



# Your PDF Guides

You can read the recommendations in the user guide, the technical guide or the installation guide for MAXTOR ST38421A. You'll find the answers to all your questions on the MAXTOR ST38421A in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

**User manual MAXTOR ST38421A**  
**User guide MAXTOR ST38421A**  
**Operating instructions MAXTOR ST38421A**  
**Instructions for use MAXTOR ST38421A**  
**Instruction manual MAXTOR ST38421A**



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*ST38421A Family*

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*ST36421A, ST34311A, ST38421A*

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*Ultra ATA Interface Drives*

.....  
*Installation Guide*  
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**Manual abstract:**

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*B iii-1 Contents The easiest way to install your drive .....*

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Continue to "Configuring Your Computer." ST38421A Family Installation Guide, Rev. B 9 Configuring your computer Before you format or partition your new drive, you must configure your computer's BIOS.



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To configure your computer's BIOS: 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. Select the BIOS hard drive settings menu. To set the drive parameters, choose Primary Master or Slave, or Secondary Master or Slave. 3. Select automatic drive detection if available. This option 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 and enter the CHS values from the table on page 10. These CHS values support capacities up to 8.4 Gbytes. 4. Verify that LBA mode is enabled. Many BIOS use the logical block addressing (LBA) mode to access drives with capacities greater than 528 Mbytes. Most BIOS automatically set this mode during the auto-detection process. 5. Enable UDMA mode if it is available. To run in Ultra DMA mode 3 or 4, the system requires a special 40-pin 80-conductor cable to ensure signal integrity.

These modes will not be enabled unless the 80-conductor cable is present. 6. Save the settings and exit the System Setup program (your computer will automatically reboot). 10 ST38421A Family Installation Guide, Rev. B BIOS Settings Drive Model ST38421A CHS addressing Addressable sectors ST36421A CHS addressing Addressable sectors ST34311A CHS addressing Addressable sectors 8,944 8,452,080 15 13,330 12,596,850 15 16,368 16,498,944 16 Cylinders Heads Sectors -- 63 --- 63 --- 63 -- Note.

Set the write precomp or landing zone parameters to zero. Recommendation We recommend you use Disk Manager to evaluate your BIOS and determine whether your system needs additional BIOS support. If your BIOS needs support for drives with capacities greater than 8.4 Gbytes, instructions will be provided. For more information, see "Installation using Disk Manager" on page 14.

ST38421A Family Installation Guide, Rev. B 11 Addressing drive-capacity limitations Some DOS-based computers and operating systems are not designed to accommodate large-capacity hard disc drives. The most common system limitations are listed below. 528-Mbyte limit The BIOS in some older computers cannot support 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. 8.4-Gbyte limit If your drive's capacity is greater than 8.4 Gbytes, the capacity may exceed the limits of your system BIOS and operating system. DOS and Windows operating systems and most system BIOS limit the drive partitions to 8.4 Gbytes per physical drive. Because of this limitation, a 32-bit file allocation table (FAT32) is needed to support drive capacities greater than 8.4 Gbytes. To achieve your drive's full capacity, you need a Windows operating system that supports FAT32 and device support for drive capacities greater than 8.4 Gbytes, from one of the following: 12 ST38421A Family Installation Guide, Rev.

B · Third-party device driver, such as Disk Manager (Disk Manager is provided on the DiscWizard diskette included with your drive), or An intelligent ATA host adapter, or A system BIOS upgrade BIOS upgrades If you need to upgrade your BIOS, contact the appropriate BIOS manufacturer listed below:

American Megatrends (AMI): www.megatrends.com Award Software International, Inc.: www.award.com Phoenix Technologies Ltd.: (Upgrades from Microfirmware) www.ptltd.com 1-800-828-9264 1-800-800-2467 1-800-767-5465 ST38421A Family Installation Guide, Rev. B 13 Preparing your drive for use One-drive system For a quick in 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. ST38421A Family Installation Guide, Rev. B 17 Drive formatting ! Caution. 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! 18 ST38421A Family Installation Guide, Rev. B Additional installation options 2468 1357 Drive is master with non-ATA compatible slave Cable select Figure 5. Non-ATA compatible and cable select jumpers Non-ATA compatible slave jumper If your computer does not recognize your new drive as a master in a two-drive system, the slave drive may not be ATA-compatible. You may be able to solve this problem by setting a jumper on pins 5 and 6 and a jumper on pins 7 and 8 as shown in Figure 5 above. 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 drive for cable select, set a jumper on pins 5 and 6 as shown in Figure 5 above.

