



Momentum 5400.3 Blade Server Installation Guide

ST9160821AB, ST9120822AB, ST9100828AB, ST980815AB, ST960815AB and ST9402116AB
ATA Interface Disc Drives

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The easiest way to install your drive

Most blade servers are designed to make it possible to easily replace the hard drive. Refer to your system's user manual for the location of the hard drive compartment and the specific instructions regarding replacement.

Caution. Special training or tools may be needed to service some blade servers.

Refer to your system manufacturer's support website for the most up-to-date information. Read and follow all instructions regarding the proper steps to be taken when replacing the hard drive.

What you need

- A Phillips screwdriver
- Existing drive mounting screws
- Existing blade server drive mounting framework, cage, or tray
- ATA interface adapter (built into blade servers)

Handling precautions/electrostatic discharge protection

- Disc drives are fragile. Do not drop or jar the drive. Handle the drive only by the edges or frame. Keep the drive in the electrostatic discharge (ESD) bag until you are ready to install it to minimize handling damage.
- Drive electronics are extremely sensitive to static electricity. While installing the drive, wear a wrist strap and cable connected to ground.
- Turn off the power to the blade server during installation. In most blade server host systems, you do not need to shut down the entire system chassis itself, just power to the blade server itself. Refer to the system's documentation for information specific to your particular system.
- Do not disassemble the drive. Doing so voids the warranty. See the warranty information on page 2.
- Do not apply pressure or attach labels to the circuit board or to the top of the drive.

Drive characteristics

	ST9160821AB	ST9120822AB
Formatted capacity**	160 Gbytes	120 Gbytes
Total number of sectors*	312,581,808	234,441,648
Cache size	8 Mbytes	8 Mbytes
	ST9100828AB	ST980815AB
Formatted capacity**	100 Gbytes	80 Gbytes
Total number of sectors*	195,371,568	156,301,488
Cache size	8 Mbytes	8 Mbytes
	ST960815AB	ST9402116AB
Formatted capacity**	60 Gbytes	40 Gbytes
Total number of sectors*	117,210,240	78,140,160
Cache size	8 Mbytes	8 Mbytes

*One sector equals 512 bytes.

**One Gbytes equals one billion bytes when referring to hard drive capacity. Accessible capacity may vary depending on operating environment and formatting.

Replacing the existing hard drive

Each system has its own unique hard drive compartment. Refer to your system manual to locate the hard drive compartment and for instructions on removing and replacing the hard drive.

Warning. Ensure that power to the drive is removed or turned off. In a blade server, this typically means turning off power to the blade server itself, not the host chassis.

Note. This drive is designed for a blade server that supplies interface signals and +5V power through a single 44-pin connector. Most blade servers have a fixed connector that attaches directly to the drive.

Some blade servers allow two drives to be installed and setup in a mirrored RAID configuration. If this is your situation, ensure that the storage capacities and speeds of the two drives are identical to avoid potential performance and reliability problems.

Setting the jumpers

Refer to the jumper settings in Figure 1 or on your drive label to configure the drive for your system. Jumper settings can also be accessed online from our web site at www.seagate.com.

Master or single drive: Use the options jumper block shown in Figure 1 to configure the drive for operation. This jumper block is the 4-pin header adjacent to pins 1 and 2 of the I/O signal pins.

Note. For blade server operation, use cable select (default) or master.

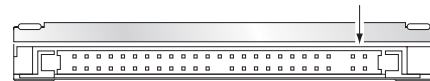
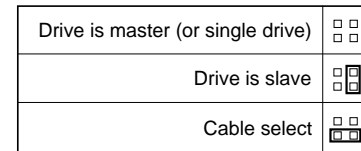


Figure 1. Jumper settings

Drive mounting

You can mount the drive using four screws in the side-mounting holes or four screws in the bottom-mounting holes. See Figure 2 for drive mounting dimensions. Follow these important mounting precautions when mounting the drive:

- Allow a minimum clearance of 0.030 inches (0.76 mm) around the entire perimeter of the drive for cooling.
- Use only M3 UNC mounting screws. (Reusing the existing screws may be acceptable provided the maximum screw penetration depth of 0.098 inches is not exceeded.)
- Gently tighten the mounting screws (maximum torque: 4.0 in-lb).
- Four (4) threads (0.080 inches) minimum screw engagement recommended.

