



# Your PDF Guides

You can read the recommendations in the user guide, the technical guide or the installation guide for MAXTOR ST39173. You'll find the answers to all your questions on the MAXTOR ST39173 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual MAXTOR ST39173  
User guide MAXTOR ST39173  
Operating instructions MAXTOR ST39173  
Instructions for use MAXTOR ST39173  
Instruction manual MAXTOR ST39173



.....  
**Barracuda 9LP**  
.....  
**Disc Drive**  
.....  
**ST39173N/W/WD/LW/WC/LC**  
.....  
**ST34573N/W/WD/LW/WC/LC**  
.....  
**Installation Guide**  
.....



[You're reading an excerpt. Click here to read official MAXTOR ST39173 user guide](http://yourpdfguides.com/dref/2944498)  
<http://yourpdfguides.com/dref/2944498>

**Manual abstract:**

.....  
.....  
.....  
.....  
.....  
.....  
.....

.....15 Initial setup information ...

.....  
.....  
.....  
.....  
.....  
.....

..... 21 Kühlung des Systems .

.....  
.....  
.....  
.....  
.....  
.....

...32 Installation des Laufwerkes und Anschluß der Kabel..

.....  
.....  
.....  
.....  
.....

...34 N drives section ....

.....  
.....  
.....  
.....  
.....

...42 W/WD/LW drives section .....

.....  
.....  
.....  
.....

...46 WC/LC drives section .....

.....  
.....  
.....

.....  
.....  
.....  
.....  
.....  
.....  
.....

.....52 ©1997-1999 Seagate Technology, Inc. All rights reserved Publication Number: 77767518, Rev. E March 1999 Seagate, Seagate Technology, and the Seagate logo are registered trademarks of Seagate Technology, Inc.

*Barracuda, SeaFAX, SeaFONE, SeaBOARD, and SeaTDD are either trademarks or registered trademarks of Seagate Technology, Inc. or one of its subsidiaries. All other trademarks or registered trademarks are the property of their respective owners. No part of this publication may be reproduced in any form without written permission from Seagate Technology, Inc. Barracuda 9LP Installation Guide, Rev. E 1 Preface This manual contains information for users of the Seagate® Barracuda 9LP SCSI disc drives. It provides support services, performance specifications, and initial setup information. Additional information is available in the Barracuda 9LP Product Manual (part number 77767517). Contact your Seagate sales representative if you need to order this publication. Electrostatic discharge protection Caution.*

*Removal of circuit boards by personnel not performing depot repair will damage components and may void the warranty. All drive electronic assemblies are sensitive to static electricity, due to the electrostatically sensitive devices used within the drive circuitry. Although some devices such as metal-oxide semiconductors are extremely sensitive, all semiconductors, as well as some resistors and capacitors, may be damaged or degraded by exposure to static electricity. Electrostatic damage to electronic devices may be caused by the direct discharge of a charged conductor or by exposure to the static fields surrounding charged objects. To avoid damaging drive electronic assemblies, observe the following precautions when installing or servicing the drive:*

*Ground yourself to the drive whenever the drive electronics are or will be exposed.*

*Connect yourself to ground with a wrist strap (Seagate part number 12263496). Connection may be made to any grounded metal assembly. As a general rule, remember that you and the drive electronics must all be grounded to avoid potentially damaging static discharges. 2 Barracuda 9LP Installation Guide, Rev.*

*E · Turn off the power before removing or installing the DC power cable.*

*· Do not remove any circuit boards from the drive. · Never use an ohmmeter on any circuit boards. · When installing the drive on a carrier or tray, discharge the carrier or tray prior to inserting it into the system. Important safety information and precautions Caution. Use forced-air ventilation when bench-testing the drive to ensure proper cooling of drive components. Use proper safety techniques for safe, reliable operation of this unit. The procedures in this manual and labels on the unit contain warnings and cautions that must be carefully read and followed to minimize or eliminate the risk of personal injury. The warnings point out conditions or practices that may endanger you or others. The cautions point out conditions or practices that may damage the unit, possibly making it unsafe for use. Always observe the following warnings and precautions:*

*· Use sound safety practices when operating, installing, or removing the unit. · Use caution when troubleshooting a unit that has voltages present. Turn off power to the unit before removing it. · Ensure that the internal temperature of the rack or cabinet does not exceed the limits defined for the drive when the drive is mounted in an equipment rack or cabinet. When units are stacked vertically, pay special attention to the top where temperatures are usually highest. Barracuda 9LP Installation Guide, Rev. E 3 · Follow the precautions listed above in "Electrostatic discharge protection." · Do not remove any circuit boards from the drive. Return the entire drive for depot repair if any circuit board is defective. Removal of circuit boards by personnel not performing depot repair will damage components and may void the warranty.*

*· Do not remove the head and disc assembly (HDA) from the drive. Return the entire drive for depot repair if the HDA is defective. · Do not attempt to disassemble the HDA. It is not field repairable. If the sealed HDA is opened by personnel not performing depot repair, this will damage components and void the warranty.*

*As a component, this drive is designed to be installed and operated in accordance with UL1950, EN60950, CAN/CSA C22.2 950-95, and VDE0805. Seagate takes all reasonable steps to ensure that its products are certifiable to currently accepted standards. Typical applications of these disc drives include customer packaging and subsystem design. Safety agencies conditionally certify component assemblies, such as the Barracuda disc drive, based on their final acceptability in the end-use product.*

*The subsystem designers are responsible for meeting these conditions of acceptability in obtaining safety-regulatory agency compliance in their end-use products and for certifying where required by law. A necessary part of meeting safety requirements is the provision for overcurrent protection on drive SELV supply voltages. This unit is a component part and as such is not meant to comply with FCC or similar national requirements as a stand-alone unit.*