ST38421A Family Installation Guide, Rev. B 19 Advanced Disk Manager options The Disk Manager 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.

@@@1. @@2. @@3. Insert your boot diskette and press the SPACEBAR again. @@It loads DDO into memory and then loads the operating system.

@@@@@@@@@@@@@@@@@B Follow these instructions to remove a DDO from a drive. 1. 2. 3. 4. 5. 6. Boot the computer to drive C. Insert your DiscWizard diskette into drive A. Type A:\DM to start Disk Manager.

@@Select (M)igrate Dynamic 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).



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9. Configure the hard drive with the Cylinder/Head/Sector parameters. 10. @ @ 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. @ @ @ @ @ @ 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 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. · ST38421A Family Installation Guide, Rev. B 23 · 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: 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 24 ST38421A Family Installation Guide, Rev. B · · · 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 ST38421A Family Installation Guide, Rev. B 25 there is no diskette in drive A and reboot. If you want to boot from the diskette, follow the "Booting with a Diskette" instructions under "Advanced Disk Manager Options" on page 19.

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 26 ST38421A Family Installation Guide, Rev. B 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.



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· 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. ST38421A Family Installation Guide, Rev. B 27 ! 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. 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. 28 ST38421A Family Installation Guide, Rev. B Seagate Technology support services Online services Internet For online information about Seagate products, visit [www.seagate.com](http://www.seagate.com).

com or e-mail your disc or tape questions to: Presales support: [DiscPreSales@Seagate.com](mailto:DiscPreSales@Seagate.com) or [Tape\\_Sales\\_Support@Seagate.com](mailto:Tape_Sales_Support@Seagate.com) Website: <http://www.seagate.com/feedback>.

shmtl Technical support: [DiscSupport@Seagate.com](mailto:DiscSupport@Seagate.com) or [TapeSupport@Seagate.com](mailto:TapeSupport@Seagate.com) Website: <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. ST38421A Family Installation Guide, Rev. B 29 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. Seagate Express You can purchase select tape products and tape accessories through Seagate Express 24 hours daily by calling 1-800-5310968 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 (STxxxxx). SeaTDDTM (+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. 30 ST38421A Family Installation Guide, Rev. B 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. ST38421A Family Installation Guide, Rev. B 31 USA/Canada/Latin America support services Presales support Disc: 1-877-271-3285 or +1-405-936-1210 Tape: 1-800-626-6637 or +1-714-641-2500 FAX: +1-405-936-1683 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 Latin America +1-405-949-7758 FAX: +1-405-949-6740 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 Canada Memofix +1-905-660-4936 Adtech +1-905-812-8099 or 1-800-624-9857 FAX: +55-21-516-5280 FAX: +1-905-660-4951 FAX: +1-905-812-7807 32 ST38421A Family Installation Guide, Rev. @@@@to 5:00 P.M. (European central time) Monday through Friday. @@@@to 5:00 P.M. (European central time) Monday through Friday, or send a FAX to +31-20-6533513. The European call center is located in Amsterdam, The Netherlands.

34 ST38421A Family Installation Guide, Rev. B Asia/Pacific support services Technical support Australia Hong Kong Japan Singapore Taiwan +61-2-9725-3366 +852-2368 9918 -- +65-488-7584 +886-2-2514-2237 FAX: +61-2-9725-4052 FAX: +852-2368 7173 FAX: +81-3-5462-2979 FAX: +65-488-7528 FAX: +886-2-2715-2923 SeaFAX Australia +61-2-9756-5170 Warranty repair Japan Asia/Pacific and Australia +81-3-5462-2904 +65-485-3595 FAX: +81-3-5462-2979 FAX: +65-488-7503 ST38421A Family Installation Guide, Rev. B 35 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.

Foam Antistatic bag Drive Foam Foam Figure 6. Seagate drive and approved packing materials 36 ST38421A Family Installation Guide, Rev. B 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.



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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 Gerrät 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  $\pm$  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. 38 ST38421A Family Installation Guide, Rev. B ST38421A Family Installation Guide, Rev. B 39 40 ST38421A Family Installation Guide, Rev. B Seagate Technology, Inc.

920 Disc Drive, Scotts Valley, CA 95066-4544, USA Publication Number: SG35126-001, Rev. B , Printed in USA .



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