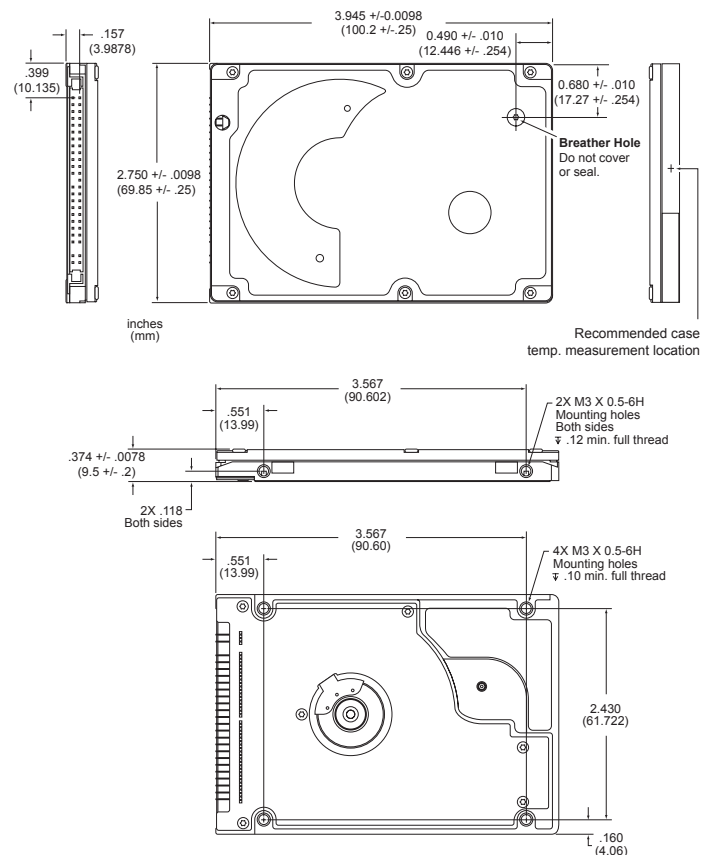


Figure 2. Mounting dimensions—end, top, side, and bottom views

Configuring the BIOS

After completing the drive installation, restart your blade server according to your system documentation. Your blade server may automatically detect your new drive. If your server does not automatically detect your new drive, follow the steps below.

1. Restart your blade server. While it restarts, run the system setup program (sometimes called BIOS or CMOS setup). This is usually done by pressing a special key, such as DELETE, ESC, or F1 during the startup process.
2. Within the system setup program, instruct the blade server to auto detect your new drive.
3. Save the settings and exit the setup program.

When your blade server restarts, it should recognize your new drive. If your server still doesn't recognize your new drive, see the troubleshooting section on this sheet.

System manufacturer's operating system restore CD

Refer to your blade server's system documentation for specific instructions on restoring the operating system on your newly installed hard drive. Many computers require the use of an operating system restore CD, originally shipped with the system, to reload the operating system on the hard drive.

Microsoft operating system installation instructions

For detailed information about installing a Microsoft operating system on your new Seagate drive, refer to the Microsoft Knowledgebase article references below. To locate an article, go to <http://support.microsoft.com> and enter the article number in any search box on the Microsoft web site. For example, to view the Knowledgebase article for installing Windows XP on your new Seagate drive:

1. Open your browser.
2. Go to <http://support.microsoft.com>.
3. Enter 313348 in the Microsoft web site search box.
4. Press Enter.

The article is displayed on your screen.

Operating system Microsoft Knowledgebase article numbers

Windows XP313348

Windows 2000/NT308209 (see also: 175761)

Windows Me/98/95255867 (see also: 166172)

Preparing the drive using DiscWizard

We recommend using DiscWizard Starter Edition to automatically partition and format your drive. DiscWizard software is available at www.seagate.com and is free. To run DiscWizard:

1. Insert your bootable DiscWizard Starter Edition diskette or CD and follow the instructions. DiscWizard will guide you through the installation process.
2. Boot your blade server from the Windows operating system CD-ROM or from your system startup diskette with the Windows CD loaded. Follow the instructions provided on your screen.

