Seagate

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Medalist Pro 2160N (ST52160N)

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SCSI Hard Drive

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Installation Guide

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Contents

What you need

- Straight-edge and Phillips screwdrivers
- Drive mounting screws
- A SCSI interface host adapter
- A 50-pin SCSI interface cable
- An unused drive power cable for your new drive
- A DOS or Windows 95 system setup 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.
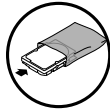
Keep the drive in its antistatic bag until you are ready to install it.

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.

SCSI ID jumpers and drive termination

Setting the SCSI ID

Your SCSI drive is configured at the factory as SCSI ID 0 (no jumpers installed). If you are installing only one drive or if this will be your boot drive, the drive should be configured as SCSI ID 0.

Each device on the SCSI chain must have a unique SCSI ID. If you are installing a second hard drive, choose the next available ID. SCSI ID 7 is usually reserved for the SCSI host adapter.

Figure 1 on page 4 shows the jumper settings for SCSI IDs 0 through 7.
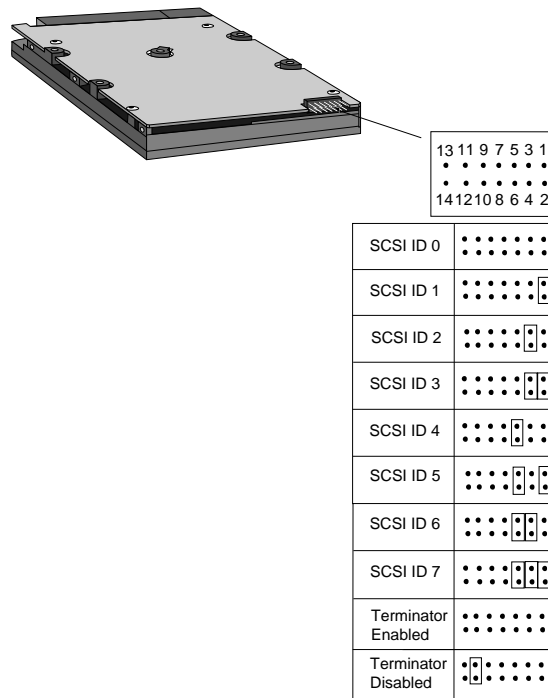
Figure 1. SCSI ID and termination jumper settings

SCSI termination
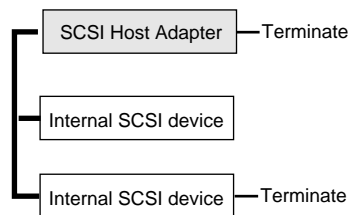
Figure 2. Termination for internal SCSI devices

Chains of SCSI devices must be terminated at each end of the cable.

The figure above shows two internal hard drives with the termination enabled for the SCSI host adapter and the last device on the cable.

If your new drive is the last device on the SCSI cable, you must enable termination. Active termination is enabled when there are no jumpers on pins 11 and 12 of the options jumper block. This is the default setting.

If your drive is not the last device on the SCSI cable, SCSI termination must be disabled by placing a jumper on pins 11 and 12.

```
┌─────────────────────┐
│ External SCSI device │──Terminate
└─────────────────────┘
           │
┌─────────────────────┐
│ External SCSI device │
└─────────────────────┘
           │
┌─────────────────────┐
│   SCSI Host Adapter  │
└─────────────────────┘
  │
┌─────────────────────┐
│ Internal SCSI device │
└─────────────────────┘
  │
┌─────────────────────┐
│ Internal SCSI device │──Terminate
└─────────────────────┘
```
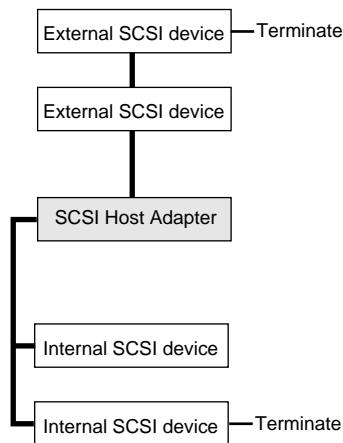
Figure 3. Termination for internal and external SCSI devices

This figure shows a SCSI chain with two internal SCSI devices and two external SCSI devices. The SCSI devices at the ends of each cable are terminated.

Note. Some SCSI host adapters should remain terminated even if they are in the middle of the chain. Also, some adapters treat the internal and external chains as separate logical buses. This means you may need to terminate both the first and last devices on both logical buses to achieve proper termination. Refer to your computer or host adapter documentation to see how this is handled in your system.

