

***Remote Diagnostic Manager
(RDM) Version 3.01
User's Guide***

Document History

EDITION	PART NUMBER	DATE
First Edition	49.AB330.001	May 1997
Second Edition	49.AB330.301	November 1997

Copyright Notice

Copyright © 1997 by Acer America Corporation. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, without the prior written permission of Acer America Corporation.

Programs Copyright ©1997 Acer America Corporation.
All rights reserved.

Printed in U.S.A

Trademarks

Acer and the Acer logo are registered trademarks of Acer Incorporated.

SCO is a registered trademark of The Santa Cruz Operation, Inc.

UNIX is a registered trademark in the United States and other countries, licensed exclusively through X/Open Company Limited.

NetWare is a registered trademark of Novell, Inc.

Windows NT is a registered trademark of Microsoft Corporation.

Other brand and product names are trademarks are registered trademarks or trademarks of their respective holders.

Disclaimer

Acer and its suppliers make no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaim any warranties of merchantability or fitness for a particular purpose. Further, Acer reserves the right to revise this publication and to make changes from time to time in the contents hereof without obligation to notify any person of such revisions or changes. Acer reserves the right to make changes to the products described in this manual at any time and without notice.

Warranty/Limitation of Liability

Any software described in this manual is licensed “as is” and Acer and its suppliers disclaim any and all warranties, express or implied, including but not limited to any warranty of non-infringement of third party rights, merchantability or fitness for a particular purpose. Acer does not warrant that the operation of the software will be uninterrupted or error free. Should the programs prove defective, the buyer (and not Acer, its distributor, or its dealer) assumes the entire cost of all necessary service, repair, and any incidental or consequential damages resulting from any defect in the software. Please see the Acer Limited Product Warranty for details of Acer’s limited warranty on hardware products. **IN NO EVENT SHALL ACER BE LIABLE FOR ANY INDIRECT OR CONSEQUENTIAL DAMAGES, INCLUDING LOSS OF PROFITS OR DATA, EVEN IF ACER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.**

Software License

Acer grants you a personal, non-transferable, non-exclusive license to use the software that accompanies your computer system only on a single computer. You may not (a) make copies of the software except for making one (1) backup copy of the software which will also be subject to this license, (b) reverse engineer, decompile, disassemble, translate or create derivative works based upon the software, (c) export or re-export the software to any person or destination which is not authorized to receive them under the export control laws and regulations of the United States, (d) remove or alter in any way the copyright notices, or other proprietary legends that were on the software as delivered to you or (e) sublicense or otherwise make the software available to third parties. The software is the property of Acer or Acer’s supplier and you do not have and shall not gain any proprietary interest in the software (including any modifications or copies made by or for you) or any related intellectual property rights. Additional restrictions may apply to certain software titles. Please refer to any software licenses that accompany such software for details.

Join Us to Fight Against Piracy

The Acer Group has been implementing a policy to respect and protect legitimate intellectual property rights. Acer firmly believes that only when each and every one of us abides by such policy, can this industry provide quality service to the general public.

Acer has become a member of the Technology Committee of the Pacific Basin Economic Council which is encouraging the protection and enforcement of legitimate intellectual property rights worldwide. Moreover, in order to ensure quality service to all of our customers, Acer includes an operating system in Acer computer systems which is duly licensed by the legitimate proprietors and produced with quality.

Acer commits itself and urges all of its customers to join the fight against intellectual property piracy wherever it may occur. Acer will pursue the enforcement of intellectual property rights and will strive to fight against piracy.

About this Manual

Purpose

This system guide aims to give you all the information you need to know about RDM.

Manual Structure

This user's guide consists of five chapters and three appendices.

Chapter 1 Overview

This chapter contains a brief introduction about RDM and the special features that it offers.

Chapter 2 RDM Installation

This chapter describes how to install the RDM components and peripherals, agent driver and station software. It also tells how to create a hidden partition.

Chapter 3 Setting Up RDM-Enabled Servers

This chapter describes how to set up and configure a server to be monitored by RDM, including setting the RDM BIOS and its parameters.

Chapter 4 Using RDM Station

This chapter discusses how to use RDM under different operation modes and how to use the RDM Station software.

Chapter 5 Troubleshooting

This chapter gives tips and countermeasures for some common problems, and lists the BIOS messages that you may encounter during RDM operation.

Appendix A RDM Module Test Utilities

This appendix gives instructions on how to run the RDM module test utilities to verify if the module is working properly.

Appendix B SCO OpenServer and the RDM Partition

This appendix describes how install RDM on a SCO OpenServer operating system.

Appendix C Snapshot Window Information

This appendix describes the contents of the Snapshot window.

How to Use the Manual

Before you install the product, read Chapters 1 (Overview) and 2 (RDM Installation). Follow the installation instructions in Chapter 2 accordingly. After installing, read Chapters 3 and 4 for detailed information on RDM's capabilities. In case you encounter some problems during RDM operation, refer to Chapter 5 (Troubleshooting) for tips and countermeasures. Appendices A, B, and C serve as references.

Conventions

The following are the conventions used in this manual:

Text entered by user

Screen messages

ALT, ENTER, F8, etc.



Represents text input by the user.
Denotes actual messages that appear onscreen.

Represent the actual keys that you have to press on the keyboard.

NOTE

Gives bits and pieces of additional information related to the current topic.

WARNING

Alerts you to any damage that might result from doing or not doing specific actions.

CAUTION

Gives precautionary measures to avoid possible hardware or software problems.

IMPORTANT

Reminds you to do specific actions relevant to the accomplishment of procedures.

TIP

Tells how to accomplish a procedure with minimum steps through little shortcuts.

Glossary of Terms

The following terms are used throughout this manual:

Heartbeat

RDM's method of obtaining data from monitored servers. The server sends a heartbeat signal to the RDM module at defined intervals. In the event of a server failure, server stops sending heartbeat signal to the RDM module, then allows RDM to take control of the system.

Hidden partition

A DOS partition on the local system hard disk drive that allows you to install any system utilities. To access the system utilities in the hidden partition, you must enable the Hidden Partition parameter in the RDM BIOS Setup. When enabled, the system boots to hidden partition. For more details on RDM BIOS, see Chapter 3.

POST

Power On Self Test

Password

A case-sensitive, alphanumeric string consisting of 3 to 16 characters used by both RDM Station and server to make connection and to prevent unauthorized access to the server.

RDM agent

A server system that is monitored by the RDM Station. Throughout this manual, the terms **agent** and **server** are used interchangeably.

RDM BIOS

A BIOS menu that contains the RDM configuration settings, such as pager phone number, communication settings, and password.

RDM driver

Software required in order to operate in RDM Runtime Remote mode. The RDM driver is loaded as part of the ASM agent installation. For instructions on installing the ASM agent software, refer to the ASM Pro user's guide.

RDM host

Also refers to RDM agent.

RDM LED indicator

A front-panel indicator displaying the RDM status. The RDM LED indicator remains lit whenever RDM is activated in Runtime Remote mode. See Chapter 2 for details.

RDM module

A daughter board that functions as an RDM controller. This board must be installed on your server. The RDM module contains a microprocessor and firmware.

RDM Station

A client system used locally to monitor a remote server. Throughout this manual, the terms **station** and **client** are used interchangeably.

Table of Contents

Chapter 1 Overview

1.1	Features.....	1-2
1.1.1	System Failure Detection Features	1-2
1.1.2	Remote Console Features.....	1-2
1.1.3	New Features in RDM v3.01.....	1-3
1.2	Architecture.....	1-4
1.2.1	RDM Agent.....	1-5
1.2.2	RDM Station	1-5
1.2.3	RDM Connectivity	1-6

Chapter 2 RDM Installation

2.1	System Requirements.....	2-1
2.1.1	RDM Agent Requirements.....	2-1
2.1.2	RDM Station Requirements	2-2
2.2	RDM Agent Setup	2-2
2.2.1	Hardware Installation	2-3
2.2.2	Software Installation.....	2-9
2.3	RDM Station Setup.....	2-15
2.3.1	Installing the RDM Station Software.....	2-15
2.3.2	Uninstalling the RDM Station Software.....	2-20

Chapter 3 Setting Up RDM-Enabled Servers

3.1	Operation Modes	3-1
3.1.1	Local Mode	3-1
3.1.2	Remote Mode	3-2
3.1.3	Runtime Mode	3-2
3.2	RDM BIOS.....	3-2
3.2.1	Entering the RDM BIOS.....	3-3
3.2.2	Remote Console	3-4
3.2.3	Hidden Partition	3-4
3.2.4	Communication Protocol.....	3-5
3.2.5	COM Port Baud Rate.....	3-5
3.2.6	Telephone Type	3-5
3.2.7	Remote Console Phone Number	3-6
3.2.8	Dial Out Retry Times	3-7
3.2.9	Modem Initial Command	3-7
3.2.10	RDM Work Mode	3-7
3.2.11	Waiting Mode Password	3-8
3.2.12	System Critical Paging Numbers.....	3-9
3.2.13	Paging Times	3-10
3.2.14	RDM SEEPROM Verification.....	3-10
3.3	Setting RDM Operation Modes.....	3-10
3.3.1	RDM Local Mode.....	3-10
3.3.2	RDM Remote Mode.....	3-11
3.3.3	RDM Runtime Mode.....	3-12
3.4	Hidden Partition Utilities in Remote Mode.....	3-15
3.4.1	RDM Utilities	3-15
3.4.2	TESTASM Utility	3-22
3.5	How to Activate the Hidden Partition.....	3-24

Chapter 4 Using RDM Station

4.1	Running the RDM Station Utility	4-1
4.2	The Utility Menus.....	4-3
4.3	The Toolbar Buttons.....	4-7
4.4	Configuring RDM Station	4-8
4.4.1	Setting the Font Properties.....	4-10
4.4.2	Saving the Configuration.....	4-10
4.4.3	Loading a Previous Configuration	4-12
4.5	RDM Remote Mode Operation.....	4-13
4.5.1	Exiting from Remote Mode	4-14
4.6	Remotely Accessing the Server.....	4-15
4.6.1	Connecting to the Server.....	4-15
4.6.2	Server Snapshot.....	4-16
4.6.3	Saving a Log File.....	4-21
4.6.4	Viewing a Snapshot File.....	4-23
4.6.5	Sending Files.....	4-23
4.6.6	Receiving Files.....	4-25
4.6.7	Running the Talk Utility	4-27
4.6.8	Rebooting the Server	4-28

Chapter 5 Troubleshooting

5.1	RDM Agent Troubleshooting	5-1
5.1.1	Hidden Partition Troubleshooting	5-2
5.1.2	BIOS Messages	5-3
5.1.3	Remote Console Limitations.....	5-4
5.1.4	Server Doctor.....	5-5
5.2	RDM Station Troubleshooting.....	5-6

Appendix A RDM Module Test Utilities

A.1 Testing Utilities A-1
A.2 Hardware Check A-1
A.3 Simulating a Server Failure A-3

Appendix B SCO OpenServer and the RDM Partition

B.1 SCO OpenServer 5 Installation and RDMB-1

Appendix C Snapshot Window Information

C.1 Basic DMI Information..... C-1
C.2 ASM Health Log C-3
C.3 System Failure Status C-3
C.4 RDM Basic Information..... C-5

Index

List of Figures

1-1	Typical RDM Configuration	1-1
1-2	RDM Block Diagram	1-4
2-1	RDM Module Layout	2-4
2-2	Installing the LEDs	2-5
2-3	Connecting the RDM LED Cable and Installing the RDM Module.....	2-6
2-4	Setup Program Welcome Screen	2-16
2-5	Software License Agreement Screen.....	2-16
2-6	User Information Dialog Box	2-17
2-7	Registration Confirmation Dialog Box	2-17
2-8	Choose Destination Location Dialog Box.....	2-18
2-9	Select Program Folder Dialog Box	2-19
2-10	Setup Finished Message Box.....	2-19
2-11	Remove Programs From Your Computer Message Box	2-21
3-1	Write EEPROM Utility Main Menu	3-20
3-2	Basic Information Screen	3-21
3-3	Save Changes Prompt.....	3-22
3-4	TESTASM Menu	3-23
4-1	COM Port Initialization Message Box	4-1
4-2	Modem Initialization Message Box.....	4-2
4-3	RDM Station Utility Window	4-2
4-4	Communication Settings Dialog Box	4-8
4-5	Save Configuration File Dialog Box.....	4-11
4-6	Confirm RDM Host Reboot Dialog Box	4-14
4-7	Dialing Message Box.....	4-16
4-8	System Snapshot Window.....	4-17
4-9	System Turned Off Message Box	4-18
4-10	Reboot Options Dialog Box.....	4-18
4-11	Smart Reboot Message Box	4-19

4-12 Successful Normal Reboot Message Box	4-20
4-13 Normal Reboot Fail Message Box.....	4-20
4-14 Save Log File Dialog Box	4-22
4-15 Open File Dialog Box.....	4-24
4-16 File Transfer Status Dialog Box.....	4-24
4-17 Receive File Name Dialog Box	4-26
4-18 File Receive Status Dialog Box	4-26
4-19 Talk Utility Screen.....	4-27
4-20 Confirm RDM Host Reboot Dialog Box.....	4-28

List of Tables

3-1 RDM Work Modes.....	3-8
3-2 TESTASM Options.....	3-23
5-1 BIOS Status and Error Messages.....	5-3

Chapter 1 Overview

Remote Diagnostic Manager (RDM) is a server service module that allows server management control via remote station. It utilizes modems, pagers, and telephone lines to let a remote station to monitor and analyze the server condition, update system BIOS settings and quickly restore the system to normal operation. This “quick response” feature of RDM minimizes the time wasted due to system failure and therefore, offers the best solution for the distance barrier issue.

