



IBM TotalStorage DS300 and DS400 Quick Installation Guide

Before using this information and the product it supports, read the “IBM Statement of Limited Warranty” in the *IBM Machine Types 1700 and 1701 Warranty and Support Information* document on the IBM® Documentation CD.

Obtaining the documentation from the IBM Support Web site

All IBM TotalStorage® documentation that is referred to in this *Quick Installation Guide* is on the IBM Documentation CD that comes with the storage subsystem. The storage subsystem might have features that are not described in the documentation that you received with the unit. The documentation might be updated occasionally to include information about those features, or technical updates might be available to provide additional information that is not included in the storage subsystem documentation. These updates are available from the IBM Web site. To check for updated documentation and technical updates, complete the following steps.

Note: Changes are made periodically to the IBM Web site. The actual procedure might vary slightly from what is described in this document.

1. Go to <http://www.ibm.com/servers/storage/support/>.
2. On the “Support for TotalStorage products” page, under **Select your product**, in the **Product family** field, select **Disk storage systems**.
3. In the **Product** field, select **DS300 Disk System** or **DS400 Disk System**.
4. Click **Go**.
5. Under **Technical resources**, select **Documentation**.

Before you begin, you should have a plan for how you want to install this storage subsystem into a storage network. This plan should allow for the data servers, management station, host bus adapters, switches, and other equipment. See Chapter 2 (for TotalStorage DS300) or Chapter 5 (for TotalStorage DS400) in the *IBM TotalStorage DS300 and DS400 Hardware Installation and User’s Guide* for more information.

Installing the hardware

To install the hardware, complete the following steps:

1. Remove all packing materials.
2. Install the rails and the DS300 or DS400 storage subsystem into a standard EIA 19-inch rack (see the printed *Rack Installation Instructions* document that comes with the storage subsystem for instructions).
3. Install the front bezel on the DS300 or DS400 storage subsystem (see Chapter 10 of the *Hardware Installation and User’s Guide* for instructions).
4. Install hard disk drives in the DS300 or DS400 storage subsystem (see Chapter 10 of the *Hardware Installation and User’s Guide* for instructions).
5. Connect the power cables that come with the DS300 or DS400 storage subsystem to the power distribution unit (see “Power cabling” in Chapter 9 of the *Hardware Installation and User’s Guide* for instructions).
6. Install the small-form-factor pluggable (SFP) modules and connect the Ethernet and Fibre Channel cables. For instructions, see Chapter 3 (for DS300) or Chapter 7 (for DS400) of the *Hardware Installation and User’s Guide*.

Important: If you want to use the IBM ServeRAID™ Manager program to manage the DS300 or DS400 storage subsystem, make sure that an Ethernet cable is connected to the management port on each controller.

7. Turn on the storage subsystem (see “Turning the storage subsystem on and off” in Chapter 9 of the *Hardware Installation and User’s Guide* for instructions).

Setting up the controller defaults

To set up the RAID controller defaults, complete the following steps:

1. After turning on the storage subsystem, wait until the green controller ready LED is lit; then, from a management station, open a Telnet session to IP address 192.168.70.123. For the location and a description of the LED, see the storage subsystem rear view section in Chapter 4 (for DS300) or Chapter 8 (for DS400) of the *Hardware Installation and User’s Guide*.
2. Change to administrator mode by typing administrator, admin, or ad and pressing Enter.
3. When prompted for a password, enter passw0rd (all lowercase letters with a zero, not O, in passw0rd).
4. **For Controller A only:** At the DS300 or DS400 prompt, enter setup.

The Setup wizard prompts you to enter the values for the parameters that are required to configure the system to connect to a local network. You can also use the three commands that are described in the following table.

Table 1. Setup wizard commands

Command	Function
abort	Quit the Setup wizard without saving changes
back	Go to the previous parameter
help	Display the current parameter values

If a parameter has a default value, the prompt displays the value in square brackets ([]). Some parameters require an arbitrary string, in which case the commands **back** and **abort** cannot be used. In these cases, enclose the string in quotation marks (" ").