*Engineering radiated emissions test results are available 4 Barracuda 9LP Installation Guide, Rev. E through the Seagate Safety Department to assist the subsystem designer. Wichtige Sicherheitshinweise Vorsicht. Beim Testen des Laufwerks auf dem Prüftisch ist Fremdbelüftung vorzusehen, um eine ausreichende Kühlung der Laufwerkkomponenten sicherzustellen. Verwenden Sie geeignete Sicherheits- um den sicheren, zuverlässigen Betrieb dieser Einheit zu gewährleisten. Die Verfahren in diesem Handbuch und die Aufkleber auf dem Gerät enthalten Warn- und Vorsichtshinweise. Diese Hinweise sind sorgfältig durchzulesen und zu beachten, um das Risiko von Verletzungen auf ein Mindestmaß zu beschränken oder ganz zu vermeiden.*

*Die Warnhinweise machen auf Situationen oder Praktiken aufmerksam, die Sie oder andere gefährden könnten. Die Vorsichtshinweise machen auf Situationen oder Praktiken aufmerksam, die die Einheit beschädigen können, so daß deren Gebrauch mit Risiko behaftet ist. Die Warn- und Vorsichtshinweise sind nicht allumfassend! Es ist uns einfach nicht möglich, alle Wartungsmethoden oder die eventuellen Risiken jeder Methode zu kennen, zu beurteilen und Sie entsprechend zu beraten. Aus diesem Grund haben wir auf eine derartige umfassende Beurteilung verzichtet. Falls Sie ein hier nicht beschriebenes Verfahren oder Werkzeug verwenden, stellen Sie zuerst sicher, daß das gewählte Verfahren weder Ihre persönliche Sicherheit noch die Leistung der Einheit gefährdet.*



[You're reading an excerpt. Click here to read official MAXTOR ST39173 user guide](http://yourpdfguides.com/dref/2944498)  
<http://yourpdfguides.com/dref/2944498>

Beachten Sie in jedem Fall die folgenden Warn- und Vorsichtshinweise: · Beachten Sie alle Warn- und Vorsichtshinweise in diesem Handbuch. Barracuda 9LP Installation Guide, Rev. E 5 · Treffen Sie beim Betrieb, bei der Installation oder bei der Entfernung der Einheit angemessene Sicherheitsvorkehrungen. · Wenn eine Einheit unter Spannung steht, gehen Sie bei der Fehlerdiagnose besonders vorsichtig vor. Schalten Sie die Einheit aus, bevor Sie mit den Installations- und Entfernungsarbeiten beginnen.

· Wenn das Laufwerk in einem Einbaugestell oder Gehäuse montiert ist, sorgen Sie dafür, daß die Temperatur im Inneren des Gestells oder Gehäuses die für das Laufwerk vorgegebenen Grenzwerte nicht übersteigt. Wenn Einheiten vertikal übereinander betestigt werden, achten Sie besonders auf den oberen Stapelbereich, da dort die Temperatur gewöhnlich am höchsten ist. · Befolgen Sie die oben unter "Electrostatic Discharge Protection" angegebenen Sicherheitsmaßnahmen. · Nehmen Sie keine Platinen aus dem Laufwerk. Wenn eine Platine defekt ist, muß das gesamte Laufwerk zur Reparatur eingeschickt werden.

Die Herausnahme von Platinen durch andere Personen als die für die werkseitige Reparatur zuständigen kann zu einer Beschädigung der Komponenten und Erlöschen des Garantieanspruchs führen. · Die vormontierte Kopf- und Festplatteneinheit (HDA) nicht aus dem Laufwerk nehmen! Falls die HDA beschädigt ist, schicken Sie das gesamte Laufwerk zur Reparatur ein. · Die HDA ist nicht vor Ort reparierbar und darf nicht auseinandergenommen werden! Öffnen der versiegelten HDA durch andere Personen als die für die werkseitige Reparatur zuständigen hat eine Beschädigung der Komponenten und Erlöschen des Garantieanspruchs zur Folge. 6 Barracuda 9LP Installation Guide, Rev. E Als Teilkomponente ist dieses Laufwerk für die Installation und den Betrieb in Übereinstimmung mit UL 1950, EN60950, CAN/ CSA C22.

2 950-95 und VDE0805 vorgesehen. Seagate ist ständig bemüht, die Zulassungsfähigkeit von Seagate-Produkten im Rahmen der gegenwärtig geltenden Standards zu gewährleisten. Zu den typischen Anwendungen dieser Festplattenwerke zählen Systemeinsatz durch den Kunden und die Konstruktion von Untersystemen. Sicherheitsbehörden gewähren eine bedingte Zulassung für Komponenten wie das Barracuda-Festplattenlaufwerk vorbehaltlich der endgültigen Zulassung im Endprodukt. Designer von Untersystemen sind dafür verantwortlich, die Voraussetzungen für die Einhaltung sicherheits- oder aufsichtsbehördlicher Vorschriften in ihren Endprodukten und - falls gesetzlich vorgeschrieben - für die Zulassung zu schaffen. Eine Grundvoraussetzung zur Einhaltung der Sicherheitsanforderungen ist die Bereitstellung eines Überlastschutzes für die SELV-Versorgungsspannungen des Laufwerks. Dieses Gerät ist eine Baugruppe und unterliegt als solcecific 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 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:xxxx). 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. Barracuda 9LP Installation Guide, Rev. E 11 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 U.S., 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 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 (for specific product phone number) FAX: Disc: +1-405-936-1685; Tape: +1-405-936-1683 SeaFAX SeaTDD SeaBOARD USA/Canada Latin America 1-800-SEAGATE +1-405-936-1687 Disc: +1-405-936-1600; Tape: +1-405-936-1630 1-800-468-3472 +1-405-949-7758 FAX: +1-405-949-6740 FAX: +1-405-949-6738 Warranty Repair 12 Brazil MA Informatica Canada Memofix Adtech Barracuda 9LP Installation Guide, Rev.