The following figure shows an example of a typical RDM configuration:

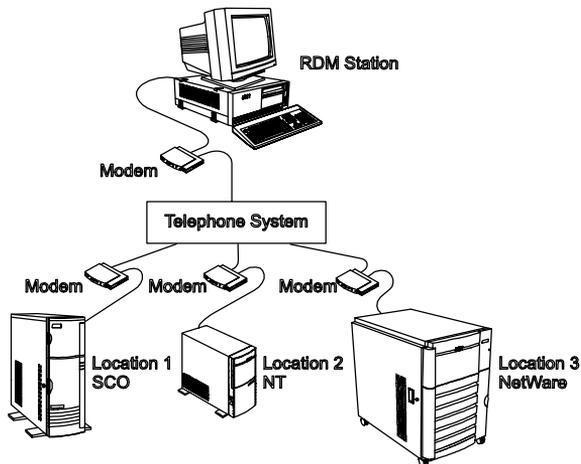


Figure 1-1 Typical RDM Configuration

1.1 Features

The following features prove that RDM offers the most efficient and practical server diagnostic service.

1.1.1 System Failure Detection Features

- Allows the system to boot from the RDM partition for access to diagnostic utilities
- Offers diagnostic service, eliminating the distance barrier for remote consoles
- Informs the system administrator once the server hangs
- Allows automatic system reboot once failure is detected
- RDM drivers support Novell NetWare, Microsoft Windows NT, and SCO OpenServer

1.1.2 Remote Console Features

- Monitors the system boot sequence
- Allows remote site to update the system BIOS or change the CMOS setup
- Allows the system to boot normally or boot to the RDM partition
- Allows remote access to the server's diagnostic utilities
- Supports file transfer

1.1.3 New Features in RDM v3.01

- Monitors and displays server status information (such as system part number, health log, critical event, CPU information, temperature, voltage, fuse, CPU critical event, power supply, etc.) and configuration, even in the event of server failure
- Can power on/off the server from remote site
- Smart reboot feature allowing the server to boot from any available processor
- Automatic system power off in case of system failure and/or processor temperature exceeds the maximum limit
- BIOS supports ANSI terminal, allowing the station to display the RDM host screen after connection is established
- Features the Talk utility that allows users at both agent and remote sites to communicate easily

1.2 Architecture

RDM consists of three main components:

- RDM agent
- RDM Station
- RDM connectivity

Figure 1-2 shows the RDM block diagram.

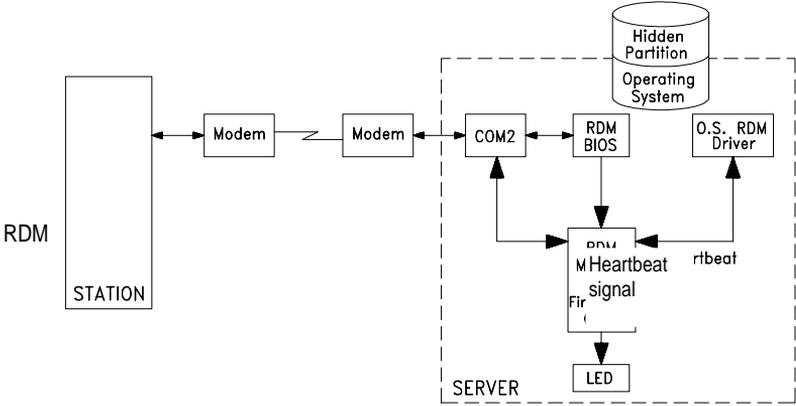


Figure 1-2 RDM Block Diagram

During normal operation, the RDM driver periodically sends a heartbeat signal to the RDM module. Once the agent fails, the RDM driver stops sending heartbeat signal to the RDM module. If the module processor does not receive any signal for a certain period of time, the RDM LED lights up signaling that RDM is activated.

When RDM is enabled, the module takes control of the COM port occupied by the modem and functions as the modem controller. It notifies the system administrator (through paging) that the server failed. RDM operates according to the RDM Work Mode specified in BIOS Setup (refer to Chapter 3).

1.2.1 RDM Agent

The RDM agent refers to the system with an RDM module. An RDM module contains a microprocessor that acts as an RDM controller. See Chapter 2 for more details on RDM module.

To enable the RDM module, the RDM agent driver must be installed into the RDM agent and the system BIOS must include the RDM BIOS. The RDM BIOS supports extended functions for initializing the RDM module and establishing connection between the agent and the RDM Station to enable RDM Station control. Chapter 2 tells how to install the RDM drivers. Chapter 3 tells how to configure the RDM BIOS.

For information on how to configure the system BIOS, see the user's guide that came with the system.

1.2.2 RDM Station

The RDM Station can be any standard PC system with RDM Station software installed and the necessary peripherals connected. For details on how to install the RDM Station software and the necessary peripherals, refer to Chapter 2.

1.2.3 RDM Connectivity

This refers to the RDM connection. For the RDM agent to establish connection with the RDM Station, it must have the RDM module, LED, and the RDM agent driver installed into the server. For the RDM Station, it must have the RDM Station software.

Peripherals such as modem and pager are necessary for RDM to function properly. The RDM agent and the RDM Station communicate via modem protocol. Chapter 2 tells how to connect the necessary peripherals into the system.



Make sure that the modem and other peripherals are turned on. Otherwise, the RDM agent will not be able to establish connection with the RDM Station. For information on how to install a modem, refer to section 2.2.1.

Chapter 2 RDM Installation

This chapter gives step-by-step instructions on how to install the RDM module, the RDM agent and station software.

Contents of the Distribution

Your software package includes the following:

- ASM Pro software (included on the Acer *StartUp* CD-ROM)
- RDM Station software (included on the Acer *StartUp* CD-ROM)
- *RDM User's Guide* (this manual)

If anything is missing or damaged, please contact your dealer immediately.

2.1 System Requirements

Before you begin the installation, make sure that you have the following:

2.1.1 RDM Agent Requirements

Hardware

- External modem
- RDM module
- RDM LED indicator
- Pager

Software

- Novell NetWare v4.1 or later
- SCO OpenServer 5.0 or later
- Microsoft Windows NT 4.0 or later
- ASM (Advanced Server Manager) driver for RDM agent

2.1.2 RDM Station Requirements

Hardware

- Pentium or faster PC
- At least 16-MB RAM
- At least 5-MB free hard disk space
- Modem

Software

- Microsoft Windows 95, or
- Microsoft NT Workstation 4.0

2.2 RDM Agent Setup

This section describes how to set up the RDM agent.

2.2.1 Hardware Installation



The RDM module and LED are pre-installed at the Acer factory. The following RDM module and LED instructions are provided in the event that you ever need to reinstall the RDM module and LED.

For your new system, please go to the "Connecting Communication Peripherals" section for information about installing a modem, telephone, or pager.

1. ESD Precautions

Electrostatic discharge (ESD) can damage your processor, disk drives, expansion boards, and other components. Always observe the following precautions before you install a system component.

1. Do not remove a component from its protective packaging until you are ready to install it.
2. Wear a wrist grounding strap and attach it to a metal part of the system unit before handling components. If a wrist strap is not available, maintain contact with the system unit throughout any procedure requiring ESD protection.

2. Pre-installation Instructions

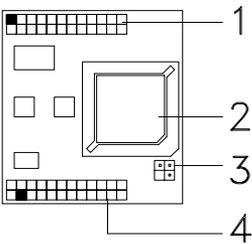
Always observe the following before you install a system component:

1. Turn off the system power and all the peripherals connected to the unit before opening it.
2. Open the system according to the instructions in the housing installation manual.

3. Follow the ESD precautions listed in the previous section before handling a system component.
4. Remove any expansion boards or peripherals that block access to the desired system board slot or connectors.
5. See the following sections for specific instructions on the component you wish to install.

3. Installing the RDM Module and LED

The following figure shows the RDM module layout:



- 1 23-pin connector
- 2 RDM controller
- 3 RDM LED connector
- 4 23-pin connector

Figure 2-1 RDM Module Layout

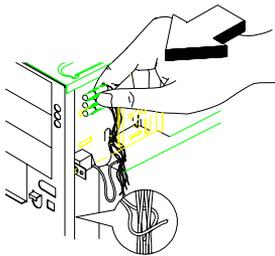
Follow these steps to install the RDM module:

1. Before you proceed, check the location of the LEDs on your system housing. The LEDs may be positioned either:
 - vertically aligned at the upper-right corner of the housing front panel.
 - horizontally aligned at the center of the housing front panel.
2. Open the system housing. Refer to your housing documentation for the instructions.
3. Remove the LEDs. Refer to your housing documentation for instructions.

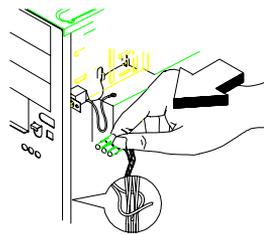


Do not forget where the hard disk and power LED cables are connected.

4. Insert the RDM LED module into the LED slots.
5. Bundle the LED cables with the cable holder provided in the system housing and insert them into the appropriate slots in the housing.



A. LEDs located at the upper-right corner of the housing



B. LEDs located at the center of the housing

Figure 2-2 Installing the LEDs

6. Connect the RDM LED cable (i.e., the cable connected to the center LED) to the RDM module's LED connector (i.e., the onboard three-pin connector). Refer to Figure 2-1 for the location of the LED connector.



Notice that one-hole of the RDM LED cable connector is covered. This ensures the proper connection.

7. Locate the two 23-pin RDM connectors on the system board. Refer to the board layout figure in the system user's guide.
8. Align the RDM module connectors to their corresponding connectors on the system board.
9. Gently insert the module. Make sure not to bend any pins and that the module is properly seated.

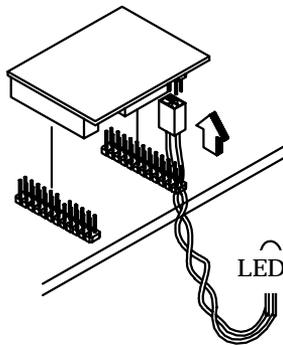


Figure 2-3 Connecting the RDM LED Cable and Installing the RDM Module

10. Connect the hard disk and power LED cables to their corresponding connectors on the system board.



Remember where the original LED cables are previously connected. You may also refer to your system board documentation for the connector locations.

11. Ensure that the LED cables are properly connected, then replace the housing cover. Refer to your housing documentation for instructions.
12. Enter BIOS Setup to set the desired RDM Work Mode. See Chapter 3 for details.

4. Connecting Communication Peripherals

Modem

The server and the station communicate via modem protocol. Therefore, you need to connect an external modem with a baud rate of not less than 28,800 bps to both systems. To connect an external modem, simply insert the modem connector to the appropriate port of the system.



The agent modem must be connected to COM2 port, while the station modem can be connected to either COM1 or COM2 port.

Use only modems that are purchased locally to ensure compatibility with your telephone system. The modem must have at least 28.8K transfer rate.