Attaching cables and mounting the drive

1. If you are installing a new SCSI interface cable, attach one end of the cable to the interface connector on your computer or host adapter.

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.
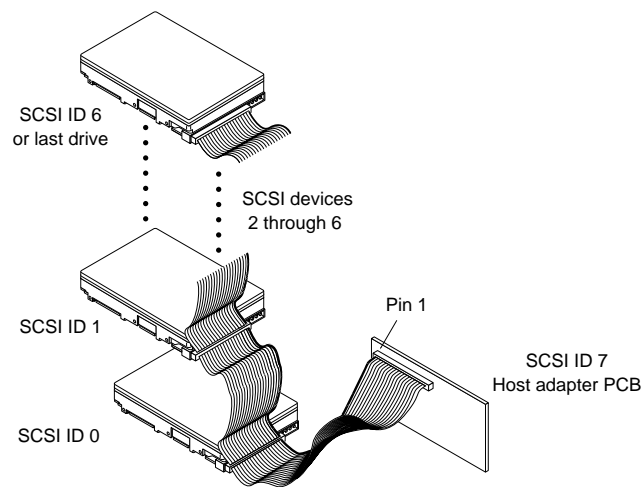
Figure 4. Attaching the cables

> **Caution.** To avoid possible damage to your system, make sure to align pin 1 on the SCSI host adapter with pin 1 on the SCSI cable on your drive or drives. Pin 1 on the interface cable is usually indicated by a stripe along the edge of the cable.
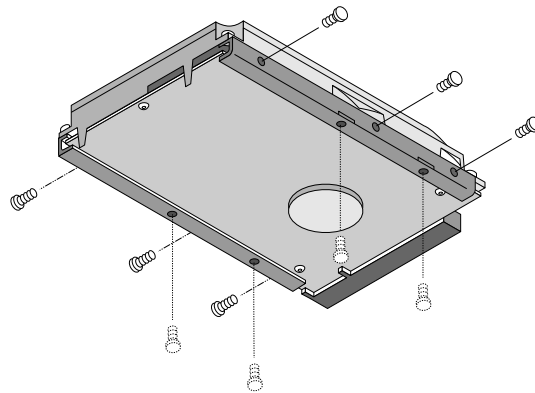
Figure 5. Mounting screws

3. Slide the drive carefully into the drive bay. Secure the drive with four 6-32 UNC-2A mounting screws in either the side-mounting holes or the bottom-mounting holes. Do not over-tighten the screws. They should be inserted no more than six full turns into the drive frame. Do not use metric screws.

Caution. To avoid possible damage to the drive, do not overtighten the screws or use metric screws.
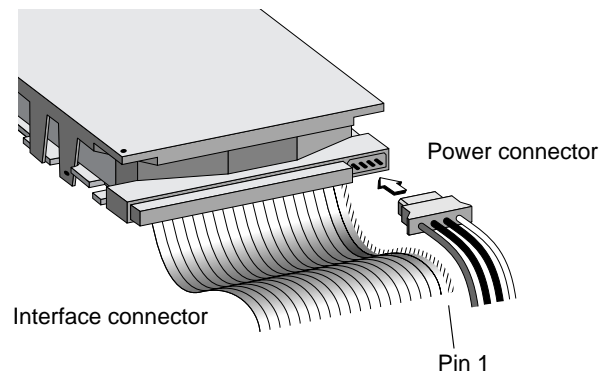
Figure 6. Cable connectors

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

4. 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.

5. 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 to show that no hard drives are installed.

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. If you have no ATA drives in your computer, your BIOS should be configured to show that no hard drives are installed.

2. Set the drive type in your System Setup program to *zero, none* or *not installed*.

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

Partitioning and formatting your drive

To prepare your drive for use with any of these operating systems, you must partition and format your drive. Use your system setup diskette to automatically take you through the formatting process.

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

Low-level format

This drive is low-level formatted at the factory to 512 bytes per sector. You do not need to low-level format. If necessary, SCSI host adapters have diagnostic capability for low-level formatting. Refer to your host adapter manual for diagnostic instructions.

DOS, Windows 95, Windows NT and OS/2

Drive partitioning

Partitioning a hard drive divides it into sections (partitions) that function as separate logical drives (labeled C,D,E, etc.). In creating partitions, keep in mind that the larger the partition, the more drive space is taken up in incomplete sectors. 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.

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. If you accidently repartition your old hard drive, youwill erase all data on the drive.

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*:,** where *x* is the letter of your new partition. If this is your boot drive, type **format *x*: /s.** Repeat the format process for all the new partitions you have created.

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

You're Done!