E Authorized Service Centers +55-21-516-6649 +1-905-660-4936 +1-905-812-8099 or 1-800-624-9857 FAX: +55-21-516-5280 FAX: +1-905-660-4951 FAX: +1-905-812-7807 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 Belgium Denmark France Germany Ireland Italy Netherlands Norway Poland Spain Sweden 0 800-20 12 90 0 800-74 876 80 88 12 66 0 800-90 90 52 0 800-182 6831 1 800-55 21 22 1 677 90 695 0 800-732 4283 800-113 91 00 800-311 12 38 900-98 31 24 0 207 90 073 Barracuda 9LP Installation Guide, Rev. E Switzerland Turkey United Kingdom 0 800-83 84 11 00 800-31 92 91 40 0 800-783 5177 +49-89-1409331 13 SeaBOARD Germany 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 +31-20-6533513. The European call center is located in Amsterdam, The Netherlands. Asia/Pacific East Support Services Technical Support Australia Hong Kong Japan Singapore Taiwan +61-2-9725-3366 +852-2368 9918 -- +65-488-7584 +886-2-2514-2237 +61-2-9756-5170 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 14 Barracuda 9LP Installation Guide, Rev. E +81-3-5462-2904 +65-485-3595 FAX: +81-3-5462-2979 FAX: +65-488-7503 Warranty Repair Japan Asia/Pacific and Australia Barracuda 9LP Installation Guide, Rev.



[You're reading an excerpt. Click here to read official MAXTOR](#)

[ST39173 user guide](#)

<http://yourpdfguides.com/dref/2944498>

E 15 General description Barracuda 9LP SCSI disc drives are high-speed, random-access digital-data storage devices. The drive is a component for installation in an enclosure designed for the drive. This is often a rack within the system or an external enclosure designed to house one or more disc drives or other peripheral units. In either case, the disc drive must receive adequate cooling (refer to "Providing adequate cooling") and it must be sufficiently grounded and shielded from emissions.

The Barracuda 9LP Product Manual (part number 77767517) contains guidelines for a properly designed enclosure. \* Model "N" version with 50-pin SCSI I/O connector Figure 1. Barracuda 9LP family drive 16 Table 1. Interface Barracuda 9LP Installation Guide, Rev. E Drive characteristics UltraSCSI [1] Formatted [2] Max.

data blocks [2] 9.105 Gbyte [2] 10F59C7h [2] 4.551 Gbyte [2] 87A25Bh [2] 7,501 10 5 7.4 msec 8.2 msec 7,200 r/min 4.17 msec Capacity ST39173 ST34573 Recording Cylinders (user) Read/write data heads ST39173 ST34573 Access time [3] Average read Average write Disk rotation RPM Average latency Internal transfer rate (variable with zone) ST39173 120190 Mbits/sec ST34573 120190 Mbits/sec Maximum synchronous SCSI transfer rate N model 20 Mbytes/sec WWD/WC/DC models 40 Mbytes/sec LW/LC 80 Mbytes/sec [1] Can also be operated according to SCSI-1 and SCSI-2 protocols. Referred to also as "SCSI Fast-20." [2] Standard factory units are formatted 512 data bytes per sector with spare tracks reserved for reallocating bad sectors. [3] Includes controller overhead. Barracuda 9LP Installation Guide, Rev. E Table 2a. DC power requirements (Amps), single-ended ST39173N/W/WC +5V +12V ±5% ±5% [2] 1.15 0.75 1.2 -- 0.

65 1.05 1.15 1.7 0.95 0.5 1.7 2.9 0.06 0.9 0.

95 2.4 17 Voltage Regulation [5] Max. operating current DC [1] Avg. idle current DCX [1] Max. starting current (peak DC) [3] (peak AC) [3] Delayed motor start (max) [1][4] Peak operating current Typical DCX [1] [6] Maximum DC [1] Maximum (peak) ST34573N/W/WC +5V +12V ±5% ±5% [2] 1.15 0.75 1.2 -- 0.65 1.05 1.

15 1.7 0.95 0.5 1.7 2.9 0.06 0.9 0.95 2.4 Notes for this table follows Table 2c.

18 Table 2b. Barracuda 9LP Installation Guide, Rev. E DC power requirements (Amps), differential (HVD) ST39173WD +5V +12V ±5% ±5% [2] 1.23 0.78 1.23 -- 0.67 1.16 1.23 2.00 0.

95 0.5 1.7 2.9 0.06 0.

9 0.95 2.4 ST34573WD +5V +12V ±5% ±5% [2] 1.23 0.78 1.23 -- 0.67 1.16 1.23 2.00 0.95 0.5 1.7 2.9 0.06 0.

9 0.95 2.4 Voltage Regulation [5] Max. operating current DC [1] Avg. idle current DCX [1] Max. starting current (peak DC) [3] (peak AC) [3] Delayed motor start (max) [1][4] Peak operating current Typical DCX [1] [6] Maximum DC [1] Maximum (peak) Notes for this table follows Table 2c. Barracuda 9LP Installation Guide, Rev. E Table 2c. DC power requirements (Amps), multimode (SE/LVD) ST39173LW/LC +5V +12V ±5% ±5% [2] 1.4 0.

75 1.2 -- 0.65 1.2 1.4 1.

7 0.95 0.5 1.7 2.9 0.

06 0.9 0.95 2.4 19 Voltage Regulation [5] Max. operating current DC [1] Avg. idle current DCX [1] Max. starting current (peak DC) [3] (peak AC) [3] Delayed motor start (max) [1][4] Peak operating current Typical DCX [1] [6] Maximum DC [1] Maximum (peak) ST34573LW/LC +5V +12V ±5% ±5% [2] 1.4 0.75 1.2 -- 0.

65 1.2 1.4 1.7 0.95 0.5 1.7 2.9 0.06 0.9 0.

95 2.4 [1] Measured with an average reading DC ammeter. Instantaneous +12V current peaks will exceed these values. [2] A 10% droop is permissible during initial start of the spindle but must return to ±5% before reaching 7,200 RPM. The ±5% must be maintained after the drive signifies that its power-up sequence has been completed and that the drive is able to accept selection by the host initiator.