When the modem is turned ON, the CD/DCD (Carrier Detect/Data Carrier Detect) signal light on the front panel must be OFF for RDM to function properly. If this is not the case, refer to the modem's user's guide and check the section on DIP switch for information on how to adjust the CD/DCD light. If your modem does not have a DIP switch, then we recommend that you replace it with another model that supports such switches.

Telephone

RDM connection cannot be established with modems alone. You cannot fully take advantage of the RDM features and the modem functions without telephones. To connect a telephone to a modem, plug in the telephone connector to the modem telephone port. Then, insert the telephone line connector to the modem line port.

Pager

The pager is necessary for notification purposes only.

5. Post-installation Instructions

Observe the following after installing a system component:

1. Make sure that the components are installed according to the step-by-step instructions in their respective sections.
2. Replace any expansion boards or peripherals that you removed earlier.
3. Replace the system cover.
4. Connect the necessary cables.
5. Turn on the system, then the peripherals connected to it.

2.2.2 Software Installation



The RDM hidden partition is pre-installed on your primary hard disk drive at the Acer factory. The following instructions on how to create an RDM hidden partition are provided in the event that you need to reinstall your primary hard disk drive.

For your new system, please go to the “Installing the Operating System” heading within this section.

1. Creating the Hidden Partition

The RDM hidden partition is a DOS partition on the hard disk that allows you to run pre-installed diagnostic tools when necessary, without using a diskette or a CD. It also allows you to access your system from a remote location.

To install the RDM hidden partition, perform the following steps:



*RDM partition creation will destroy all data on the hard disk due to the requirement that the RDM hidden partition **must** be the **first** partition on your primary hard disk. **Back up** all important data **before** creating the RDM hidden partition.*

To create the RDM hidden partition from scratch:

1. Insert the bootable Acer StartUp CD-ROM in the CD-ROM drive and turn on your computer. The following screen appears:

```
A BOOTABLE CD-ROM IS DETECTED IN YOUR CD-ROM DRIVE...  
The boot sections on your bootable CD-ROM are:  
0:  DEFAULT ENTRY  
1:  Other boot options  
Please select one option (0-1), ESC to bypass Bootable CD:
```

2. Select **1**, Other boot options. The following screen appears next:

```
The boot entries in the section Other boot options are:  
0:  ECU  
    (1.44M FLOPPY DISKETTE)  
1:  DIAGNOSTICS  
    (1.44M FLOPPY DISKETTE)  
2:  RDM PARTITION  
    (1.44M FLOPPY DISKETTE)  
Please select one option (0-2), ESC to bypass Bootable CD:
```

3. Choose 2, RDM PARTITION. The partition installation screen appears next:

```
RDM Partition Installation (Version 3.01)
Copyright 1997 Acer America Corporation.
All rights reserved.
```

RDM Partition is needed for remotely diagnosing your server.

This installation will be done in two Phases. You must first complete Phase 1, which will be followed by an automatic reboot. After reboot, you will need to return to the RDM Installation to complete Phase 2. Have you already done Phase 1 (Select N if you have not done Phase 1) [Y, N]?

4. Choose N to start Phase 1. If you have already performed Phase 1, skip to step 8. The following screen appears after you choose N:

```
***** PHASE 1 *****
```

Please note that after Phase 1 is complete, machine will reboot automatically. Please return to RDM Partition Installation and continue from Phase 2 by answering Y to the above question next time.

WARNING! WARNING! WARNING!

```
*****
```

IMPORTANT: PLEASE BACKUP ALL DATA FROM HARD DISK, SINCE ALL DATA WILL BE ERASED

If you are not sure, you may choose not to proceed and do this at a later time.

```
*****
```

WARNING: Do you want to proceed? [Y, N]?

5. Choose **Y** to proceed with Phase 1.

IMPORTANT: Will destroy all data and create RDM partition.

LAST WARNING: Do you want to proceed? [Y, N]?

6. Choose **Y** to proceed.

The hidden partition is created, then the system automatically reboots.

7. After your system reboots, repeat steps 1-3. The following screen reappears:

```
RDM Partition Installation (Version 3.01)
Copyright 1997 Acer America Corporation.
All rights reserved.
```

RDM Partition is needed for remotely diagnosing your server.

This installation will be done in two Phases. You must first complete Phase 1, which will be followed by an automatic reboot. After reboot, you will need to return to the RDM Installation to complete Phase 2. Have you already done Phase 1 (Select N if you have not done Phase 1) [Y, N]?

8. Choose **Y**. Phase 2 automatically executes (when an existing RDM hidden partition is discovered). You will be prompted to reboot the system after Phase 2 completes.

2. Installing the Operating System

RDM supports the following operating systems:

- Novell NetWare
- Microsoft Windows NT
- SCO OpenServer



During the operating system installation it is extremely important not to delete or disturb the RDM partition (usually indicated as unknown partition).

For installation instructions, refer to the documentation that came with the OS package. For instructions on installing SCO OpenServer, refer to Appendix B, SCO OpenServer and the RDM Partition.

3. Installing the RDM Agent Driver



Before you proceed, make sure that you have installed the necessary components and peripherals, both for the server and station.

The RDM agent driver or the server driver is contained in the Advanced Server Management (ASM) software package. Therefore, to install the RDM agent driver, you need to install the ASM agent software. For information on how to install the ASM software, refer to the documentation that comes with the ASM package.

4. Enabling/Disabling the Driver

After installing the ASM Agent driver, the system automatically enables the RDM driver. You do not need to enable the RDM driver manually unless you have previously disabled it for some reasons.



We strongly recommend that you do NOT disable the RDM driver. If you disable the RDM driver, RDM Station will not be able to establish remote access to the server in the event of system failure.

NetWare

To enable the RDM driver in a Netware environment, type:

```
# LOAD MAGENT
```

To disable the driver, type:

```
# UNLOAD MAGENT
```

Windows NT

To enable the RDM driver in a Windows NT environment, open a command prompt and type:

```
STARTRDM.EXE
```

To disable the RDM driver, open a command prompt and type:

```
CANCEL.EXE
```

SCO OpenServer

To enable the RDM drivers in an SCO OpenServer environment, type:

```
#!/XSNMPD/RDMTEST START
```

where #/XSNMPD is the directory that contains the RDM drivers.

To disable, type:

```
#!/XSNMPD/RDMTEST CANCEL
```

2.3 RDM Station Setup

This section describes how to install and uninstall the RDM Station software.

2.3.1 Installing the RDM Station Software



Before you proceed, make sure that you have installed the necessary components and peripherals, for both the server and station.



The RDM v3.01 station software can be installed only under Windows NT 4.0 or Windows 95. The software is compatible with any version of RDM agent drivers (e.g., v1.3, v3.0, and v3.01).

The RDM package comes with a separate diskette that contains the RDM Station software.

Follow these steps to install the RDM Station software:

1. Turn on the system.
2. Turn on the peripherals connected to the system such as monitor, modem, etc.
3. Insert the RDM Station utility diskette into the diskette drive.
4. Enter the diskette drive directory.
5. Run the utility installation program, i.e., SETUP.EXE. The Setup Program Welcome screen appears.



Figure 2-4 Setup Program Welcome Screen

6. Click on **Next**. The Software License Agreement screen appears:

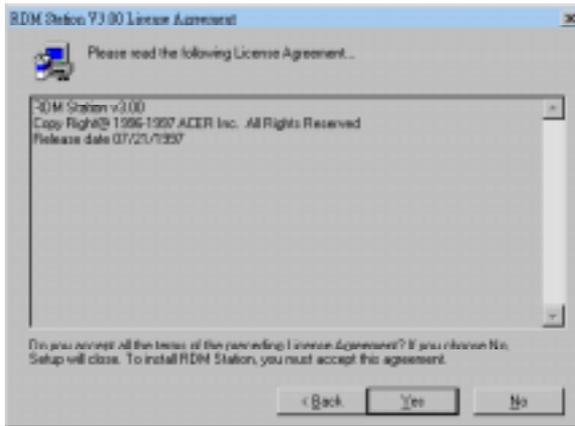


Figure 2-5 Software License Agreement Screen

7. Click on **Yes** to proceed. The User Information dialog box appears next.

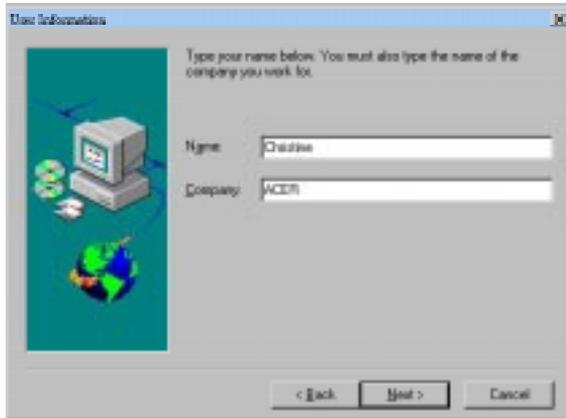


Figure 2-6 User Information Dialog Box

8. Enter your name or the user's name in the Name text box and your company in the Company text box, then click on **Next**. The Registration Confirmation dialog box appears.

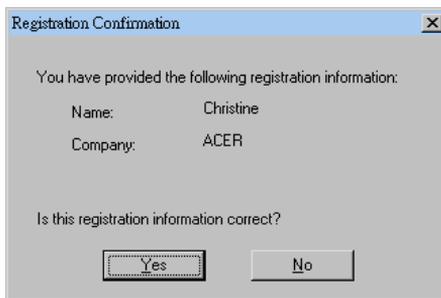


Figure 2-7 Registration Confirmation Dialog Box

9. Check the registration information specified. If the information is correct, click on **Yes**. If incorrect, click on **No** to return to the User Information dialog box. Check your entries and make changes, if necessary.

10. When the Choose Destination Location dialog box appears, check the specified location in the Destination Directory box. If you want to accept the default location, click on **Next**.



Figure 2-8 Choose Destination Location Dialog Box

If not, click on **Browse** and enter the desired location where you want the setup program to copy the necessary files.

11. In the Select Program Folder dialog box, specify the desired program folder for the RDM Station software. Then click on **Next** to proceed with the installation.



Figure 2-9 Select Program Folder Dialog Box.

12. After you click on **Next**, the installation program starts copying the files. When installation is completed, the following message box appears:

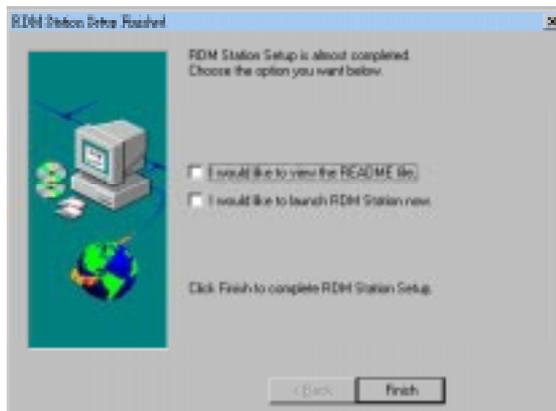


Figure 2-10 Setup Finished Message Box

13. Do either of the following:

- Click on I would like to view the README file checkbox if you wish to read the README file after you exit the installation program.
- Click on I would like to launch the RDM Station now checkbox if you wish to run the RDM Station program immediately after you exit the installation program.

14. After you have made your selection, click on **Finish** to complete the installation and exit the installation program.

2.3.2 Uninstalling the RDM Station Software

To uninstall RDM Station software, follow these steps:

1. From Windows 95, select **Control Panel**, then double-click on **Add/Remove Programs**.
2. Select **RDM Station** and click on the **Add/Remove** button.
3. When prompted to confirm the uninstallation, click on **Yes**. The following screen appears during the uninstallation process.



Figure 2-11 Remove Programs From Your Computer Message Box

4. When the uninstallation is completed, click on **OK**.

Chapter 3 Setting Up RDM-Enabled Servers

This chapter describes different RDM operation modes. It also explains the RDM BIOS features and how to configure RDM functions via the RDM BIOS.

3.1 Operation Modes

The RDM monitored servers run in three different modes:

- Local mode
- Remote mode
- Runtime mode

3.1.1 Local Mode

In Local mode, the server boots to the hidden partition. This allows you to run diagnostics and other test programs. However, in this mode, there is no remote connection. Thus, all RDM features are available only to the server.

This mode is useful only if you are located at the physical location of the server.