Use the following information to assign values for the parameters:

hostname

Enter the name that you want to use for the system. Enter back to repeat this prompt.

domain name

Enter the domain to which the system belongs.

SAN name

Enter the Storage Area Network (SAN) to which the system belongs.

timezone

Enter the system time zone.

system date

Enter the system date in the format *hh:mm@dd/mm/yy*.

define administrator password

Define whether an administrator password is required. If a password is required, you are prompted for that password, which you must enter twice. Press Ctrl to leave the password unchanged. Press Enter twice to not require an administrator password.

define operator password

Define whether an operator password is required.

default gateway

Enter the name or IP address of a router to which packets are sent if their destinations do not have routes that are defined in the system. Enter no to clear the default gateway.

DNS servers

Enter the IP addresses of up to three systems that will act as DNS servers. Enter no to clear the list of DNS servers.

dhcp Enter yes if a DHCP server will be used to discover the system network values. Enter no if a DHCP server will not be used.

If you enter yes, the wizard takes you to the **finish** parameter. If you enter no, the wizard continues to prompt you for information about the main Ethernet interface of the system.

IP address

Enter the IP address, in x.x.x.x format. You can also define the netmask by typing its width after the IP address.

Note: For the DS300 storage subsystem, the management interface must be in a separate network segment from your iSCSI ports.

netmask

Define the size of the netmask. Any of the common formats are accepted.

Note: If you entered the netmask as part of the IP address in the previous prompt, this parameter is skipped.

broadcast address

Enter the address to be used for broadcasts. Any of the common formats are accepted.

peer IP address

Enter the IP address for the peer controller, in x.x.x format.

Note: For the DS300 storage subsystem, the management interface must be in a separate network segment from your iSCSI ports.

peer netmask

Define the size of the netmask for the peer controller. Any of the common formats are accepted.

peer broadcast address

Enter the address to use by the peer controller for broadcasts. Any of the common formats are accepted.

finish Enter yes to apply the values that you have entered, or enter no to return to the first parameter and change the values that you have entered.

Note: If you changed the management IP address in step 4 on page 2, you must open a Telnet session to the new IP address.

Installing IBM ServeRAID Manager and adding a ServeRAID agent

To install the IBM ServeRAID Manager program and add a ServeRAID agent for the storage subsystem, complete the following steps:

1. Install the ServeRAID Manager program on the management station, using the ServeRAID *Application CD* that comes with the DS300 or DS400 storage subsystem (see the *IBM TotalStorage DS300 and DS400 Software Installation Guide* for help with installing ServeRAID Manager).
2. Start the ServeRAID Manager program; then, complete the following steps to add a management station object and a ServeRAID agent for the storage subsystem:
 - a. To add a management station object, right-click **Networked Storage** in the ServeRAID Manager interface; then, select **Add Management Station** (see “Adding a remote system object” in the ServeRAID Manager online help for more information about adding a management station).

- b. To add a ServeRAID agent, right-click the management station object in the interface and select **Add agent**. Use the IP address that you assigned to the storage subsystem in step 4 on page 2. (See “Adding a Management Station Agent Object” in the ServeRAID Manager online help for more information about adding an agent.)

Note: Enter the IP address of controller A or controller B. Only one controller must be added as a ServeRAID agent.

Installing the controller firmware

The RAID controller firmware is updated occasionally to improve the function or performance of the RAID controller in the storage subsystem. Obtain the latest firmware before proceeding to the next steps (see the *Software Installation Guide* for information about how to locate and download the latest firmware).

Setting IP addresses for DS300 iSCSI ports

To set the IP addresses for the iSCSI ports on the DS300 storage subsystem, complete the following steps:

1. Open a Telnet session to controller A using either the default IP address (192.168.70.123) or the IP address that you assigned in step 4 on page 2.
2. Log in as administrator using either the default password (passw0rd) or the password that you defined in step 4 on page 2.
3. To set the IP address for iSCSI port eth2, enter the following commands:

```
interface manage eth2[x] ip IPaddress
interface manage eth2[x] netmask netmask
interface manage eth2[x] broadcast broadcast
```

where *x* is the controller, *IPaddress* is the IP address that you want to use for that port, and *netmask* is the management network subnet address.