[3] See the +12V current profile in the Barracuda 9LP Product Manual (publication number 77767517). [4] This condition occurs when the Motor Start option is enabled and the drive has not yet received a Start Motor command. 20 Barracuda 9LP Installation Guide, Rev. E [5] See "Conducted noise immunity" in the Barracuda 9LP Product Manual. The specified voltage tolerance is inclusive of ripple, noise, and transient response.

[6] Operating condition is defined as random seek read operations with a block count of 64. General Notes from Tables 2a, 2b, and 2c. 1. 2. 3. Minimum current loading for each supply voltage is not less than 4% of the maximum operating current shown. Use separate ground returns for +5V and +12V supplies. Where power is provided to multiple drives from a common supply, carefully consider individual drive power requirements. Where multiple units are powered on simultaneously, be sure the peak starting current is available to each device. Dimensions of the drive inches mm Table 3.

Height Width Depth Weight 1.00 4.00 5.75 25.4 101.6 146.05 1.3 pounds (0.589 kilograms) Barracuda 9LP Installation Guide, Rev. E 21 Initial setup information The general information beginning on this page applies to all of the Barracuda 9LP drive models.

After reading the general information topics, refer to the appropriate drive-specific section listed below for additional information about configuring and installing your particular model. Drive models ST39173N ST39173W/WD/LW ST39173WC/LC ST34573N ST34573W/WD/LW ST34573WC/LC Page 42 46 52

General information The following general information topics are discussed: . . . . . SCSI ID jumpers Drive termination Terminator power Interface drivers and data path width notes Other applicable jumper options Providing adequate cooling Mounting the drive and connecting cables 1 Formatting the drive mounting procedure does not apply to "WC" or "LC" model drives. To mount a "WC" or "LC" drive, plug the drive into the system's single connector attachment (SCA) position on the system's back panel. 1 This 22 Barracuda 9LP Installation Guide, Rev. E SCSI ID jumpers Each device on the SCSI chain must have a unique SCSI ID.

The host system's SCSI controller usually uses the ID that has the highest priority interrupt in the SCSI I/O system. This is always ID7. ID0 is lowest priority in an 8-bit I/O system. ID8 is lowest priority in a 16-bit I/O system. The lower priority SCSI IDs are normally used for other SCSI devices such as this Barracuda disc drive.

Note. Most SCSI controllers (host adapters) allow you to skip a SCSI ID. For example, you can have ID0, ID1, and ID3 (skipping ID2). Other controllers do not allow this so be sure to refer to your system or controller user's manual for details about its requirements for proper SCSI device installation. Note. This drive is a SCAM (SCSI Configured Auto Magically) compliant drive. If the system into which you are installing this drive requires SCAM compliant drives, you do not need to be concerned about the drive ID jumper settings, as the system automatically assigns your new drive the ID it wants it to have.

[You're reading an excerpt. Click here to read official MAXTOR ST39173 user guide](#)



<http://yourpdfguides.com/dref/2944498>

The system may or may not use the existing drive ID jumper settings. Setting the drive ID doesn't hurt anything, but is not necessary in a SCAM compliant system. Most Barracuda disc drives are factory set with the SCSI ID set at 0.

To change the SCSI ID, refer to the appropriate drive section for your model. If, after completing the installation process, the drive's LED does not show on/off activity when the host is trying to communicate with the drive, a duplicate SCSI ID may be the problem. If this is Barracuda 9LP Installation Guide, Rev. E 23 the case, change the ID so that each device on the SCSI chain has its own unique ID. Also check your system or controller user's manual to ensure that you have not violated its SCSI ID numbering recommendations. Drive termination If you are installing a Barracuda drive in a system that has other SCSI devices installed, terminate only the end devices on the SCSI chain. A SCSI "device" is any disc drive, scanner, tape backup unit, or other piece of hardware connected to your system using the SCSI bus. The top example in Figure 2 shows an internal hard disc at one end of the SCSI bus with the SCSI controller at the other end (both are terminated). The bottom example shows two additional SCSI devices connected externally--this means the SCSI controller is no longer on the end of the SCSI chain and should not be terminated. Note.

Some controllers prefer to remain terminated even if they are in the middle of the chain. Also, some controllers 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. If necessary, refer to your system or controller documentation to see how this is handled in your particular system. 24 Barracuda 9LP Installation Guide, Rev. E

For information about how to terminate your drive, refer to the appropriate drive-specific section. Internal SCSI cable Internal SCSI device Internal SCSI device Terminate Internal SCSI cable Internal SCSI device Internal SCSI device Controller External SCSI cable Controller External SCSI device External SCSI device Terminate Figure 2. SCSI bus termination Terminator power You usually will not need to change this option and can normally leave the drive configured as it was shipped from the factory. For information about how to change the terminator power option on your drive, refer to the appropriate drive-specific section. I/O circuits and data path widths "WD" models use differential I/O circuits.

You cannot mix these models with single-ended models ("N," "W," "WC," and "LC") on the same SCSI bus. The circuits are incompatible with each other. "W," "WD," "WC," and "LW" models have a "wide" (16-bit) SCSI data bus rather than the standard (non-wide) 8-bit SCSI data bus; however, you can use these wide drives on a standard (non-wide) 8-bit data bus. Barracuda 9LP Installation Guide, Rev. E 25 Figures 3a, 3b, 3c, and 3d show typical drive connections. The following tables list the maximum cable lengths and number of devices allowed on a daisy-chain cable for I/O data transfer rates shown. Table 4a. Cable characteristics for single-ended I/O circuits Maximum distance between terminators (meters) [1] [3] Fast-5 Fast-10 Fast-20 Fast-40 Number of attached SCSI devices 1 to 4 maximum capacitance (25 pF) SCSI devices 5 to 8 maximum capacitance (25 pF) SCSI devices 6 6 3 3 3 3 1.5 [2] N/A N/A N/A 9 to 16 maximum capacitance (25 pF) SCSI devices 6 [1] For environments where all elements of the bus (cables, device interfaces, environmental noise and other parameters) are controlled to be better than minimally required, it may be possible to extend the path length and device count. [2] Extending the device count beyond eight requires specification control beyond the minimum specified in the ANSI T10/1142D document.