3.1.2 Remote Mode

In this mode, the system boots to the hidden partition and automatically establishes remote connection after reboot. This makes all RDM features available to both the server and station sites. You can run any RDM utilities from a remote location. However, this requires operator intervention since Remote mode can only be activated locally through the server BIOS Setup.

3.1.3 Runtime Mode

The Runtime mode is the normal RDM operation mode. In this mode, the system operates under its installed operating system. In the event of system failure, the driver stops sending heartbeat signal to the RDM module. The RDM module then takes over the COM port and dials the pager number(s) specified in the Remote Diagnostic Configuration menu.

There are two types of Runtime mode operations:

- Runtime Reboot Mode (Smart Reboot)
- Runtime Remote Mode (Waiting Mode)

3.2 RDM BIOS

This section explains how to configure the RDM function via RDM BIOS. The settings entered in the RDM BIOS determine how RDM handles a server failure.

3.2.1 Entering the RDM BIOS

To enter the RDM BIOS, press **CTRL** **ALT** **ESC** to enter the BIOS Setup utility. Highlight the Remote Diagnostic Configuration option and press **ENTER**. Page one of the menu appears on screen. This page is for configuring the Remote Console function.

Remote Diagnostic Configuration		Page 1/2
Remote Console	[Enabled]	
Hidden Partition	[Enabled]	
Communication Protocol	[N, 8, 1]	
COM Port Baud Rate	[57600]	BPS
Telephone Type	[Tone]	
Detect Tone	[Enabled]	
Remote Console Phone NO.:	[]
Dial Out Retry Times	[2]	
Modem Initial Command	[]

↑↓ = Move Highlight Bar, → ← = Change Setting
PgDn/PgUp = Move Screen, F1 = Help, Esc = Exit

Press **FPGDN** to view page two of the Remote Diagnostic Configuration menu. This page is for configuring the RDM module function.

```
Remote Diagnostic Configuration Page 2/2

RDM Work Mode -----[Waiting ]
Waiting Mode Password -----[ 1234]

System Critical Paging NO.:
  1. [123456789,,,,,#8823940# ]
  2. [847982493,,,,,#3442442# ]
  3. [ ]
Paging Times -----[ 1 ]

RDM SEEPROM Verification -----[Enabled ]

↑↓ = Move Highlight Bar, Esc = Exit
Number Input, Letter Input, Symbol Input: * , - & % \ #
```

After entering all the necessary settings, press **ESC** to exit the RDM BIOS setup.

3.2.2 Remote Console

This parameter lets you enable or disable the RDM connection. If enabled, the server automatically dials the RDM Station phone number specified in the Remote Console Phone No. parameter (see section 3.2.7) once the server boots. Once connection is established, both the server and station sites display the same screen and enables the station keyboard to function as the main console. Setting this to **Disabled** deactivates the remote console.

3.2.3 Hidden Partition

If you want the hidden partition to become accessible, set this parameter to **Enabled**.. When enabled, the server boots to the hidden partition.

To disable the hidden partition and return to the normal booting procedure, set this parameter to **Disabled**.



*We recommend that you set this parameter to **Enabled** especially if you are troubleshooting system problems.*

3.2.4 Communication Protocol

This parameter specifies the parity, stop bit, and data length for the COM port occupied by the modem. This is fixed at N (none), **8, 1** setting and is non-configurable.

3.2.5 COM Port Baud Rate

This parameter lets you set the transfer rate of the COM port assigned to the modem. The parameter setting depends on your modem specification; therefore, before you change the setting of this parameter, check your modem documentation.



Check your System Security Configuration settings in the BIOS Setup and make sure that you have assigned a port to serial 2. Otherwise, RDM will not function.

3.2.6 Telephone Type

Telephone types vary for every country or area. Though the Tone type is the most common, there are still other areas that use the Pulse type. Check your telephone type before resetting this parameter.

Detect Tone

This parameter becomes configurable only if the Telephone Type parameter is set to **Tone**. When enabled, RDM checks for the existence of telephone tone first before it dials out. When disabled, RDM proceeds with the dialing process without checking the telephone tone.



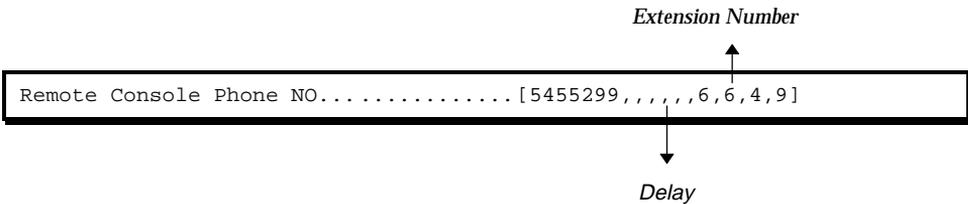
*We recommend that you leave this parameter to its default setting, i.e., **Enabled**.*

3.2.7 Remote Console Phone Number

This parameter allows you to set the station number the RDM module must dial once RDM is activated and the Remote Console parameter is enabled. To set, simply highlight the parameter and enter the station phone number.



If the remote connection phone number is utilizing Private Branch eXchange¹ (PBX) line, then you must enter six commas (,) after the phone number and before the extension number, if any. When entering the extension number, we recommend that you insert a comma after each number. The commas specify delay.



Leave the parameter blank to disregard the function.

¹ A PBX is a telephone switching system that requires manual operation to get an outside line. This is synonymous to PABX - Private Automatic Branch eXchanges.

3.2.8 Dial Out Retry Times

This parameter lets you specify the maximum number of times the server must retry connection to the station once server fails and RDM is activated. If the server has completed the specified number retrials and connection still fails, the server bypasses RDM and goes into normal mode.

3.2.9 Modem Initial Command

Some modems require specific commands for initialization. This parameter allows you to specify the required command to enable your system to support special types of modems. If you do not specify any command, BIOS uses the default method to initialize the modem.



Specify an initialization command only when you receive a Modem Initial Command Fail error message. Otherwise, leave this parameter blank.

3.2.10 RDM Work Mode



Before you set this parameter, make sure that you have an RDM module. Otherwise, you cannot set this parameter.

This parameter lets you specify the RDM work mode or the notification procedure. The mode options are listed in the following table:

Table 3-1 RDM Work Modes

Mode	Description
Waiting (Runtime Remote mode)	Once RDM is activated, the server dials the pager number(s) specified in the System Critical Paging No. parameters (see section 3.2.12) and waits for the station to call in. When the station calls in with the specified phone number and password, the Snapshot window (see Figure 4-8) automatically appears on the station screen.
Reboot	Once RDM is activated, the server dials the pager number(s) specified in the System Critical Paging No. parameters (see section 3.2.12) and automatically reboots the system to its original operating system.
Disabled	Deactivates RDM.



Once the server hangs, the RDM LED automatically lights.

3.2.11 Waiting Mode Password

This parameter prevents unauthorized access of the server. To set a password, simply highlight the parameter and enter your code. Your password may contain at least three characters but not more than eight alphanumeric characters (i.e., the 26 letters of the alphabet plus the numbers 0-9). You cannot use special characters.

Make sure to remember your password. Before the server grants access to the station, you will be prompted to enter this password.



You must set a password; otherwise, the server will not establish connection with the station.

3.2.12 System Critical Paging Numbers

These parameters allow you to set the pager number that the RDM module must dial once the server fails or hangs. To enter the pager number, simply highlight 1, 2 or 3. Type in the pager number followed by commas (,). The commas specify the delay. The number of commas to enter varies for every country depending on the communication switch used. Make sure that you enter the appropriate number of commas; otherwise, the pager may not receive the complete message. You can use any modem utility to determine the number of commas to enter. For example, to determine the number of commas via Windows Terminal:

1. Initialize the COM port assigned for the modem function.
2. Enter the system administrator's pager number (for example: **54555499,,,,,#XXXX#**). The default is four commas (,,,). If paging is successful, that means that the number of commas entered is enough. If not, add one comma to your entry. Repeat the procedure until paging is successful.

You may also include the server modem number or the message that you want to send in the pager notification. To do this, simply enter a # sign after the commas. Then enter your message. At the end of the message, type another # sign. The message entry must start and end with # sign.

To bypass this feature, do not enter any number after the comma signs.

```
System Critical Paging NO.
 1. [123456789,,,,,#8823940#      ]
 2. [847982493,,,,,#3442442#      ]
 3. [      ↑      ↑      ]
      ↑      ↑
    Pager Number  Message (valid entries: 0-9, *)
```

Leave the parameter blank to disregard the function.



You can enter a maximum of three sets of pager numbers. Follow the same procedure to set the additional pager numbers.

3.2.13 Paging Times

Similar to the Dial Out Retry Times parameter, this parameter lets you specify the number of times the server must dial the pager number(s) specified in the System Critical Paging No. parameters (see section 3.2.12) once the server fails and RDM is activated.

3.2.14 RDM SEEPROM Verification

When set to **Enabled**, BIOS checks the RDM data stored in the SEEPROM during system bootup. To disregard the function, set the parameter to **Disabled**.

3.3 Setting RDM Operation Modes

3.3.1 RDM Local Mode

In Local mode, the server boots to the hidden partition, allowing you to run diagnostics and other test programs.

Enabling Local Mode

Follow these steps to enable the Local mode:

1. Reboot the server and enter the BIOS Setup.
2. From the main menu, select Remote Diagnostic Configuration.

3. Set the Hidden Partition parameter to **Enabled**.
4. Save your changes and exit the BIOS Setup. The server automatically reboots.

Exiting from Local Mode

After running the diagnostics, you may now resume the system to normal operation. To do this, you need to exit from Local mode.

To exit from Local mode, do the following steps:

1. Reboot the server and enter the BIOS Setup.
2. From the main menu, select the **Remote Diagnostic Configuration** option.
3. Set the Hidden Partition parameter to **Disabled**.
4. Save your changes and exit the BIOS Setup.

3.3.2 RDM Remote Mode

In the RDM Remote mode, the system boots to the hidden partition and automatically establishes remote connection after reboot. This makes all RDM features available to both the server and station sites. You can run any RDM utilities from a remote location.

Enabling Remote Mode

Follow these steps to enable the Remote mode:

1. Reboot the server and enter the BIOS Setup.
2. From the main menu, select the **Remote Diagnostic Configuration** option.
3. Set the Remote Console parameter to **Enabled**.

4. Set the Dial Out Retry Times parameter to the desired number of times the server must attempt to call the station to make a connection.
5. In the Remote Console Phone No. parameter, enter the station phone number.
6. Save your changes and exit the BIOS Setup. The server automatically reboots and dials the specified station phone number to establish remote connection.

For remotely accessing the server, refer to Chapter 4.

3.3.3 RDM Runtime Mode

The RDM Runtime mode is the normal RDM operation mode. In this mode, the system operates under its installed operating system. In the event of system failure, the driver stops sending heartbeat signal to the RDM module. The RDM module then takes over the COM port and dials the pager number(s) specified in the Remote Diagnostic Configuration menu.

There are two types of Runtime mode operations:

- Runtime Reboot Mode (Smart Reboot)
- Runtime Remote Mode (Waiting Mode)

The following subsections discuss how each mode operates:

Activating RDM



Make sure that the modems are turned ON during remote operation.

When the server fails or hangs, the RDM driver stops sending heartbeat signal to the RDM module. If the module processor does not receive any heartbeat signal for a certain period of time, the RDM LED lights up indicating that RDM has been

activated. However, if the temperature of any processors in the system exceed its limit, the RDM module will immediately turn off the system for safety purpose.

When RDM is enabled, the module takes control of the COM port occupied by the modem and functions as the modem controller. It notifies the system administrator (through paging) that the server failed. RDM operates according to the RDM Work Mode specified in BIOS Setup (refer to Chapter 3) and allows the system administrator to access the server from the station.

Runtime Reboot Mode (Smart Reboot)

In this mode, RDM checks the status of all processors installed in the server. If there is at least one processor that is in good condition, the server automatically reboots. This mode applies only to system with multiple processors. However, if the temperatures of all processors in the system are higher than the maximum limit, the RDM module will not reboot the system until the temperature of at least one of the processors returns to normal.



To minimize the system down time, we recommend that you set the RDM Work Mode parameter in the BIOS Setup to Reboot (see section 3.2.10 for details). This setting enables the server to start paging and reboot immediately in the event of system failure.

Enabling Runtime Reboot Mode

Follow these steps to enable the Runtime Reboot mode:

1. Enter the BIOS Setup.
2. Highlight the **Remote Diagnostic Configuration** option.
3. Go to page 2 of the RDM Configuration menu.
4. Set the RDM Work Mode parameter to **Reboot**.