4. To set the IP address for iSCSI port eth3, enter the following commands:

```
interface manage eth3[x] ip IPaddress
interface manage eth3[x] netmask netmask
interface manage eth3[x] broadcast broadcast
```

where *x* is the controller, *IPaddress* is the IP address that you want to use for that port, and *netmask* is the management network subnet address.

See the *IBM TotalStorage DS300 Problem Determination Guide* or *IBM TotalStorage DS400 Problem Determination Guide* on the IBM Support Web site for a list of all the available commands.

5. Enter save to save the modified settings.

Configuring the RAID device in ServeRAID Manager

To create a RAID array and configure the access control list for the logical drive, complete the following steps:

1. In the ServeRAID Manager interface on the management station, in the right pane, click the agent (which is displayed as a controller device) that you created in step 2b in “Installing IBM ServeRAID Manager and adding a ServeRAID agent” on page 3. The interface displays the Enclosure View pane for the storage subsystem.
2. In the upper-right corner of the Enclosure View pane, click the disk icon. The array configuration menu is displayed.
3. In the array configuration menu, select **Create logical drive in a new array**; then, click **Next**.
4. To select the drives that you want in the array (see the “Creating arrays and hot-spare drives” section in the ServeRAID Manager online help for more information), complete the following steps:
 - a. Press Ctrl and click each drive that you want in the array.

- b. Click the single arrow to move the drives to the left pane.
 - c. If you want to create more than one array, click **Create New Array** at the top of the left pane and repeat steps 4a on page 4 and 4b.
 - d. When you are finished, click **Next**.
5. Select the logical drive name, size, and preferred controller that you want; then, if you are finished, click **Next**. If you want to create more than one logical drive or change the preferred controller, complete the following steps (see the “Creating logical drives” section in the ServeRAID Manager online help for more information):
 - a. Change the default size to less than the full capacity.
 - b. Select the preferred controller from the **Controller** menu.
 - c. Click **Create new logical drive** at the bottom of the pane.
 - d. Select the next logical drive name and size.
 - e. When you have selected all the names and sizes that you want, click **Next**.
 6. For a TotalStorage DS400, continue to step 7; otherwise, select the authentication options for the logical drive.
 7. To configure the access control list for the logical drive, complete the following steps (see “Defining initiator information” in the ServeRAID Manager online help for more information):
 - a. Select **Add** or **Discover new initiators** (DS400 only). A window opens containing the first entry in the access control list.
 - b. If you selected **Discover new initiators**, in the top line in the window, type or select from the menu one of the following choices:
 - The worldwide port name (WWPN) for the Fibre Channel host bus adapter (HBA) that the logical unit number (LUN) will be bound to
 - The iSCSI Qualified Name (IQN) for the iSCSI initiator
 - c. In the second line in the window, type the alias that you want to use for the entity in the top line.
 - d. Click **OK** to accept the information that you entered. A new access-list-entry window opens. Repeat steps 7b through 7d for each entry in the access list. When you are finished, click **Cancel**.
 8. Click **Next**. The mapping pane is displayed. The aliases in the access control list are displayed in tabs in the right pane; the logical drives are displayed in the left pane.
 9. Complete the following steps to associate one or more logical drives with an alias (see “Assigning logical drives to initiators” in the ServeRAID Manager online help for more information):
 - a. Highlight the logical drive.
 - b. Click the alias that you want to associate it with.
 - c. Click the single arrow in the middle pane to move the drive to the alias, or click the double arrow in the middle pane to move all the drives to the alias. The drive moves to a point beneath the alias in the right pane.
 - d. Click **Next**.
 - e. Click **Accept** to apply the changes, or click **Back** to return to the mapping pane to make changes or to make more associations.