It is recommended that the devices be uniformly spaced between terminators with the end devices located as close as possible to the terminators. @E Table 4b. @@@@See Table 4a and system documentation. Figure 3c. @@@@See Table 4a and system documentation. [3] External terminator. Figure 3d. @E Note. @Figure 3e. @@@@We recommend orienting the drive or directing the air flow in a way that creates the least amount of air-flow resistance while providing air flow above the circuit boards and around the head and disc assembly (HDA).

Also, choose the shortest possible path between the air inlet and exit. This minimizes the distance traveled by air that is heated by the drive and by other nearby heat sources. Figure 4 shows two design approaches with one or more fans used to generate air flow. The air-flow patterns can be created by the fans either pushing or drawing air. The overall flow pattern can be directed from front to back, back to front, or side to side.

32 Barracuda 9LP Installation Guide, Rev. E Kühlung des Systems Die Gehäusekonstruktion muß eine ausreichende Kühlung des Laufwerkes gewährleisten. Die Umgebungstemperatur darf maximal 50°C betragen. Die Produkthandbuch Barracuda 9LP (Dokument 77767517) enthalten Anweisungen zur Beurteilung der Luftstromkonstruktion. Die Beurteilung muß sicherstellen, daß sich die Gehäuse t e m p e r a t u r b e s t i m m t e r k r i t i s c h e r K o m p o n e n t e n b e i Laufwerkbetrieb innerhalb zugelassener Grenzen hält.

Wir empfehlen, das Laufwerk so zu orientieren oder den Luftstrom so zu lenken, daß der geringste Luftstromwiderstand erzeugt wird und gleichzeitig ein Luftstrom über den Platinen und um die Kopf- und Festplatteneinheit (HDA) gegeben ist. Wählen Sie einen möglichst kurzen Weg zwischen Lufteinlaß und -auslaß. Dadurch wird die Strecke, die die vom Laufwerk und anderen nahegelegenen Hitzequellen aufgewärmte Luft zurücklegt, auf ein Minimum beschränkt. Abbildung 4 zeigt zwei Konstruktionsmöglichkeiten, bei denen ein oder mehrere Lüfter den Luftstrom erzeugen. Der Luftstromverlauf wird durch die Lüfter gesteuert, die entweder Luft einblasen oder abziehen. Generell kann der Luftstrom entweder von vorne nach hinten oder von hinten nach vorne verlaufen. Barracuda 9LP Installation Guide, Rev. E . 33 Above unit Under unit Note. Air flows in the direction shown (front to back) or in reverse direction (back to front) Above unit Note.

Air flows in the direction shown or in reverse direction (side to side) Under unit Figure 4. Suggested air flow Abbildung 4. Empfohlener Luftstromverlauf 34 Barracuda 9LP Installation Guide, Rev. E Mounting the drive and connecting cables Do not touch the connector pins or any components on the control board without observing static-discharge precautions.



[You're reading an excerpt. Click here to read official MAXTOR ST39173 user guide](http://yourpdfguides.com/dref/2944498)  
<http://yourpdfguides.com/dref/2944498>

Always handle the drive by the frame only. The drive may be mounted in any orientation (horizontally, vertically, and any combination thereof); however, you must ensure that the drive receives adequate air flow for cooling. 1. Mount the drive to the host system's chassis using four 6-32 UNC screws. Two mounting holes are in each side of the drive and there are four mounting holes in the bottom of the drive. The maximum length that the screws should extend into the chassis mounting holes is 0.

15 inch (3.81 mm), measured from the outer surface of the chassis. Tighten the screws down evenly. Do not over-tighten or force the screw if it does not seem to screw in easily, because this means the threads are not properly aligned. In this case, back the screw out and try again.

Installation des Laufwerkes und Anschluß der Kabel Beachten Sie beim Handhaben und Anfassen der Anschlußstifte und Komponenten die Vorsichtsmaßnahmen zur Verhinderung statischer Aufladung. Fassen Sie das Laufwerk nur am Rahmen an. Das Laufwerk kann in beliebiger Orientierung (horizontal, vertikal oder schräg) installiert werden; jedoch muß dafür gesorgt werden, daß ein ausreichender Luftstrom zur Kühlung des Laufwerkes vorhanden ist. Barracuda 9LP Installation Guide, Rev. E 1.

35 Befestigen Sie das Laufwerk mit vier 6-32-UNC-Schrauben am Gehäuse des Host-Systems. Die beiden Seiten des Laufwerkes sind mit jeweils zwei Befestigungslöchern versehen, die Unterseite des Laufwerkes weist vier weitere Befestigungslöcher auf. Gemessen von der Außenfläche des Gehäuses dürfen die Schrauben maximal 3,81 mm in die Befestigungslöcher des Gehäuses hineinragen. Die Schrauben müssen gleichmäßig, jedoch nicht zu fest, angezogen werden. Wenn sich eine Schraube nicht ohne Widerstand einschrauben läßt, sind die Gewinde nicht korrekt aneinander ausgerichtet. In diesem Fall die Schraube nicht in das Gewindeloch forcieren, sondern die Schraube herausnehmen und erneut in das Gewindeloch einführen. Verify that all connections between the drive and the host system are correctly installed. Prüfen Sie, ob alle Verbindungen zwischen dem Laufwerk und dem Host-System korrekt hergestellt sind. Verify that you have correctly installed jumpers. Stellen Sie sicher, daß die Kennungsbrücken installiert sind.

Connect the SCSI cable into the drive's SCSI connector. Take care not to stretch or crimp this cable, and do not block the system's cooling air flow with the cable. The drive receives DC power through a 4-pin connector mounted next to the SCSI connector. The output of a power supply must meet SELV (safety extra low voltage) as defined in IEC 950. Figure 5 provides the pin information for 2. 3. 3. 4. 36 Barracuda 9LP Installation Guide, Rev.