After Smart reboot, the processors with very high temperatures will be disabled. To enable the processors, you need to totally shutdown the system, i.e., by unplugging all power cables from the outlet. When you turn on the system, all processors become enabled again.

5. Specify the system administrator's pager number in the System Critical Paging Number parameter. You may enter a maximum of three pager numbers.
6. Specify the desired setting for the Paging Times parameter.
7. Save your changes and exit the BIOS Setup. The server automatically reboots and runs in Runtime Reboot mode.

Runtime Remote Mode (Waiting)

In this mode, when the server hangs or fails, the RDM module starts paging. Once the administrator receives the paging, he or she can call to the RDM host from the station site to establish connection. When connection is established, the Snapshot window appears on the screen.

Enabling Runtime Remote Mode

Follow these steps to enable the Runtime Remote mode:

1. Enter the BIOS Setup.
2. Highlight the **Remote Diagnostic Configuration** option.
3. Go to page 2 of the RDM Configuration menu.
4. Set the RDM Work Mode parameter to **Waiting**.
5. Enter a password in the Waiting Mode Password parameter. You will use this password to access the server from a remote site.

6. Specify the system administrator's pager number in the System Critical Paging Number parameter. You may enter a maximum of three pager numbers.
7. Specify the desired setting for the Paging Times parameter.
8. Save your changes and exit the BIOS Setup. The server automatically reboots and runs in Runtime Remote mode.

For remote waiting mode operations, refer to Chapter 4.

3.4 Hidden Partition Utilities in Remote Mode

What is the Hidden Partition?

The RDM hidden partition is a special partition on the primary hard disk drive that stores the RDM utilities. This partition is pre-installed on your system. Having this partition allows you to use the RDM utilities without having to run them from a floppy diskette.

The RDM hidden partition also allows you to access your computer from a remote location and run diagnostic routines.

3.4.1 RDM Utilities

The hidden partition facilitates diagnostics and execution of several useful utilities. The following is a list of the utilities that reside in the hidden partition, along with a description of each utility. The hidden partition tools will work with or without Remote Console enabled.



All RDM utilities can be executed either locally or on a remote Station through a modem. See "RDM Remote Mode" in section 3.3.2 for instructions on how to establish a remote connection.

RDM Utility Limitations

1. Only text mode is supported.
2. BIOS INT 14h is disabled
3. BIOS INT 1Ch is used to detect if system is still alive. The running applications cannot disable interrupts for over 5 minutes.
4. All applications must use INT 16h to get keys which a user types in.
5. DOSKEY cannot be used under Remote Console.

Acer BIOS Flash

The Acer BIOS flash utility is used to update your BIOS with a newer revision. The utility is located in the \aflash directory. To flash your BIOS, do the following:

1. `cd \aflash`  .
2. Type `aflash`  .

Server Doctor

Limitations

The following components cannot be tested from a remote console:

1. **Miscellaneous** test. This tests devices such as sound cards and CD-ROM drives. These tests cannot be checked remotely because the hardware resides on the local server.
2. **Floppy Disk** test. This test requires a blank diskette to be inserted in the server diskette drive.
3. **COM2** test. This port is used for connection between the server and station.

The Server Doctor utility is used to diagnose your server. To use Server Doctor, do the following:

1. `cd \servdr` .
2. Type `servdr` .

View DMI Information

Use this tool to see detailed system BIOS information. To access this utility, do the following:

1. `cd \tools` .
2. Type `dmidump` .

Check SEEPROM Information

Use this tool to check and test SEEPROM information. To access this utility, do the following:

1. `cd \tools` .
2. Type `testasm` .

View SEEPROM Information

Use this tool to view SEEPROM information. To access this utility, do the following:

1. `cd \tools` .
2. Type `rdmdata file.hst /r` .

where *file.hst* is the filename and */r* indicates that the file should be viewed in read only mode.



Do not use the /w write option with the above command. Doing so will destroy the SEEPROM data.

3. Use RDM Station's "View Snapshot File" to view the contents of the file.hst file.

CPU BIOS Update Code

Limitations

1. This tool is only available for Pentium Pro and Pentium II CPU's.
2. This tool can only be tested while in Local Mode.

This utility is provided by the system manufacturer. It is used to update the CPU type in the BIOS. To use this utility, type:

1. `cd \tools` .
2. `cd \bu` .
3. Type `checkup1` .

The server will hang after this test. The server must be powered off, then back on, to reboot after this test is performed.

Display Part Number and Serial Number

Use this tool to display and verify the part number and serial number of your system (from both a local server and from a remote station):

1. `cd \tools` .

2. Type `\getattoo`.

EISA Configuration Utility



This utility is only applicable to the AcerAltos servers with slots.

To run the ECU utility, do the following:

1. `cd \ecu` .
2. Type `cf` .
3. Follow the onscreen instructions.

Registering the RDM System

The system registration is necessary especially when troubleshooting. Important information such as person to contact, telephone number, location and asset tag are listed in the registration.

To register the RDM system, follow these steps:

1. Prepare a DOS bootable diskette and allow the system to boot from the diskette.
2. After bootup, remove the DOS bootable diskette and replace it with the WEEPROM diskette.
3. Type the command `\WEEPROM.EXE`. The following screen appears:

4. Highlight **Basic Information** and press **[ESC]** . The following figure appears:

```
WRITE SEEPROM UTILITY vXX.XX-XX
```

Contacted Person:
Contacted Telephone:
Location:
Asset Tag:

<ESC>-Quit

Figure 3-2 Basic Information Screen

5. Enter the information being asked in the appropriate text boxes.
6. Make sure that your entries are correct, then press **[ESC]** to return to the Main menu.

- When in the Main menu, press `[ESC]` again to exit the utility. The following message box appears.

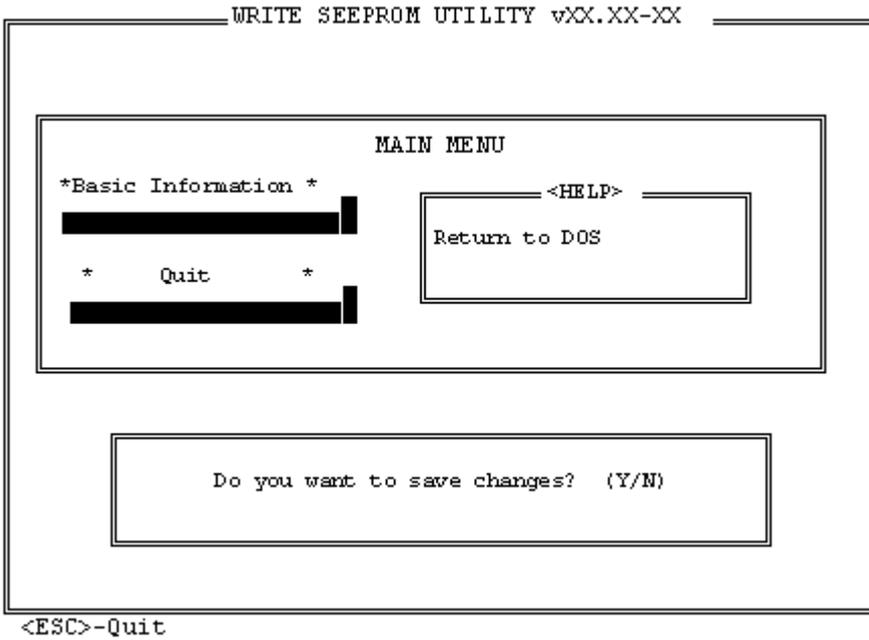


Figure 3-3 Save Changes Prompt

- Select **Y** to save the settings, as well as the changes.

3.4.2 TESTASM Utility

TESTASM, located in the `C:\TOOLS` directory, is a diagnostic program for testing specific components used by ASM. It analyzes the processor temperature, voltage, serial EEPROM, I2C bus and system status.

The following screen appears when TESTASM is executed:

```
TESTASM Diagnostic Program v2.00-012
Copyright (C) 1997, Acer Inc. All Rights Reserved.
```

```
A - Status Monitor
D - I2C EEPROM Dump
E - I2C Mother Board EEPROM Read/Write
S - Reset RDM
1 - Dump LM78-1 Register
B - I2C Buffer
X - Exit the program
```

Press one of the above keys:

Figure 3-4 TESTASM Menu

To select an option, simply press the key that corresponds to the desired option. Valid entries are A, D, E, S, 1, B, and X.

Table 3-2 TESTASM Options

Key	Option	Description
A	Status Monitor	Checks the CPU, fan status, system temperature, ...etc.
D	I2C EEPROM Dump	Displays the data stored in I2C EEPROM.
E	I2C Mother Board EEPROM Read/Write	Checks the read and write operations of the I2C motherboard EEPROM.
S	Reset RDM	RDN daughter board reset test
1	Dump LM78-1 Registers	Displays information about the LM78-1 registers.
B	I2C Buffer	Displays the status of the fuse(s), CPU, redundant power supply(ies).
X	Exit	Exits the program.

3.5 How to Activate the Hidden Partition

The hidden partition is activated either via the BIOS setup or if the system crashes while RDM is running in Runtime Remote mode.

If you install a new hard disk as your primary boot device, you will need to reinstall the hidden partition onto this new hard disk. See “Creating a Hidden Partition” in Chapter 2, for instructions on how to reinstall the RDM hidden partition.

Chapter 4 Using RDM Station

The RDM Station utility allows the system administrator to monitor the RDM-enabled servers remotely.

4.1 Running the RDM Station Utility

In order to establish RDM connection, the station must be running the RDM Station utility. To run the utility, do the following:

1. Enter Windows.
2. Open the RDM Station program group.
3. From the RDM Station program group, click on the **RDM** icon. The station starts initializing COM port occupied by the modem. The following message displays if the initialization is successful.



Figure 4-1 COM Port Initialization Message Box

4. Click on **OK**. This process is followed by the initialization of the modem. The following message appears if the modem initialization is successful.



Figure 4-2 Modem Initialization Message Box

5. Click on **OK**. The screen displays the RDM Station utility window.

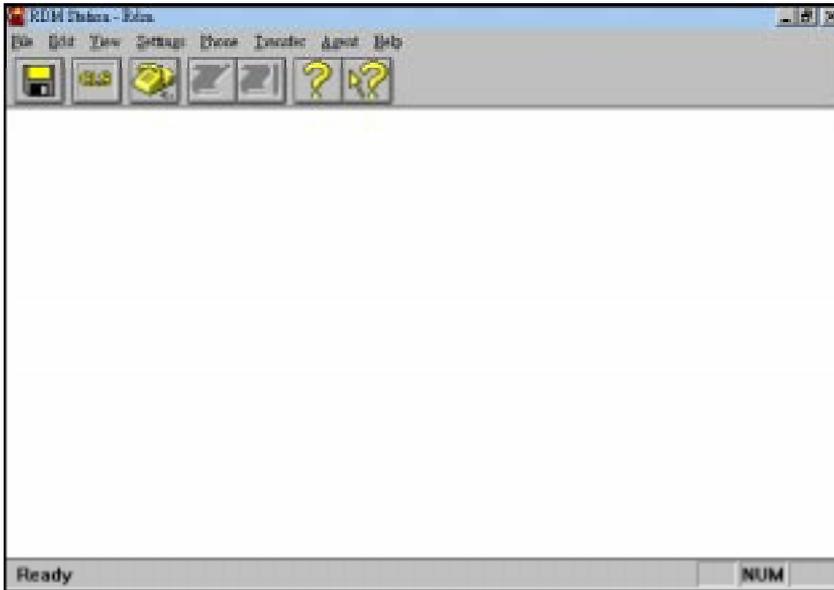


Figure 4-3 RDM Station Utility Window

RDM Station is functional now. As long as the server has been booted into Runtime Remote mode, the RDM Station is capable of accessing the server in case of server failure.

4.2 The Utility Menus

The File Menu

The File menu contains the following commands:

Save Settings	Saves the Communication configuration file with a new name.
View Snapshot File...	Displays a saved Snapshot file. The snapshot files is automatically created when the server crashes.
Exit	Closes the RDM Station utility.

