



CHAPTER 5

Running the Dell Diagnostics

Unlike many diagnostic programs, the Dell Diagnostics help you check the system's hardware without any additional equipment and without destroying any data. By using the diagnostics, you can have confidence in the system's operation. If you find a problem that you cannot solve by yourself, the diagnostic tests can provide you with important information you will need when talking to Dell's technical assistance representative.

NOTICE: Use the Dell Diagnostics to test only Dell systems. If you use this program with other systems, incorrect system responses or error messages might result.



NOTE: You must connect a keyboard and monitor to run the Dell Diagnostics.

Features of the Dell Diagnostics

The Dell Diagnostics provide a series of menus and options from which you choose particular device groups or devices. You can also control the sequence in which the tests are run. The diagnostic menus also have these helpful features:

- Options that let you run tests individually or collectively
- An option that allows you to choose the number of times a test is repeated
- The ability to display or print test results or to save them in a file
- Options to temporarily suspend testing if an error is detected or to terminate testing when an adjustable error limit is reached
- Help messages that briefly describe each test and its parameters
- Status messages that inform you whether device group or device tests are completed successfully
- Error messages that appear if any problems are detected

When to Use the Dell Diagnostics

Whenever a major component or device in the system does not function properly, you might have a component failure. As long as the microprocessor and the input and output components of the system (the monitor, keyboard, and diskette drive) are working, you can use the Dell Diagnostics. If you know what component(s) you need to test, simply select the appropriate diagnostic device group(s) or subtest(s). If you are unsure about the scope of the problem, read the rest of the information in this section.

Starting the Dell Diagnostics

You must run the Dell Diagnostics from a set of diskettes that you create from the *Dell OpenManage Server Assistant* CD.

To run the Dell Diagnostics from the diskettes, perform the following steps:

1. Create a set of diagnostics diskettes using the *Dell OpenManage Server Assistant* CD.

To create diagnostic diskettes from the *Dell OpenManage Server Assistant* CD, select **Create Diskettes** from the **Dell OpenManage Server Assistant** menu and then continue down the menu hierarchy by selecting the following categories: **PowerEdge 350, Diskette Set, System Utilities, Server Diagnostics**. Create five Server Diagnostics diskettes.

2. Boot the system from the first diagnostics diskette.

If the system fails to boot, see "Getting Help," for instructions on obtaining technical assistance.

When you start the diagnostics a message is displayed telling you that the diagnostics are loading. The **Diagnostics** menu appears. The menu allows you to run all or specific diagnostic tests or to exit the Dell Diagnostics.



NOTE: Before you read the rest of this section, you might want to start the Dell Diagnostics so that you can see it on your monitor screen.

For a quick check of the system, select **Test All Devices** and then select **Quick Tests**. This option runs only the device tests that do not require user interaction and that do not take a long time to run. Dell recommends that you choose this option first to increase the chance of tracing the source of the problem quickly. For a complete check of the system, select **Test All Devices** and then select **Extended Tests**. To check a particular area of the system, choose **Advanced Testing**.

Selecting **Exit to MS-DOS** exits the diagnostics and returns you to your operating system environment.

To select an option from the **Diagnostics** menu, highlight the option and press <Enter>, or press the key that corresponds to the highlighted letter in the option you choose.

How to Use the Dell Diagnostics

When you select **Advanced Testing** from the **Diagnostics** menu, the main screen of the diagnostics appears.

Information on the main screen of the diagnostics is presented in the following areas:

- Two lines at the top of the main screen identify the diagnostics and give its version number.
- On the left side of the screen, the **Device Groups** area lists the diagnostic device groups in the order they will run if you select **All** under the **Run Tests** submenu. Press the up- or down-arrow key to highlight a device group.
- On the right side of the screen, the **Devices for Highlighted Group** area lists the specific devices within a particular test group.
- Two lines at the bottom of the screen make up the menu area. The first line lists the menu options you can select; press the left- or right-arrow key to highlight an option. The second line gives information about the highlighted option.

How to Use the Device Groups Menu

The **Device Groups** menu at the bottom of the screen provides options that enable you to select and run specific diagnostic tests from the diagnostics main screen. Press the left- and right-arrow keys to select the options on the menu. As you move from one menu option to another, a brief explanation of the highlighted option appears on the bottom line of the screen.

If you want more information about a device group or device, highlight the **Help** option and press <Enter>. After you read the information, press <Esc> to return to the previous screen.

Device Groups Menu Options

Five options are listed at the bottom of the diagnostics main screen: **Run Tests**, **Devices**, **Select**, **Config**, and **Help**.

There are two ways to select a menu option:

- Look on the screen to see which letter in the option is capitalized, and type that letter (for example, type **r** to select the **Run** option).
- Move the highlight to the option you want to select by pressing the left- or right-arrow key, and then press <Enter>.

Whenever one of the options is selected, additional choices become available.

The following subsections explain the menu options as listed from left to right in the **Device Groups** menu.

Run Tests

Run Tests displays seven options: **One**, **All**, **Select**, **Options**, **Results**, **Errors**, and **Help**. If you select **One**, all the devices within the highlighted device group are run. If you select **All**, all of the tests in all of the device group tests are run. (The device group tests are run in the same order as they are listed.) If you choose **Select**, only the selected device groups or the devices that you selected within the device groups are run. Before you test any device groups or devices, consider setting global parameters within **Options**. Table 5-1 lists all of the possible values for each option. Global parameters offer you greater control over how the device group tests or device tests are run and how results are reported. **Help** displays a series of help options, including **Menu**, **Keys**, **Device Group**, **Device**, **Test**, and **Versions**.

Table 5-1. Options

Option	Possible Values
Number of Times to Repeat Test(s)	0001 through 9999 or 0000 , which loops indefinitely until you press <Ctrl><Break>. The default is 1 .
Maximum Errors Allowed	0000 through 9999 , where 0000 means that there is no error limit. The default is 1 .
Pause for User Response	Yes, No Allows you to decide whether tests will wait for user input. The default is Yes to wait for user input.
Message Logging	None, Errors, All Determines if any test results are saved to a file. The default is None .
Message Logging File Name	Specifies the name of the logging file if the Message Logging option is selected. The default is A: RESULT .
Display Detailed Messages	Yes, No Enables or disables detailed messages.

Devices

Most of the device groups consist of several devices. Use the **Devices** option to select individual devices within the device group(s).

When you select **Devices**, the following options are displayed: **Run Tests**, **Tests**, **Select**, **Parameters**, and **Help**. Table 5-2 lists all of the possible values for each option.

Table 5-2. Devices Options

Option	Functions
Run Tests	Displays five options: One, All, Select, Options, Results, Errors, and Help.
Tests	Allows you to select individual devices to tailor the testing process to your particular needs. You can choose one or more devices from the list. When you choose Tests , four options are displayed: Run Tests, Select, Parameters, and Help.
Select	Allows you to choose one or more devices from a particular device group. Three options are displayed: One, All, and Help.
Parameters	Determines how a particular test runs.
Help	Displays a list of help topics.

Select

The **Select** option in the **Device Groups** menu allows you to choose one or more devices from a particular device group. Three options are displayed: **One, All,** and **Help.**

Config

Choosing **Config** from the **Device Groups** menu displays information about the particular device that is highlighted.

Error Messages

When you run a test in the diagnostics, error messages might result. Record the messages on a copy of the Diagnostics Checklist; also see Chapter 10, "Getting Help," for instructions on obtaining technical assistance and informing the technical assistance representative of these messages.