E the DC power connector. To connect the DC power cable to the drive, simply insert the cable end into the drive's DC power connector. 4. Schließen Sie das SCSI-Kabel an den SCSI-Steckverbinder des Laufwerkes an. Das Kabel darf nicht gedehnt oder gedrückt werden und es darf den Luftstrom zur Kühlung des Systems nicht behindern.

Das Laufwerk wird über einen 4-poligen, neben dem SCSI-Anschluß befestigten Steckverbinder mit Gleichstrom versorgt. Der Ausgang eines Netzteils muß SELV (safety extra low voltage) nach IEC 950 entsprechen. Abbildung 5 zeigt die Steckerbelegung für den Gleichstromanschluß. Zum Anschluß des Gleichstromkabels an das Laufwerk das Kabelende in den Gleichstromanschluß des Laufwerkes stecken. DC Power Connector Pin 1 2 3 4 Pin 1 2 3 4 Power +12V +12V ret + 5V ret + 5V 4321 Power Cable Gleichstrom +12V +12V Rückleitung + 5V Rückleitung + 5V Figure 5.

DC power connector Abbildung 5. Gleichstromanschluß Barracuda 9LP Installation Guide, Rev. E 37 Note. Signal ground on the power control board (PCB) and the head and disc assembly (HDA) are connected together in this drive and you cannot separate them. The equipment in which you have mounted the drive is connected directly to the HDA and PCB without electrically isolating shock mounts. Maximizing the conductive contact area between HDA ground and system ground may reduce radiated emissions. If you do not want the system chassis to be connected to the HDA/PCB ground, you must provide a nonconductive (electrically isolating) method of mounting the drive in the host system. This may increase radiated emissions and is the system designer's responsibility. Hinweis: Die Signallerde auf der Stromregelungskarte (PCB) und der Kopf- und Festplatteneinheit (HDA) sind in diesem Laufwerk miteinander verbunden und können nicht getrennt werden. Das Gerät, in das Sie das Laufwerk eingebaut haben, ist ohne elektrisch isolierende Stoßdämpfer direkt an die HDA und PCB angeschlossen.

Die elektromagnetische Strahlung kann reduziert werden, indem Sie eine möglichst große leitende Kontaktfläche zwischen der HDA-Erdung und der Systemerdung vorsehen. Wenn Sie das Systemgehäuse nicht an die HDA/PCBErdung anschließen wollen, müssen Sie das Laufwerk auf nichtleitende Weise (galvanisch isoliert) im Host-System einbauen. Die daraus u.U. resultierende verstärkte 38 Barracuda 9LP Installation Guide, Rev. E elektromagnetische Strahlung fällt in den Zuständigkeitsbereich des Systemdesigners. 5. 5. Replace the host system's cover. Setzen Sie das Gehäuseoberteil des Host-Systems wieder auf.

Barracuda 9LP Installation Guide, Rev. E [3] C [1] E A Notes: 39 G D F [1] Mounting holes three on each side, 6-32 UNC. Max screw length into side of drive 0.15 in. (3.

81 mm). Screw tightening torque 6.0 in-lb (.675 NM) max with minimum thread engagement of 0.12 in.

(3.05 mm). [2] Mounting holes four on bottom, 6-32 UNC. Max screw length into bottom of drive 0.15 in. (3.81 mm). Screw tightening torque 6.0 in-lb (.675 NM) max with minimum thread engagement of 0.

12 in. (3.05 mm). B [3] Power and interface connectors can extend past the "A" dimension by 0.040 in. (1.02 mm). [4] Centerline of pad for Pin 1 of power connector. J [4] L [5] Centerline of pad for Pin 1 of J6. [6] Centerline of pad for Pin 1 of J2.

Dimensions indicated are for reference only. [7] Dimensions to Pin 1 of each connector are nominal values. K [2] M [6] J2 [6] N [8] To pin ends on J6. Pin ends on J6 are nominally flush with end of drive. H A B C D E F G S [8] H J K L M N P R S J6 LED P [5] R Dimension Table Millimeters Inches 146.

05 ± .64 5.75 ± .025 101.60 ± .

38 4.00 ± .015 25.45 ± .69 1.002 ± .027 .53 .21 60.00 ± .

25 2.362 ± .010 28.45 ± .51 1.120 ± .020 101.60 ± .25 4.000 ± .

010 6.35 ± .25 .250 ± .010 .

12 .005 44.45 ± .25 1.750 ± .

010 95.25 ± .25 3.750 ± .010 41.28 ± .51 1.625 ± .



[You're reading an excerpt. Click here to read official MAXTOR ST39173 user guide](http://yourpdfguides.com/dref/2944498)  
<http://yourpdfguides.com/dref/2944498>



143 19.13 .753 4.19 .165 [7] 10.29 .405 [7] 52.53 2.265 59.69 2.

350 Figure 6. Mounting configuration dimensions 40 Barracuda 9LP Installation Guide, Rev. E Formatting the drive The drive has been low level formatted at the factory. You do not need to perform another low level format on this drive unless you decide to perform certain diagnostics through the host adapter. If you do decide to perform a low level format, do not abort the format as this is likely to make the drive inoperable.

Also, it is a good idea to protect against power failure or other power interruptions during the format. Keep in mind that it may take up to one hour per gigabyte to low level format the drive. Do not reboot or otherwise disrupt the process. Warning. Formatting a drive erases all user data.

Be sure that you understand this principle before formatting any hard disc drive. It is not necessary to format a drive that previously has been used to store data, unless your intention is to erase all user data. Note. Seagate is not responsible for lost user data. 1. 2. 3. Turn on DC power. Boot the system from a system floppy disc or from a previously installed hard disc drive if there is one. Format the disc drive.