The Edit Menu

The Edit menu contains the following commands:

Clear Window	Clears the utility screen.
Save Log File	Saves the current screen as .LOG file. This is very useful especially if you are debugging or troubleshooting. By default, this option is grayed out, i.e., disabled. This option is only available while you are connected to a remote server.
Stop Saving Log	Disables the Saving Log File function. By default, this option is grayed out, i.e., disabled.

The View Menu

The View menu contains the following options:

Toolbar	Shows or hides the utility Toolbar.
Status bar	Shows or hides the status bar, i.e., the bar located at the bottom of the utility window.

The Settings Menu

The Settings menu contains the following options:

Communication	Lets you configure the RDM Station function.
Font	Allows you to change your font properties.

The Phone Menu

The Phone menu contains the following commands:

Dial to RDM Host	Dials the number specified in the Phone No. to Dial box under the Settings menu. This lets the station establish connection to the server. Once connection is established, this option becomes disabled.
Hang Up	Disables the telephone connection. By default, this option is grayed out, i.e., disabled. Once remote connection is established, this option becomes enabled.

The Transfer Menu

The Transfer menu enables the station and the server to send and receive files.

Send File	Enables the station to send files to the server.
Receive File	Enables the station to receive files from the server.



By default, these options are grayed out, i.e., disabled. Once remote connection is established and server boots to hidden partition, the options become enabled

The RDM Agent Menu

The RDM Agent menu contains the following commands:

Install TSR	Allows you to install Terminate and Stay Resident (TSR) program. This program is stored in RAM so that they can be easily activated. This option is needed only if the station is communicating with an RDM v1.x agent.
Uninstall TSR	Removes or uninstalls the TSR program from the memory. This option is needed only if the station is communicating with an RDM v1.x agent.
Refresh Screen	Updates the current screen.
RDM Talk	Runs the Talk utility. This utility allows the users located at station and agent sites to communicate online.

Reboot Agent Allows you to reboot the server from the station site in either of two modes:

Disconnect

Reboots the server after first disabling the Remote Console BIOS setting.

Keep Monitoring

Reboots the server into normal mode, reestablishing the connection after rebooting.

About Agent

Displays the copyright and version number of the server's remote console driver.



By default, all options are grayed out, i.e., disabled. Once remote connection is established and the server boots to hidden partition, the options become enabled

The Help Menu

The Help menu contains the following commands:

Index	Displays the Help index. The index helps you to find the information that you want easily.
Using Help	Opens the RDM online help.
About RDM	Displays the copyright, version number and release date of the RDM Station utility.

4.3 The Toolbar Buttons



Saves the configuration as .STN file.



Clears the screen.



Dials the server phone number. This button becomes gray or disabled after remote connection is established.



Saves the current screen as .LOG file. This is very useful especially if you are debugging or troubleshooting. By default, this button is grayed out, i.e., disabled. Once remote connection is established, it becomes enabled.



Disables the Saving Log File function. By default, this button is grayed out, i.e., disabled. Once you select the Save Log File command or , it becomes enabled.



Displays the copyright, version number and release date of the RDM Station utility.



Clicking this button changes the cursor to an arrow with a question mark ( form). This indicates that the RDM Help has been invoked. Click on the button where you need help on a particular subject.

4.4 Configuring RDM Station

To configure RDM, follow these steps:

1. Select **Settings** from the menu bar.
2. Select the **Communication** command. The Communication Settings dialog box appears.

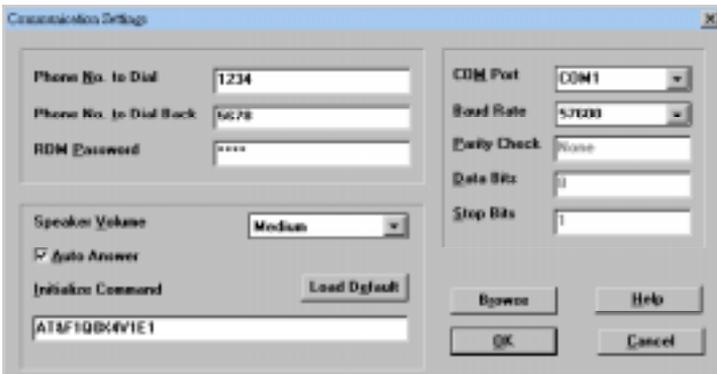


Figure 4-4 Communication Settings Dialog Box

3. Enter the server phone number in the Phone No. to Dial box.
4. In the Phone No. to Dial Back box, enter the station phone number that the server will dial when it attempts to call back the station.
5. Enter the correct password in the RDM password box. The password must be the same as the one specified in the Waiting Mode Password BIOS parameter. See Chapter 3 for more details on RDM BIOS.
6. Set the desired speaker volume in the Speaker Volume box.
7. Disable/enable the Auto-answer feature.

8. If the modem currently in use requires a special command for initialization, specify the command in the Initialize Command box. We recommend you use the default modem initialization command. To do this, simply click on the **Load Default** button.



If the modem initialization fails, check your modem's manual for the proper initialization command and enter it in the Initialize Command Box.

9. Click on the down arrow of the COM Port box and select the COM port that you want to assign for the modem function.



Only the COM1 and COM2 ports are supported by the RDM Station.

10. Click on the down arrow of the Baud Rate box and select the baud rate that you want to support. The default setting is **57600**.
11. Click on the down arrow of the Parity Check box and select the number of parity to check to ensure data accuracy.
12. Click on the down arrow of the Data Bits box and select the data length for the COM port.
13. Click on the down arrow of the Stop Bits box and select a stop bit for the COM port.
14. If you want to enable the Local Echo feature, click on the **Local Echo** box. This feature enables the monitor to display all the messages entered and sent by the server and the station when Talk mode is enabled.



We suggest that you leave the other parameters to their default settings.

15. Click on **OK** after entering the desired settings. The Save Configuration dialog box appears. Follow the instructions in the next subsection to save the configuration.

4.4.1 Setting the Font Properties

You can select the font that you want to appear on the RDM Station window for displaying text.

To select a font, do the following:

1. From the menu bar, select the **Settings** menu.
2. Select the **Font** command. The Font dialog box appears.
3. From the Font box, select the desired font type.
4. From the Font Style box, select the desired font style.
5. From the Size box, select the desired font size.
6. After making your selections, the desired character appears in the Sample box. Verify your settings, click on **OK**.

4.4.2 Saving the Configuration

You can save the your RDM utility configuration as a file with .STN extension. This enables you to retrieve your previous configuration in case you have decided to cancel the modifications that you have done.

To save, do the following steps:

1. Do either of the following:
 - Click on **File** and select **Save Settings** option.
 - From the **Toolbar**, click on the **Save** button ().
2. The Save Configuration File dialog box appears.

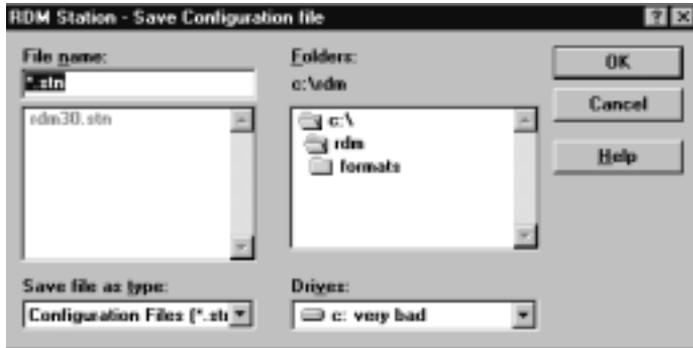


Figure 4-5 Save Configuration File Dialog Box

3. Enter a filename in the File Name box. Then specify the path where you want to save the .STN file in the Drive and Directories boxes.
4. Click on **OK** to save the configuration to the specified filename or click on **Cancel** to disregard the entries and quit the Save Configuration File dialog box.



You may rename the configuration file by following the above steps and specifying a different filename.

4.4.3 Loading a Previous Configuration

If you want to load the previously saved configuration, do the following:

1. Select **Settings** from the menu bar.
2. Select the **Communication** command. The Communication Settings dialog box appears.
3. Click on the **Browse** button. The Open Configuration File dialog box appears.
4. Select the configuration file that you want to open from the list in the Directories box.
5. After making your selection, click on **OK**.

4.5 RDM Remote Mode Operation

This operation requires that the RDM-enabled server be set to Remote Console [Enabled] in the RDM BIOS. See Chapter 3 for instructions on setting the RDM BIOS.

After rebooting the server, the RDM module will automatically establish connection with the RDM Station. Once the connection is established, the following screen appears on both the server and the station.

```
BIOS v2.1
-----
0032384 KB Memory Good
RDM Module Detected
Remote Console Dialing Out. Please Wait...
Connect Successfully

Check Point: 88

Enter Setup, Remote Site press ! key, Local Site press CTRL ALT ESC
ACR45E00-Io8-9709701-R01-B0-T3.RC311
```

You can access all RDM utilities from the RDM Station. From the station you can do either of the following:

- Press **SHIFT** **!** to view the server BIOS Setup. For details on BIOS Setup, refer to the system's documentation.
- Boot to hidden partition.



Remote Console supports VGA text mode only.

4.5.1 Exiting from Remote Mode

If you want to resume the system to normal operation, you need to exit from Remote mode.

To exit from Remote mode, do the following steps:

1. Run the RDM Station program. See section 4.1 for details.
2. From the menu bar, select **Agent**.
3. Select the **Reboot Agent** command. The Confirm RDM Host Reboot dialog box appears.



Figure 4-6 Confirm RDM Host Reboot Dialog Box

4. Click on **Disconnect**. The system automatically reboots, terminates connection and returns back to normal operating mode.



*If you click on the **Keep Monitoring** option, the server reboots without disabling the connection with the remote station.*

4.6 Remotely Accessing the Server

If the RDM enabled server has been set to the Runtime Remote mode, the RDM module pages the system administrator after the server hangs or fails. The system administrator can then call the RDM server from the remote RDM Station, to:

- Get a snapshot
- Get the current server status
- Turn off the server
- Reboot the server

4.6.1 Connecting to the Server



Before you proceed, make sure that RDM is activated and running in Runtime Remote mode.

To establish connection with the server from the RDM Station, do the following steps:

1. From the menu bar, select the **Settings** menu. The Communication Settings dialog box appears on screen.
2. Check your Phone No. To Dial setting. If it is not correct, enter the correct server phone number.
3. Check your Phone No. to Dial Back setting. If it is not correct, enter the station phone number that the server must dial when it attempts to call back the station.
4. Enter the RDM password box. The password must match the password entered in the Waiting Mode Password BIOS parameter. See Chapter 3 for more details on RDM BIOS.

5. When prompted to save the file, enter a filename if you wish to save the settings. Then click on **OK**.
6. The RDM Station utility window reappears on the screen. Select the **Phone** menu.
7. Select the Dial to RDM Host command to establish connection. The station dials the server number. When the call is successful, the RDM module verifies the entered password and the following message box appears:

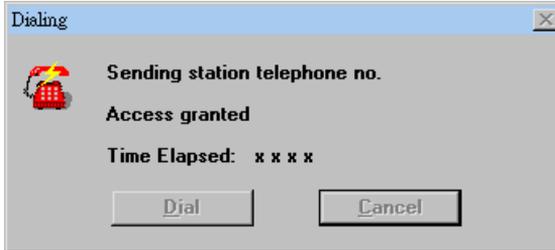


Figure 4-7 Dialing Message Box

If the password matches the server's password for remote connection, the System Snapshot window appears. The System Snapshot window displays the current server information.

4.6.2 Server Snapshot

Once connection is established from RDM Station to the server, the server status is shown in the snapshot window:

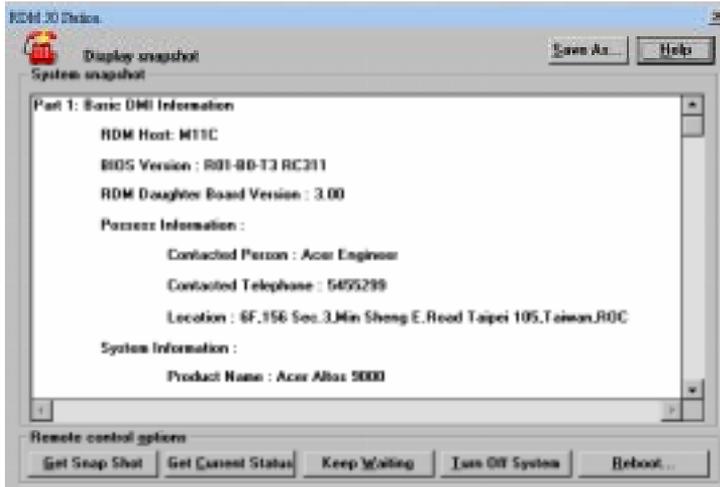


Figure 4-8 System Snapshot Window

Snapshot Window Button Functions

- | | |
|---------------------------|--|
| Get Snap Shot | Re-displays the System Snapshot window (see Figure 4-8). This window contains important information about the server. For more details on the contents of Snapshot window, see Appendix C. |
| Get Current Status | Displays the updated information related to the server, such as system power, CPU status, system voltage, fuse, and chassis front door statuses. |



If the server is turned off by selecting the **Turn Off** button from the Snapshot window, some of the information in the Get Current Status display will be deleted. Only the system Power, CPU, and chassis front door statuses will remain on the display.