Other operating systems

Macintosh

To configure your drive for a Macintosh system, you must use a third-party hard disc initialization program. Most software vendors and computer stores that carry Mac software sell hard disc drivers. Refer to the software instructions for details.

Note. The Apple HD SC Setup utility included with your Macintosh system software only works on drives ordered directly through Apple.

Unix

There are several versions of the UNIX operating system. Each of these handle hard disc drive installation in a different manner. For this reason, refer to your system's operating manual for information about how to complete the installation of your disc drive.

Netware

To configure the drive for Netware, refer to your Netware user's guide for installation instructions.

Additional drive options
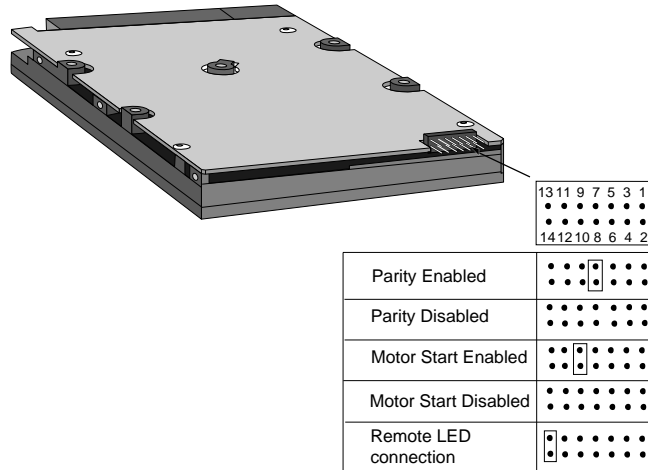
Figure 7. Options jumper settings

The options jumper block allows you to configure your drive for several additional configuration options. The drawing in Figure 7 shows how to place jumpers to enable each optional feature. A brief description of each option is included.

Parity Enable. Parity is enabled when a jumper is installed on pins 7 and 8 (default). To disable parity, remove this jumper.

Motor Start Enable. The Motor Start option causes the drive to wait for a Start/Stop Unit command from the host before starting or stopping the spindle motor. Motor start is enabled when a jumper is installed on pins 11 and 12.

Remote LED connection. Pins 13 and 14 on the options jumper block are reserved for a remote LED. Pin 13 is for the cathode and pin 14 is for the anode.

Troubleshooting

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

STOP **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 are 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 6 on page 10).
- **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 the SCSI ID.** Make sure the drive's SCSI ID does not conflict with that of another SCSI device.
- **Check the terminator configuration.** If the drive is at the end of the cable, the drive's terminator must be enabled. Disable

termination on all devices between the drive and the device at the other end of the cable. See "SCSI termination" on page 5.

- **Make sure the drive is running.** Listen carefully to determine whether the drive motor is spinning. Also, the drive-activity LED should flash when the power is turned on. If the LED stays on after power-on, make sure the interface cable is properly connected and that no other device on the cable is using the same SCSI ID.

- **Check the drive type settings in the system setup program.** The CMOS drive-type must be set to *none, zero* or *not installed.*

- **Verify your SCSI host adapter configuration.** Make sure your host adapter is not using an I/O address or interrupt that conflicts with other devices in your system. Refer to your host adapter's guide for assistance. Host adapters have a diagnostic utility that can help you determine whether such conflicts exist.

- **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.

- **Check for viruses.** Before you use someone else's diskette in your system for the first time, scan the diskette for viruses.

- **Isolate the drive.** If there is more than one drive in your system, try disconnecting all drives except the new one. Then configure and install only the new drive. This test helps determine whether a compatibility problem exists. If you are installing the drive in a network, verify that the drive works with DOS.

If the drive works with DOS, refer to your Netware user's guide for assistance.

Additional troubleshooting

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

The screen remains blank when you power up the system.

- Make sure the monitor is plugged in and turned on.
- Check all cards and host adapters.
- Make sure the video card is seated in its slot and secured with mounting screws.
- Turn off the computer and remove the SCSI 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 no SCSI drives are 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.

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.
- 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 DOS diskette may be corrupted. Try using a backup DOS diskette.
- Make the partitions smaller.
- Change the interrupt jumper setting on the host adapter.

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

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.

Drive Specifications

Guaranteed capacity (Gbytes)	2.17
Interface type	Ultra SCSI
Cylinders (user-accessible)	6,536
Read/Write heads	4
Sectors per track (average)	161
Spindle speed	5,400 RPM
Seek time (typical)	11 msec
Internal transfer rate (mbits per second)	56.3–99.6 MHz
External transfer rate (Mbytes per sec, max)	—
asynchronous	10
synchronous	20
Cache buffer	128 Kbytes
Seek power (typical)	6.4W
Spinup current: +12V (max)	1.18A

Note. The media contains 2,000 spare blocks at the end of the volume.