Troubleshooting

If your drive is not working properly, these troubleshooting tips may help solve the problem.

1. **Does the drive spin up?** A spinning drive produces a faint whine and clicking noise. If your drive does not spin, check that the power connector and interface cable are securely attached.
2. **Does the computer recognize the drive?** Verify that the drive is enabled in the system CMOS or setup program. If not, select the auto detect option and enable it. If your drive has a problem, it may not be recognized by the system. If the operating system does not recognize the drive, you need to load your host adapter drivers.
3. **Does FDISK detect the drive?** Run the FDISK program located on your Windows startup diskette. Type **fdisk/status** to verify that your hard drive is present and recognized by the system.
4. **I'm running Windows 98 and FDISK is not reporting the full capacity of my drive. Why?** You need to upgrade your version of FDISK if you are using the diskettes or CD that came with your original Windows 95 or 98 operating system. Microsoft provides a free downloadable FDISK upgrade. See Microsoft Knowledgebase article number: 263044 located at <http://support.microsoft.com>.
5. **Does ScanDisk find the drive defect-free?** ScanDisk is a utility located on your Windows startup diskette that scans the drive for defects. If defects are detected, this may be an indication of a problem.
6. **Why does my computer hang on startup?** Verify that your system is ATA compatible. You need either an ATA-compatible motherboard connector or ATA host adapter to use this drive.

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

Seagate support services

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

If you need help installing your drive, consult your dealer first. If you need additional help, call a Seagate technical support specialist. Before calling, note your system configuration and drive model number.

Africa	+31-20-316-7222	Netherlands	0 800-732-4283
Australia	1800-14-7201	New Zealand	0800-443988
Austria	0 800-20 12 90	Norway	800-113 91
Belgium	0 800-74 876	Poland	00 800-311 12 38
China*	800-810-9668	Spain	900-98 31 24
Denmark	80 88 12 66	Sweden	0 207 90 073
France	0 800-90 90 52	Switzerland	0 800-83 84 11
Germany	0 800-182 6831	Singapore	800-1101-150
Hong Kong	800-90-0474	Taiwan*	00-800-0830-1730
Hong Kong*	001-800-0830-1730	Thailand	001-800-11-0032165
India	1-600-33-1104	Turkey	00 800-31 92 91 40
Indonesia	001-803-1-003-2165	United Kingdom	0 800-783 5177
Ireland	1 800-55 21 22	USA/Canada/ Latin America	1-800 SEAGATE or +1-405-324-4770
Italy	800-790695	Other European countries	+31-20-316-7222
Malaysia	1-800-80-2335		
Middle East	+31-20-316-7222		

*Chinese

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

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

Shipping the drive

Caution. Back up the data before shipping. Seagate assumes no responsibility for data lost during shipping or service.

Shipping drive in an unapproved container voids the warranty. Pack the drive with original box and packing materials. Use no other materials. This prevents electrical and physical damage in transit.

Electromagnetic compliance for the European Union. This model complies with the European Union requirements of the Electromagnetic Compatibility Directive 89/336/EEC of 03 May 1989 as amended by Directive 92/31/EEC of 28 April 1992 and Directive 93/68/EEC of 22 July 1993. Compliance of this drive, as a system component, was confirmed with a test system. We cannot guarantee that your system will comply. The drive is not meant for external use (without properly designed enclosure, shielded I/O cable, etc.).

Sicherheitsanleitung 1. Das Gerät ist ein Einbaugerät, das für eine maximale Umgebungstemperatur von 60°C vorgesehen ist. **2.** Zur Befestigung des Laufwerkes werden 4 Schrauben 6-32 UNC-2A benötigt. Bei seitlicher Befestigung darf die maximale Länge der Schrauben im Chassis nicht mehr als 3,3 mm und bei Befestigung an der Unterseite nicht mehr als 5,08 mm betragen. **3.** Als Versorgungsspannungen werden benötigt: +5V +/- 5% 1,00A. **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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