Keep Waiting

Cuts off the existing connection with the server and allows the server to remain available, waiting for other stations to dial in to make connection.

Turn Off System

Turns off the server power. If you click this button, the following message box appears:



Figure 4-9 System Turned Off Message Box

Reboot

Displays the Reboot Options dialog box and reboots the server according to the specified reboot options.



Figure 4-10 Reboot Options Dialog Box

The available options are:

Reboot Types:

Smart When selected, RDM checks the status of all processors installed in the server. If there is at least one processor that is in good condition, the system automatically reboots. After reboot, the following message box appears:



Figure 4-11 Smart Reboot Message Box

If all processors are in bad condition, a message informing you of the condition of the processor(s) and asking if you still want to continue to reboot the system appears.

Click on **Yes** to “force” reboot the server. The system will use all the processors installed in it to reboot.

Normal When selected, RDM checks the status of all the processors installed in the server. If all processors are in

good condition, the system automatically reboots and shows the following message:



Figure 4-12 Successful Normal Reboot Message Box

If any of the processors is in bad condition, a message informing you of the condition of the processor(s) appears.



Figure 4-13 Normal Reboot Fail Message Box

Click on **OK**. Another message box appears, asking if you want to force a reboot.

Click on **Yes** to “force” reboot the server. The system will use all the processors installed in it to reboot.

The following Remote Console options are available:

Enabled	Maintains remote connection after server reboots and allows the remote site to fully control the server.
Call Back	When selected, remote connection cuts off before the server reboots. After reboot, the server dials back to the station to resume connection. This option is recommended if you want to pass the connection charges to the server.

After verifying your settings, click on **OK**. The server reboots according to your specified settings.

4.6.3 Saving a Log File

If you want to save the current screen, perform the following steps:

1. Do either of the following:

- Click on the **Log** button () from the Toolbar.
- Click on the **Edit** menu and select **Save Log File** command.

The Save Log File dialog box appears.

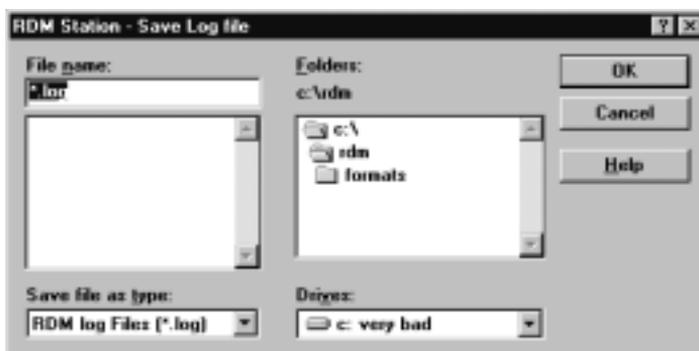


Figure 4-14 Save Log File Dialog Box

2. Enter a filename in the File Name box. Then specify the path where you want to save the .LOG file in the Drive and Directories boxes.
3. Click on **OK** to save the current screen specified filename or click on **Cancel** to disregard the entries and quit the Save Log File dialog box.



The Save Log File function differs for RDM v1.x and RDM v3.0/v3.01. In RDM v1.x, all screens that appear from the time you clicked the Save Log File button (🗑️) will be saved to the specified filename, until you click on the Disable Save Log File button (🗑️).

In RDM v3.0/v3.01, only the current screen on display when you clicked the Save Log File button (🗑️) will be saved. To save the following screens, you must click the Save Log File button after each screen. All saved screen will be appended to the specified Log filename.

4.6.4 Viewing a Snapshot File

To view a previously saved Snapshot file, do the following steps:

1. From the menu bar, select the **File** menu.
2. Select the **View Snapshot File** command. The Open system Snapshot File dialog box appears.
3. From the Folders box, select the path where the desired Snapshot file is located.
4. From the File Name list box, select the desired Snapshot file.
5. After making your selection, click on **OK**. The screen displays the selected Snapshot file.

4.6.5 Sending Files



Before you send files, make sure that the agent is in DOS command mode and that the files to be transferred are stored in the local hard disk.

To send files to the server, do the following:

1. From the menu bar, select the Transfer menu.
2. Select the **Send File** command. The Open dialog box appears.



Figure 4-15 Open File Dialog Box

3. Choose the file(s) that you want to send then click on **OK**. You may choose as many files as you want. The Remote Directory Path dialog box appears.
4. Enter the directory in the server where you want to copy the selected files in the Full path name of remote directory entry box.
5. After verifying the entered path, click on **OK**. The File Transfer Status dialog box appears.

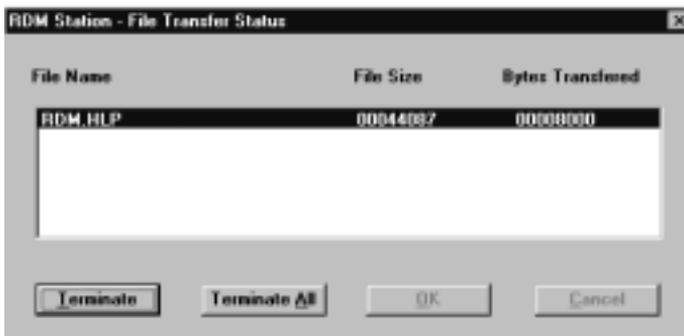


Figure 4-16 File Transfer Status Dialog Box

6. To stop the sending operation of the file that the station is currently transferring, click on the **Terminate** button. To stop the sending of all the selected files, click on the **Terminate All** button.

If the file(s) already exist, a message box prompting you to confirm the replacement of the files will appear. Click on **Yes** to confirm the replacement of the file that is currently being transferred. Click on **Yes to All** to confirm the replacement of all the common files. Click on **No** if you do not want to replace the file.

Notice that the **OK** button remains grayed until the file transfer is completed. The **Cancel** button becomes grayed when file transfer fails.

To close the Transfer Status dialog box, click on **OK**. To disregard the operation that has been performed previously, click on **Cancel**.



The maximum file size that can be transferred is 18 MB.

4.6.6 Receiving Files



Before you receive files, make sure that the agent is in DOS command mode.

To receive files from the server, do the following:

1. From the menu bar, select the **Transfer** menu.
2. Select the **Receive File** command. The Receive File Name dialog box appears.

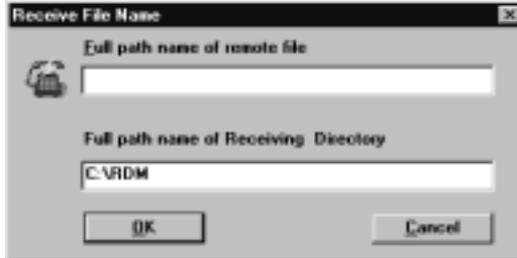


Figure 4-17 Receive File Name Dialog Box

3. Enter the path where the files are located in the Full path name of the remote file entry box then click on **OK**. The File Receive Status dialog box appears.



Figure 4-18 File Receive Status Dialog Box

4. Notice that the **OK** button remains grayed until the transfer of file(s) is completed. To stop the transfer of file(s) or to disregard the operation that has been performed previously, click on **Cancel**.

If the file(s) already exist, a message box prompting you to confirm the replacement of the files will appear. Click on **Yes** to confirm the replacement of the file that is currently being transferred. Click on **Yes to All** to confirm the replacement of all the common files. Click on **No** if you do not want to replace the file.

5. When the file transfer is finished, click on the **OK** button to close the Receive Status dialog box.



The maximum file size that can be transferred is 18 MB.

4.6.7 Running the Talk Utility

The Talk utility allows the user at the station site to directly communicate with the user at the server site via PC. User at both sites can send messages by simply typing in the text.

To run the Talk utility, do the following:

1. From the menu bar, select the **Agent** menu.
2. Select the **RDM Talk** command. The Talk Utility screen appears both on the server site and on the local site monitors.



Figure 4-19 Talk Utility Screen

3. Type in the messages that you want to send. The messages from the server site appears on the upper portion of the screen, while the messages from the station site appears at the lower portion
4. To exit the utility, simply press **CTRL X**.

4.6.8 Rebooting the Server

To reboot the server, do the following:

1. From the menu bar, click on the **Agent** menu and select the **Reboot Agent** command. The Confirm RDM Host Reboot dialog box appears.



Figure 4-20 Confirm RDM Host Reboot Dialog Box

2. Click on the **Disconnect** button to disable RDM and reboot the server to normal mode. Click on the **Keep Monitoring** button to simply reboot the server. If you suddenly decided not to reboot the server, click on **Cancel**.
3. After making your choice, the dialog box disappears from the screen and the selected reboot option is performed.

Chapter 5 Troubleshooting

This chapter lists the common problems that you may encounter during RDM operation, followed by the possible corrective action(s).

5.1 RDM Agent Troubleshooting

1. The loopback test failed after running RDMLP.

Check the RDM module and make sure that it is properly plugged into its socket.

2. The RDM LED indicator is not lit while running RDM in either Local or Remote mode.

The LED indicator lights up in Runtime mode only. After the server reboots itself, the LED indicator will turn off. The Runtime mode is active only during a server failure.

3. The RDM Work Mode parameter is grayed out.

Check the RDM module and make sure that it is properly plugged into its socket.

4. The message “No RDM Hidden Partition” appears.

Do the following:

- i. Enter the BIOS Setup.
- ii. Set the Hidden Partition to **Enabled**.

- iii. Exit the BIOS Setup and save your changes.
- iv. Make sure that you have created the hidden partition. Refer to section 3.2.3 for instructions. In case you need to recreate the RDM hidden partition, do not forget to back up all important files before you proceed. Creating the RDM partition destroys all data on the hard disk due to the requirement that the RDM hidden partition must be the first partition on the primary hard disk.

5.1.1 Hidden Partition Troubleshooting

If there are bad sectors or other damages in the hidden partition, do the following steps:

1. Insert a bootable diskette into the diskette drive.
2. Enter the BIOS Setup and set the Hidden Partition parameter in the RDM BIOS to **Enabled**.
3. After the system boot from the diskette drive, use the Disk Repair tool to troubleshoot the partition.

5.1.2 BIOS Messages

The following table lists the BIOS status and error messages that you might encounter when using RDM.

Table 5-1 BIOS Status and Error Messages

BIOS Message	Description
RDM Module Detected	BIOS detected an RDM module in the system.
RDM SEEPROM Data Unavailable	RDM data in SEEPROM is not correct. You may have to contact your vendor to resolve this problem.
RDM Enabled But Modem Not Ready	RDM Work Mode is set to Reboot or Waiting; however there is no modem available for the RDM module. Check if there is a modem connected to serial port 2. Make sure that it is ON.
RDM Dialing Out. Please Wait...	Remote Console function has been enabled. BIOS will dial out to connect to the RDM Station. This process will take for a couple of minutes.
Connect Fail: Serial 2 Disabled	Serial 2 is disabled. Enter the BIOS Setup, select the System Security option, and set an I/O port for serial 2.
Connect Fail: Modem Off	Modem is OFF. Check if modem is connected to serial 2. Make sure that it is ON.
Connect Fail: Modem Initial Command Fail	The default modem initial command failed. Consult your modem's manual. The BIOS default command is AT&F1&C1V0X0M1L2S7=120
Connect Fail: No Dial Tone	Modem cannot detect a dial tone. Make sure that the telephone is working properly.