After you complete the associations, the Enclosure View pane is displayed again, and the LUN is ready for access.

Getting help and technical assistance

If you need help, service, or technical assistance or just want more information about IBM products, you will find a wide variety of sources available from IBM to assist you. This appendix contains information about where to go for additional information about IBM and IBM products, what to do if you experience a problem with your @server[®] or IntelliStation[®] system or optional device, and whom to call for service, if it is necessary.

Before you call

Before you call, make sure that you have taken these steps to try to solve the problem yourself:

- Check all cables to make sure that they are connected.
- Check the power switches to make sure that the system and any optional devices are turned on.
- Use the troubleshooting information in your system documentation, and use the diagnostic tools that come with your system. Information about diagnostic tools is in the *Hardware Maintenance Manual and Troubleshooting Guide* or *Problem Determination and Service Guide* on the IBM Documentation CD that comes with your system.

Note: For some server options, the *Hardware Maintenance Manual and Troubleshooting Guide* is available only from the IBM support Web site.

- Go to the IBM support Web site at <http://www.ibm.com/support/> to check for technical information, hints, tips, and new device drivers or to submit a request for information.

You can solve many problems without outside assistance by following the troubleshooting procedures that IBM provides in the online help or in the documentation that is provided with your IBM product. The documentation that comes with @server and IntelliStation systems also describes the diagnostic tests that you can perform. Most @server and IntelliStation systems, operating systems, and programs come with documentation that contains troubleshooting procedures and explanations of error messages and error codes. If you suspect a software problem, see the documentation for the operating system or program.

Using the documentation

Information about your IBM @server or IntelliStation system and preinstalled software, if any, or optional device is available in the documentation that comes with the product. That documentation can include printed documents, online documents, readme files, and help files. See the troubleshooting information in your system documentation for instructions for using the diagnostic programs. The troubleshooting information or the diagnostic programs might tell you that you need additional or updated device drivers or other software. IBM maintains pages on the World Wide Web where you can get the latest technical information and download device drivers and updates. To access these pages, go to <http://www.ibm.com/support/> and follow the instructions. Also, some documents are available through the IBM Publications Center at <http://www.ibm.com/shop/publications/order/>.

Getting help and information from the World Wide Web

On the World Wide Web, the IBM Web site has up-to-date information about IBM @server and IntelliStation systems, optional devices, services, and support. The address for IBM xSeries[®] and BladeCenter[®] information is <http://www.ibm.com/eserver/xseries/>. The address for IBM IntelliStation information is <http://www.ibm.com/intellistation/>.

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Software service and support

Through IBM Support Line, you can get telephone assistance, for a fee, with usage, configuration, and software problems with xSeries servers, BladeCenter products, IntelliStation workstations, and appliances. For information about which products are supported by Support Line in your country or region, see <http://www.ibm.com/services/sl/products/>.

For more information about Support Line and other IBM services, see <http://www.ibm.com/services/>, or see <http://www.ibm.com/planetwide/> for support telephone numbers. In the U.S. and Canada, call 1-800-IBM-SERV (1-800-426-7378).

Hardware service and support

You can receive hardware service through IBM Services or through your IBM reseller, if your reseller is authorized by IBM to provide warranty service. See <http://www.ibm.com/planetwide/> for support telephone numbers, or in the U.S. and Canada, call 1-800-IBM-SERV (1-800-426-7378).

In the U.S. and Canada, hardware service and support is available 24 hours a day, 7 days a week. In the U.K., these services are available Monday through Friday, from 9 a.m. to 6 p.m.

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In the United States, IBM has established a return process for reuse, recycling, or proper disposal of used IBM sealed lead acid, nickel cadmium, nickel metal hydride, and battery packs from IBM equipment. For information on proper disposal of these batteries, contact IBM at 1-800-426-4333. Have the IBM part number listed on the battery available prior to your call.

In the Netherlands, the following applies.



For Taiwan: Please recycle batteries.



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Notice to Customers

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