Barracuda 9LP disc drives are designed to operate with a variety of operating systems. Please refer to your system or SCSI controller manual for information about formatting and setting up the drive. Some quick desktop system notes are provided below. Barracuda 9LP Installation Guide, Rev. E Quick reference desktop system notes 41 Note. Refer to your system or utility manual for detailed instructions) · DOS. Set the drive type in CMOS to "Zero," "None," or "No hard drive installed." Use FDISK.EXE and FORMAT.EXE.

Systems that have operating system Windows 95 release 950B or later do not need to partition the drive. · Macintosh. Use a third-party drive utility (Apple's HD Setup utility only works with drives having special Apple firmware). 42 Barracuda 9LP Installation Guide, Rev. E N drives Setting the SCSI ID jumpers section N/ND drives Use the J6 connector to set the SCSI ID (see Figure 7).

To change the SCSI ID, install jumpers on the appropriate pins as shown in the illustration. Drive Front Jumper Plug (enlarged to show detail) Pin 1 J6 LRR Reserved E E E AAA DSS 2 1 0 SCSI ID = 0 SCSI ID = 1 SCSI ID = 2 SCSI ID = 3 SCSI ID = 4 SCSI ID = 5 SCSI ID = 6 SCSI ID = 7 (default) Figure 7.

Setting the SCSI ID on model N drives Barracuda 9LP Installation Guide, Rev. E 43 N drives Terminating the drive "N" model drives are terminated with permanently mounted IC active terminators. If you install one of these drives and it is not on the end of the SCSI bus, disable the terminators by removing the jumper "TE" from pins 15 and 16 of connector J2 (see Figure 8).

If you install the drive on the end of the SCSI bus, enable termination by installing a jumper on pins 15 and 16 of connector J2. Pin 1 J2 R T D MW P E T T ESEPDSPP Enable SCSI terminator Disable SCSI terminator (default) J2 J6 Drive Front J2 Jumper Plug (enlarged to show detail) Figure 8. Terminating the drive 44 Barracuda 9LP Installation Guide, Rev. E N drives Terminator power There are four possible terminator power (TP) configurations for "N" model drives (see Figure 9). You will not normally need to change this option and can leave the drive configured as it was shipped from the factory. Pin 1 J2 R T D MW P E T T ESEPDSPP "N" model drives Term. Power from Drive Term. Power to SCSI Bus Drive furnishes power both to its own terminators and to SCSI bus Term. Power from SCSI Bus (default) Position A J2 J6 Drive Front J2 Jumper Plug (enlarged to show detail) Figure 9. Setting terminator power jumpers Barracuda 9LP Installation Guide, Rev.

E 45 N drives Other applicable jumper options Several other jumper options are available as illustrated. Drive with HDA up, PCB down, viewed from front J2 HDA Pin 1 Reserved Delay Motor Start option (valid only if the Enable Motor Start jumper is not connected) Disable the Delay Motor Start option. Motor start delay equal to the SCSI ID multiplied by 12 seconds. For example, if the SCSI ID = 2, the drive starts in 24 seconds. Motor Start option J6 Jumper Type (enlarged to show detail) Pin 1 End Disable motor start. The drive starts according to the Delay Motor Start option. Enable motor start. The drive waits for the Start Unit command from the host before starting the spindle motor. Write Protect option Write protect = Off (enables writing). Write protect = On (disables writing).

@@Disable parity check. (default) (default) Pin 1 J6 Reserved LRR E E EA A A DSS2 1 0 Reserved 11 Remote LED 12 CATH Shipped with cover installed. Do not remove. Do not install jumpers on these four positions. J6 Drive Front J2 Pin 1 DC Power Connector (default) (default) Figure 10.

Additional jumper options 46 Barracuda 9LP Installation Guide, Rev. E WWD/LW drives Setting the SCSI WWD drives section ID jumpers Use the J6 jumper block to set the SCSI ID (Figure 11). To change the SCSI ID, install jumpers on the appropriate pins as shown in the illustration. Optional connections to switching circuits in host equipment are provided on J1 auxiliary to set the SCSI ID (see Figure 12). Drive Front Jumper Plug (enlarged to show detail) Pin 1 J6 [1] Reserved E E A A A DS LR 3 210 SCSI ID = 0 SCSI ID = 1 SCSI ID = 2 SCSI ID = 3 SCSI ID = 4 SCSI ID = 5 SCSI ID = 6 SCSI ID = 7 SCSI ID = 8 SCSI ID = 9 SCSI ID = 10 SCSI ID = 11 SCSI ID = 12 SCSI ID = 13 SCSI ID = 14 SCSI ID = 15 (default) Figure 11.

Setting the SCSI ID on model WWD drives Barracuda 9LP Installation Guide, Rev. E 47 WWD/LW drives 68 Pin SCSI I/O +5V Connector Ground Pin 1 J5 Pin 1 J1-DC Power Drive HDA Rear 4P J1 SCSI ID = 0 SCSI ID = 1 SCSI ID = 2 SCSI ID = 3 SCSI ID = 4 SCSI ID = 5 SCSI ID = 6 SCSI ID = 7 SCSI ID = 8 SCSI ID = 9 SCSI ID = 10 SCSI ID = 11 SCSI ID = 12 SCSI ID = 13 SCSI ID = 14 (default) 3P2P 1P PCB For ID selection use jumpers as shown or connect a cable for remote switching as shown below. Pins 1, 3, 5, and 7 are optional connections to switching circuits in host Host Alternate equipment to establish Usage Plug 11 9 7 5 3 1 drive ID. A0 A1 A2 A3 Remote Switches 12 10 8 6 4 2 +5V Pins 2, 4, 6, and 8 are normally +5V N.C. not grounded. They are driven low Ground (ground) for 250 ms after a Reset or PWR ON to allow drive to read Drive Activity LED SCSI ID selected. Pin 8 may Dashed area is optional host circuitry (external to the also be used to drive the cathode drive) connected to host supplied optional usage plug. of an external Activity LED. not used A 3 A 2 A 1A 0 SCSI ID = 15 Figure 12.

