter. If the screen turns on after you reboot, the host adapter may be incompatible or defective. If so, see your dealer.

The system does not recognize the drive.

- Check all cables.
- Make sure the power supply is adequate for system needs.
- Reboot the computer and listen to make sure the drive motor starts up. If the drive is very quiet, it may be difficult to hear its discs reach operating speed. If the drive motor does not start up, recheck all drive cables.
- Verify that for each drive, a drive-type value is listed in the system setup program.

- Try rebooting your computer by pressing the CTRL, ALT and DELETE keys simultaneously. If the drive is recognized after you reboot the system, the computer BIOS test may be completing before the drive is ready.

One solution is to slow the processor speed during startup. If your computer has a turbo switch, set it to slow speed before turning the computer on. If there is no turbo switch, you may be able to use keyboard commands; see your computer manual for details. After the computer is up and running, return the processor to the fast speed.

Another solution is to warm-boot your computer after every power-on.

- Check for I/O address conflicts. To isolate the conflict, verify that the drive and host adapter are compatible with your computer. Turn off the computer and remove all the peripheral adapter cards except for the video card and host adapter. If the computer recognizes the drive when you reboot the computer, turn off the computer. Reinstall the other peripheral cards, one at a time, until the conflict reoccurs. After you have isolated the source of the address conflict, you can resolve the conflict by changing the I/O address of the peripheral that appears to cause the conflict.
- If Disk Manager has installed the DDO on your hard drive and you have booted directly from a diskette, the information in the boot record for the drive may not have been loaded. Make sure there is no diskette in drive A and reboot. If you want to boot from the diskette, follow the "Booting from a diskette" instructions on page 20.

The dealer partitioned and formatted the drive for you in the store, but the drive does not respond when you install it.

- Reboot the computer and make sure the drive spins up. Check all cables.
- Make sure the power supply is adequate for system needs.
- Make sure the DOS or Windows version the dealer used to partition and format the drive is the same version you have installed in your computer. If it isn't, see your dealer.
- Verify the drive-type values in the system setup program. You must install the drive using the same drive-type values your dealer used to partition the drive.
- Check for I/O address conflicts between peripheral cards.
- Check for viruses.

The system hangs in FDISK or fails to create or save the partition record.

- Check all cables.
- Your setup system diskette may be corrupted. Try using a backup diskette.
- Make the partitions smaller.
- Change the interrupt jumper setting on the host adapter.
- Some BIOS have a Track 0 protection feature that protects Track 0 from viruses. This may cause FDISK to hang the system. You must disable this feature in the system setup program before you can use FDISK. See your computer reference guide for assistance. Be sure to re-enable this important feature when FDISK is done.

The system error message, “Drive not Ready,” appears.

- Check all cable connections. Make sure pin 1 of the drive is connected to pin 1 of the hard disc controller or host adapter.
- Make sure the power supply is adequate for system needs.
- Reboot the computer and make sure the drive spins up.

The FDISK error message, “No Fixed Disk Present,” appears.

- Make sure the power supply is adequate for system needs.
- Verify the drive-type values in the system setup program.
- Check for I/O address conflicts.

The drive does not format to full capacity.

- Verify the drive-type values in the system setup program. One of the following problems may have occurred:
 - The values may be set with an incorrect translation characteristic.
 - You may have entered a parameter value that exceeds the physical capacity of the drive.
 - You entered a translation characteristic that does not take full advantage of the drive's capacity.
 - The drive's physical specifications exceed the translation limits imposed by the BIOS.



Caution. If you change the drive-type values in the system setup program, you must partition and format the drive again. *This erases data on the drive.*

- If you have partitioned the drive into individual logical drives, you may need to make the partitions smaller to access the full drive capacity.

- If your computer supports LBA mode, you may need to enable LBA mode in the system setup program to access the full capacity of the drive. Refer to your computer's reference guide to find out how to enable LBA.
- Your computer may not support drives that have more than 4,096 cylinders. Follow the instructions on page 24 for *After you install your new drive, your computer will not boot, and no error message appears on the screen.*

The DOS message “Disk Boot Failure,” “Non-System Disk” or “No ROM Basic – SYSTEM HALTED” appears.

- Reinstall the DOS system files using the DOS SYS utility.
- Check all cables.
- Use FDISK to verify that the primary partition is active.
- Check for viruses.

The system error message, “HDD controller failure” appears.

- Confirm the jumper settings on the drive.
- Verify the drive-type settings in the system setup program.

Seagate Technology support services

Online services

Internet

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

Presales Support:

Disc: http://www.seagate.com/support/email/email_presales.shtml or DiscPresales@Seagate.com

Tape: http://www.seagate.com/support/email/email_tape_presales.shtml or Tape_Sales_Support@Seagate.com

Technical Support:

Disc: http://www.seagate.com/support/email/email_disc_support.shtml or DiscSupport@Seagate.com

Tape: http://www.seagate.com/support/email/email_tape_support.shtml or TapeSupport@Seagate.com

SeaBOARD[®] is a computer bulletin board system that contains information about Seagate disc and tape drive products and is available 24 hours daily. Set your communications software to eight data bits, no parity and one stop bit (8-N-1). This service is available worldwide.

Automated services

SeaFONE[®] (**1-800-SEAGATE**) is Seagate's toll-free number (1-800-732-4283) to access our automated self-help services. Using a touch-tone phone, you can find answers to service

phone numbers, commonly asked questions, troubleshooting tips and specifications for disc drives and tape drives 24 hours daily. International callers can reach this service by dialing +1-405-936-1234.