Glossary

SCSI: Pronounced scuzzy; acronym for small computer system interface, a standard high speed parallel interface defined by the XT3T9.2 committee of the American National Standards Institute (ANSI).

Ultra SCSI: Doubles the bandwidth of Fast SCSI. It provides 8-bit (SCSI narrow) data rates of 20 Mbytes per second and 16-bit SCSI wide data rates of 40 Mbytes per second.

SCSI address: The representation of the SCSI address, referring to one of the signal lines DB (7-0).

Motor start: Enables the drive to wait for a Start/Stop Unit command from the host before starting or stopping the spindle motor.

Parity: A computer error-checking procedure in which the number of 1s must always be the same (even or odd) for each group of bits transmitted without error.

Termination: A method of matching the transmission impedance of an electrical bus to eliminate signal reflections from the end of the cable.

Synchronous data: Data sent without a clock pulse (usually in serial mode).

Asynchronous data: Data sent without a clock pulse (usually in parallel mode). Time intervals between transmitted bits may be of unequal length.

Gigabyte: 1,000,000,000 bytes.

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:

    DiscPreSales@Seagate.com *or*

    Tape_Sales_Support@Seagate.com

    http://www.seagate.com/feedback.shmtl

Technical support:

    DiscSupport@Seagate.com *or*

    TapeSupport@Seagate.com

    http://www.seagate.com/feedback.shmtl

SeaBOARD®

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

Presales Support

Our Presales support staff can help you determine which Seagate products are best suited for your specific application or computer system. *Disc:* 1-877-271-3285; *Tape:* 1-800-626-6637.

Seagate Express

You can purchase select tape products and tape accessories through Seagate Express 24 hours daily by calling 1-800-531-0968 or by faxing your order to: +1-972-481-4812.

Technical support

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*xxxxx*).

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 your 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 +1-405-936-1210   FAX: +1-405-936-1683
Tape: 1-800-626-6637 or +1-714-641-2500   FAX: +1-714-641-2410

Technical support (SeaFONE)

1-800-SEAGATE or +1-405-936-1234 (specific product phone number)
FAX: Disc: +1-405-936-1685; Tape: +1-405-936-1683

Warranty repair

USA and Canada 1-800-468-3472   FAX: +1-405-949-6740
Latin America +1-405-949-7758   FAX: +1-405-949-6738

SeaFAX 1-800-SEAGATE

SeaTDD +1-405-936-1687
SeaBOARD Disc: +1-405-936-1600; Tape: +1-405-936-1630

Authorized service centers

Brazil
   MA Informatica +55-21-516-6649   FAX: +55-21-516-5280
Canada
   Memofix +1-905-660-4936 or   FAX: +1-905-660-4951
   1-800-636-6349   FAX: +1-905-812-7807
   Adtech +1-905-812-8099 or
   1-800-624-9857

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	800-790695
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

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 Australia	+65-485-3595	FAX: +65-488-7503

Storing and shipping your drive

Keep your original box and packing materials for storing or ship-
ping 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 pack-
ing materials. Figure 8 shows how a drive fits in an approved sin-
gle-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.
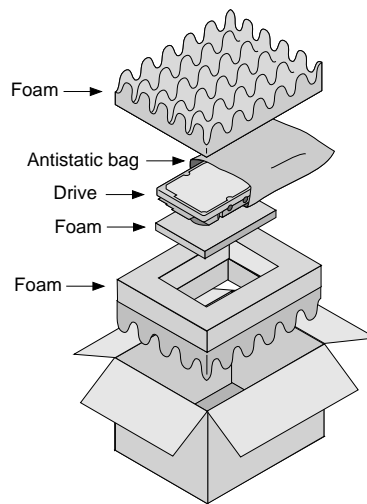
Figure 8. Seagate drive and approved packing materials

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 Versorgungsspannugen werden benötigt: +5V ± 5% 0,6A; +12V ±% 0,8A (1,9A fur ca. 30 Sek. fur ± 10%)

4. Die Versorgungsspannung muss SELV entsprechen.

5. Alle Arbeiten auf dem Festplatte dürfen nur von Ausgebilde-tem 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.

Free Manuals Download Website

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http://www.4manuals.cc

http://www.manual-lib.com

http://www.404manual.com

http://www.luxmanual.com

http://aubethermostatmanual.com

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http://golfingnear.com

Email search by domain

http://emailbydomain.com

Auto manuals search

http://auto.somanuals.com

TV manuals search

http://tv.somanuals.com