Using J5 connector for model "W," "WD," and "LW" drive alternate ID select and LED connection 48 Barracuda 9LP Installation Guide, Rev.



[You're reading an excerpt. Click here to read official MAXTOR ST39173 user guide](http://yourpdfguides.com/dref/2944498)  
<http://yourpdfguides.com/dref/2944498>

E WWD drives Terminating the drive "W" model drives are terminated with permanently mounted IC active terminators. If you install one of these drives and it is not on the end of the SCSI bus, disable the terminators by removing the jumper "TE" from pins 15 and 16 of connector J2. If you install the drive on the end of the SCSI bus, enable termination by installing a jumper on pins 15 and 16 of connector J2 (see Figure 13). Note. Use active (ANSI SCSI-2 Alternative 2) terminators when terminating the bus. "WD" and "LW" model drives do not have internal terminators or any other way of adding internal termination to the drive. You must provide external differential termination to these drives when termination is required. Pin 1 J2 R T P TT [1] E D M W D E P P SEP S \*Enable SCSI terminator \*Disable SCSI terminator \*W" model only J2 J6 Drive Front (default) J2 Jumper Plug (enlarged to show detail) [1] The "TE" jumper is not applicable to "WD" and "LW" drives. Figure 13.

Terminating the drive ("W" model shown) Barracuda 9LP Installation Guide, Rev. E 49 WWD drives Terminator power There are four possible terminator power (TP) configurations for "W" model drives (see Figure 14). You will not normally need to change this option and can leave the drive configured as it was shipped from the factory. There are two possible terminator power (TP) configurations for "WD" model drives (see Figure 14). Pin 1 J2 R T D MW P E T T ESEPDSPP "W" model drives Term.

Power from Drive Term. Power to SCSI Bus Drive furnishes power both to its own terminators and to SCSI bus Term. Power from SCSI Bus (default) Position A "WD" model drives Term. Power to SCSI Bus Host adapter or other device provides term. power to external terminator.

R RR E D MW P E E T SSEPDSSP (default) J2 J6 Drive Front J2 Jumper Plug (enlarged to show detail) Figure 14. Setting terminator power jumpers 50 Barracuda 9LP Installation Guide, Rev. E WWD/LW drives Other applicable jumper options Other option jumpers are available as illustrated in Figures 15 and 16. Drive with HDA up, PCB down, viewed from front J2 [1] HDA Pin 1 Reserved Delay Motor Start option (valid only if the Enable Motor Start jumper is not connected) Disable the Delay Motor Start option. Motor start delay equal to the SCSI ID multiplied by 12 seconds. For example, if the SCSI ID = 2, the drive starts in 24 seconds. Motor Start option J6 Jumper Type (enlarged to show detail) Pin 1 End Disable motor start (default). The drive starts according to the Delay Motor Start option. Enable motor start. The drive waits for the Start Unit command from the host before starting the spindle motor.

Write Protect option Write protect = Off (enables writing. Write protect = On (disables writing). @@Disable parity check. @@Do not remove. Do not install jumpers on these four positions. @@@@E 51 LW drives Pin 1 J2 L RR V D MW P E E T DSEPDSSP A jumper here forces single-ended I/O operation. No jumper allows host to select either single-ended or LVD operation. Term. Power to SCSI Bus Host adapter or other device provides term. power to external terminator.

(default) J2 J6 Drive Front J2 Jumper Plug (enlarged to show detail) Figure 16. Additional jumper option for "LW" drives 52 Barracuda 9LP Installation Guide, Rev. E WC/LC drives Setting the SCSIWC/DC drives section ID jumpers The SCSI ID for "WC" and "LC" model drives is normally set over the SCSI bus by the host system using connector contacts 39 (ID0), 40 (ID2), 79 (ID1), and 80 (ID3). Users need not install jumpers to select SCSI ID. Terminating the drive "WC" and "LC" model drives do not have internal terminators or any other way of adding internal termination to the drive.

External termination for these drives must be supplied by the host equipment. Barracuda 9LP Installation Guide, Rev. E 53 WC drives Applicable jumper options Options available for all models are selected by jumpers as illustrated in Figures 17 through 19. Pin 1 J2 R RRR E D MW P E E E SSEPDSSS Delay Motor Start option The host system has complete control over motor start functions. Do not install a jumper on these pins.

Enable Motor Start option The host system has complete control over motor start functions. Do not install a jumper on these pins. Write Protect option Write protect = Off (enables writing) Write protect = On (disables writing) Parity Check option Enable parity check of SCSI bus. Disable parity check. (default) (default) (default) (default) J2 J6 Drive Front J2 Jumper Plug (enlarged to show detail) Figure 17. Jumper options for "WC" drives 54 Barracuda 9LP Installation Guide, Rev. E LC drives Pin 1 J2 Delay Motor Start option The host system has complete control over motor start functions. Do not install a jumper on these pins. Enable Motor Start option The host system has complete control over motor start functions. Do not install a jumper on these pins.

Write Protect option Write protect = Off (enables writing) Write protect = On (disables writing) Parity Check option Enable parity check of SCSI bus. Disable parity check. RRR S D MW P E E E ESEPDS (default) (default) (default) (default) J2 J6 Drive Front J2 Jumper Plug (enlarged to show detail) Figure 18. Jumper options for "LC" drives Barracuda 9LP Installation Guide, Rev. E 55 LC drives Pin 1 J2 RRR S D MW P E E E ESEPDS Single-Ended I/O A jumper here forces single-ended I/O operation. No jumper allows host to select either single-ended or LVD operation. (default) J2 J6 Drive Front J2 Jumper Plug (enlarged to show detail) Figure 19. Additional jumper options for "LC" drives Seagate Technology, Inc. 920 Disc Drive, Scotts Valley, CA 95066-4544, USA Publication Number: 77767518, Rev. E, Printed in USA .



[You're reading an excerpt. Click here to read official MAXTOR ST39173 user guide](http://yourpdfguides.com/dref/2944498)  
<http://yourpdfguides.com/dref/2944498>