SeaFAX[®] is Seagate's automated FAX delivery system. Using a touch-tone phone, you can obtain technical support information by return FAX 24 hours daily. This service is available worldwide.

Presales support

Our Presales Support staff can help you determine which Seagate products are best suited for your specific application or computer system.

Technical support

If you need help installing your drive, 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 (ST#####).

SeaTDD[™] (+1-405-936-1687) 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 from 8:00 A.M. to 12:15 P.M. and 1:30 P.M. to 6:00 P.M. (central time) Monday through Friday.

Customer Service (CSO)

Warranty Repair

Seagate offers worldwide customer support for Seagate drives. Seagate direct OEM, Distribution and System Integrator customers should contact their Seagate service center representative for warranty information. Other customers should contact their place of purchase.

Authorized Service Centers

If you live outside the US, you can contact an Authorized Service Center for service or repair.

USA/Canada/Latin America Support Services

Presales Support

Disc: 1-877-271-3285 or FAX: +1-405-936-1683
+1-405-936-1210

Tape: 1-800-626-6637 or FAX: +1-714-641-2410
+1-714-641-2500

Technical Support (SeaFONE)

1-800-SEAGATE or +1-405-936-1234 (for specific product phone number)

FAX: *Disc:* +1-405-936-1685; *Tape:* +1-405-936-1683

SeaFAX 1-800-SEAGATE

SeaTDD +1-405-936-1687

SeaBOARD *Disc:* +1-405-936-1600; *Tape:* +1-405-936-1630

Warranty Repair

USA	1-800-468-3472	FAX: +1-405-949-6740
Mexico and Latin America	+1-405-949-7758	FAX: +1-405-949-6738
Brazil		
<i>MA Informatica*</i>	+55-21-516-6649	FAX: +55-21-516-5280
Canada		
<i>Memofix*</i>	+1-905-660-4936	FAX: +1-905-660-4951
<i>Adtech*</i>	+1-905-812-8099 or 1-800-624-9857	FAX: +1-905-812-7807

*Authorized service center

European Support Services

For European customer support, dial the toll-free number for your specific country for presales support, technical support, SeaFAX and warranty repair.

If your country is not listed here, dial our European call center at +31-20-316-7222 from 8:30 A.M. to 5:00 P.M. (European central time) Monday through Friday. The European call center is located in Amsterdam, The Netherlands.

Call Center

Austria	0 800-20 12 90
Belgium	0 800-74 876
Denmark	80 88 12 66
France	0 800-90 90 52
Germany	0 800-182 6831
Ireland	1 800-55 21 22
Italy	1 677 90 695

Netherlands	0 800-732 4283
Norway	800-113 91
Poland	00 800-311 12 38
Spain	900-98 31 24
Sweden	0 207 90 073
Switzerland	0 800-83 84 11
Turkey	00 800-31 92 91 40
United Kingdom	0 800-783 5177

SeaBOARD

Germany +49-89-1409331

FAX Services—All European Countries

Presales/Technical Support/Warranty Repair +31-20-653-3513

Africa/Middle East Support Services

For presales, technical support, warranty repair and FAX services in Africa and the Middle East, dial our European call center at +31-20-316-7222 from 8:30 A.M. to 5:00 P.M. (European central time) Monday through Friday, or send a FAX to +31-20-653-3513. The European call center is located in Amsterdam, The Netherlands.

Asia/Pacific Support Services**Technical Support**

Australia	+61-2-9725-3366	FAX: +61-2-9725-4052
Hong Kong	+852-2368 9918	FAX: +852-2368 7173
Japan	—	FAX: +81-3-5462-2979
Singapore	+65-488-7584	FAX: +65-488-7528
Taiwan	+886-2-2514-2237	FAX: +886-2-2715-2923

SeaFAX

Australia +61-2-9756-5170

Warranty Repair

Japan +81-3-5462-2904 FAX: +81-3-5462-2979

Asia/Pacific and +65-485-3595 FAX: +65-488-7503

Australia

Storing and shipping your drive

Keep your original box and packing materials for storing or shipping your drive. The box has a *Seagate Approved Package* label. Shipping a drive in an unapproved container voids the warranty. Call your authorized Seagate distributor for information on packing materials. Figure 7 shows how a drive fits in an approved single-pack box, including the packing materials.

Note. Back up the data on your drive before shipping the drive. Seagate assumes no responsibility for data lost during shipping or drive repair.

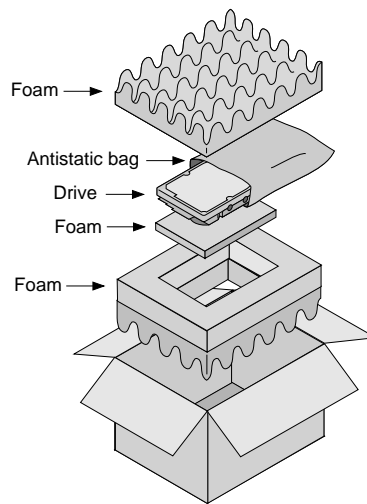


Figure 7. Seagate drive and approved packing materials

Warranty

See your authorized Seagate distributor or dealer. Preinstalled or bundled software is provided "as is." There are no warranties of merchantability or fitness for a particular purpose. All such warranties are expressly and specifically disclaimed.

Maintenance and repair

Seagate drives do not require maintenance. The head/disc assembly is sealed; a broken seal voids the warranty. Seagate customer-service centers are the only facilities authorized to repair Seagate drives.

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 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 \pm 5% 0,6A;
+12V \pm 5% 0,8A (1,9A für ca. 30 Sek. für \pm 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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Publication Number: 32656-001, Rev. C, Printed in USA