Table 5-1 BIOS Status and Error Messages (continued)

BIOS Message	Description
Connect Fail: Line Busy	RDM Station is busy now. Wait for a few minutes, then try reconnecting.
Connect Fail: No Answer	No response from the RDM Station. Make sure that the RDM Station phone number is correct.
Connect Fail: No Telephone to Dial	RDM Console is enabled but no RDM Station phone number is set. Enter the BIOS Setup, select the Remote Diagnostic Configuration option, and enter the station number in the Remote Console parameter.
Connect Fail: User Stop Dialing Out	The ESC key is pressed during the RDM dialing out process. Do not press ESC while RDM is dialing out unless you want to stop the connection process.
No RDM Hidden Partition	RDM hidden partition is enabled but no hidden partition created in the hard disk. Enter BIOS Setup, select the Remote Diagnostic Configuration option, and disable the Hidden Partition parameter. This returns your system to its normal booting process. For more details on Hidden Partition, see Chapter 3.

5.1.3 Remote Console Limitations

Most functions can be accessed using a remote console. The following list shows the exceptions, i.e., the limitations of using the remote console.

- PMU (power management unit) is disabled
- Supports Text mode only
- BIOS int 14h is disabled

- BIOS INT 1Ch is used to detect the server status. If the server fails, the INT 1Ch stops updating the hardware timer. If this condition remains for 5 minutes (i.e., the BIOS default timer timeout), the server automatically reboots, reconnects and reassigns the INT 1Ch for the same function. INT 1Ch cannot be disabled.
- All applications must use INT 16h to determine the keys or the characters entered by the user from the station site.
- Cannot run DOSKEY.EXE
- Stops functioning after the server reboots into its installed operating system.

5.1.4 Server Doctor

The following Server Doctor tests cannot be performed remotely, for the reason explained with each test:

Miscellaneous Test

The Miscellaneous Test tests such devices as sound boards, CD-ROM drives, etc. These tests cannot be checked from a remote terminal because the hardware resides on the local terminal.

Floppy Disk Test

The Floppy Disk test requires a blank diskette to be inserted in the diskette drive. Since this requires human intervention to insert a blank diskette, it may not be possible to run this test.

COM2 Test

COM2 cannot be used remotely because the modem uses COM2 for communication.

5.2 RDM Station Troubleshooting

In general, if you have display problems when running a utility from remote mode, it's a good idea to check if you must first run the "install TSR" option. See the "RDM Utilities" section.

Problem

No display when I run ECU from a remote station.

Solution

See the "EISA Configuration Utility" section.

Problem

No display when I run Server Doctor from a remote station.

Solution

See the "Server Doctor" section.

Appendix A RDM Module Test Utilities

This appendix gives instructions on how to run the RDM module test utilities. This will help you verify if the module is working properly.

A.1 Testing Utilities

The RDM is equipped with two module testing utilities:

RDMLP	This utility is used to verify that the RDM hardware is working properly. For details, see section A.2.
RDMDRV	This utility simulates a server crash, allowing you to verify that the RDM work mode is running properly. For details, see section A.3.

A.2 Hardware Check



Before you proceed with the hardware test, make sure that the modem is connected to COM2 port.

Do the following to verify that the hardware is installed and running properly:

1. Prepare a bootable RDMLP diskette and copy RDMLP.EXE and RDM30T.EXE files.
2. Boot the server using the RDMLP bootable diskette.
3. Turn on the modem.
4. Under DOS, type:

RDMLP/C 

5. Use this utility to check the RDM module and COM port 2 (make sure that the modem is connected to COM2).

When you run this utility, the following events will take place during the test.

- i. Test heartbeat protocol.
 - ii. Then 10 seconds later, system will reboot.
 - iii. After system reboot, RDM module will turn off the system and test certain components.
 - iv. About 5 seconds, RDM module will switch the system on again.
 - v. System will boot to Drive A.
6. After the test completes, the screen should display either a PASS message or a FAIL message with a beep sound.



If the test fails, check the RDM module installation. See Chapter 2 for instructions on how to install the RDM module.

A.3 Simulating a Server Failure

You need to run a test that simulates a server failure in order to determine whether the Runtime Remote mode is functioning properly.

Do the following steps:

1. Insert a bootable diskette that contains the RDMDRV.EXE file in the diskette drive and boot the server.
2. Enable the Runtime mode. Refer to section 3.3.2.
3. After the system boots, at the DOS prompt, type:

```
RDMDRV 
```

The following message appears on the screen:

```
RDM daughter board test program v3.0

RDM BIOS version: 3.00
RDM daughter board firmware version: 3.0

RDM module will be active after 30 seconds.
```

The server is now simulating a failure. Check if the RDM LED indicator is lighted.

Once the LED lights up, RDM starts dialing the specified pager numbers. When paging is successfully completed, you can now call the server from the station to establish connection. Refer to section 4.6.1 for detailed instructions.

Appendix B SCO OpenServer and the RDM Partition

This appendix describes how to do a fresh installation of SCO OpenServer while preserving the RDM hidden partition.¹

B.1 SCO OpenServer 5 Installation and RDM

The default option for **Hard Disk Setup** is `Unix only: Bad blocking 0 FF`. Do NOT accept this default option. This will overwrite the RDM partition.



The RDM hidden partition is needed by RDM for remotely diagnosing your server.

1. Boot the computer with the SCO OpenServer boot floppy and the SCO OpenServer CD-ROM loaded in their respective drives.
2. Follow the onscreen prompts in the SCO installation until you reach the **Hard Disk Setup** entry.
3. Choose **Interactive fdisk/divvy**.

¹ On AcerAltos servers that came with the RDM hidden partition pre-installed.

4. Choose either **Use the Rest of the Disk for Unix** for allocating the remaining space to Unix, or **Display Partition Table** to customize it.



*Steps 2 through 4 above **must** be performed in order to preserve the RDM partition that was pre-installed on your computer.*



If you are using SCO OSR 5 Easy Install in Acer Startup, it will detect and preserve the RDM partition automatically. If you are doing a manual installation, perform steps 2- 4 above to ensure that you do not accidentally overwrite your RDM hidden partition.

Appendix C Snapshot Window Information

This appendix describes the information displayed on the Snapshot window.



1. *To display the Snapshot window, follow the steps listed in section 4.6 - Remotely Accessing the Server.*

2. *To view the complete information on the Snapshot window, use the horizontal and vertical scroll bars.*

There are four types of information shown on the Snapshot window.

- Basic DMI Information
- ASM Health Log
- System Failure Status
- RDM Basic Information

C.1 Basic DMI Information

The Basic DMI¹ Information lists the basic information about the server. These data are very useful for the remote service engineers to fully understand the server.

¹ DMI: Desktop Management Interface

The following is a sample of the Basic DMI Information list.

Part 1: Basic DMI Information

RDM Host: M11C

BIOS Version : R01-80-T3 RC311

RDM Daughter Board Version : 3.00

Possess Information :

Contacted Person : Acer Engineer

Contacted Telephone : 5455299

Location : 6F,156 Sec.3,Min Sheng E.Road Taipei 105,Taiwan,ROC

System Information :

Product Name : Acer Altos 9000

Version : 1

Serial Number : ACR1234567890

Based Board Information :

Production Name: M11C

Version : 1

Serial Number : ACR001

Chassis Information

Chassis Name : IDUN

Chassis Version : 1

Power Supply Unit(s) : 1

Fan Unit(s) : 3

Asset Tag : M7D1005#5d

System Temperature Informaton

Fatal Degree : 108C 226F

Warning Degree : 70C 158F

Onboard Fuses

Mouse and Keyboard

USB 1

USB 2

SCSI 1

C.2 ASM Health Log

The ASM Health Log contains a list of system failure events detected by the ASM agent and their occurrence time in GMT². These data are recorded in the SEEPROM chip

The following is a sample of the ASM Health Log.

Part 2: ASM Health Log

AC Fail	Fri May 23 17:49:25 1997
Fan stop	Fri May 16 21:57:17 1997
Fan stop	Fri May 16 21:57:17 1997
Fan stop	Fri May 16 21:57:17 1997
Fan stop	Fri May 16 21:57:45 1997
Fan stop	Fri May 16 21:57:45 1997
Fan stop	Fri May 16 21:57:45 1997
Fan stop	Fri May 16 21:59:42 1997
Fan stop	Fri May 16 21:59:42 1997
Fan stop	Fri May 16 21:59:42 1997
Fan stop	Fri May 16 22:04:23 1997
Fan stop	Fri May 16 22:04:24 1997
Fan stop	Fri May 16 22:04:24 1997
Fan stop	Mon Jan 01 08:05:47 1996
Fan stop	Mon Jan 01 08:05:47 1996
Fan stop	Mon Jan 01 08:05:47 1996
Fan stop	Wed Jan 03 23:36:41 1996

C.3 System Failure Status

The System Failure Status contains hardware related information recorded by RDM when system failure occurred.

² GMT: Greenwich Meridian Time

A sample of the System Failure Status display appears below.

Part 3: System Failure Status

Failure Count: 10 times
Latest Failure Time: Mon Oct 13 23:42:22 1997
2nd last Failure Time: Mon Oct 13 23:36:51 1997
3rd last Failure Time: Mon Oct 13 23:08:35 1997
4th last Failure Time: Mon Oct 13 23:03:47 1997
5th last Failure Time: Mon Oct 13 22:25:47 1997
Current Failure Time: Mon Oct 13 23:52:20 1997
CPU Information
 System Supporting CPU Number : 1
 Current CPU Number in System: 1
 Running CPU Number : 1
 Stop Running CPU Positions :
 Running CPU ID : 0632
CPU Status
 Temperature : 26C 78F
 Voltage : 2.80 V
 Fan : Good
 Issue IERR# : No
 Issue Thermtrip# : No
System Voltage Status
 1.5 V ----> 1.49 V
 3.3 V ----> 3.44 V
 5 V ----> 5.13 V
 -5 V ----> -5.06 V
 12 V ----> 12.10 V
Fuse Status
 Keyboard/Mouse : Good
 SCSI2 : Good
 SCSI 1 : Good
1st Power Supply: Bad
1st Power Supply Fan: Bad
2nd Power Supply: Bad
2nd Power Supply Fan: Bad
Left Chassis Door: Closed
Right Chassis Door: Closed



1. *The Latest, 2nd, 3rd, 4th, and 5th last Failure Time parameters appear only if the RDM daughterboard installed in the system is v3.01.*

2. *The Issue IERR# specifies the occurrence of internal error in CPU; the Issue Thermtrip# specifies that the CPU temperature has exceeded its limit (i.e., 135°C).*

3. *The System Voltage Status specifies system information at expected voltage and at actual measured voltage.*

C.4 RDM Basic Information

The RDM Basic Information includes the RDM Work Mode related information, such as the dialer phone number, remote console phone number, pager number(s), and password. These data help the remote service engineers understand the RDM operation.

A sample of the RDM Basic Information list appears below.

Part 4: RDM Basic Information

System in RDM Waiting Mode

Waiting Mode Phone Number : 1234 [Call In]

Remote Console Phone Number : 5678 [Call Out]

1st Paging Number :

2nd Paging Number :

3rd Paging Number :

Waiting Mode Password : 1234

Index

A

- Architecture, 1-4
 - RDM Agent, 1-5
 - RDM connectivity, 1-6
 - RDM Station, 1-5

B

- BIOS utility, 3-10

C

- COM port baud rate, 3-5
- Communication protocol, 3-5
- Configuring RDM Station, 4-8

D

- Dial out retry times, 3-7

E

- Entering the RDM BIOS, 3-3
- Exiting from Remote mode, 4-14

F

- Features, 1-2
- Font properties, setting, 4-10

H

- Hardware installation, 2-3
- Hidden partition, 3-15, 3-24
 - How to activate, 3-24
- Hidden partition utilities
 - TESTASM utility, 3-22
- Hidden partition utilities in Remote mode, 3-15
- How to activate the hidden partition, 3-24

I

- Installation, 2-1
 - Hardware, 2-3
 - RDM Station, 2-15
 - RDM Station setup, 2-15
 - Software, 2-9
 - Uninstalling RDM Station, 2-20

L

- Loading a previous configuration, 4-12
- Local mode, 3-1, 3-11

M

- Modem initial command, 3-7

N

- New features in RDM v3.01, 1-3

O

- Operation Modes, 3-1

- Local mode, 3-1, 3-11
- Remote mode, 3-2, 3-11, 3-14, 3-15
- Runtime mode, 3-2, 3-12

Overview, 1-1

- Architecture, 1-4
- Features, 1-2
- New features in RDM v3.01, 1-3
- RDM Agent, 1-5
- RDM connectivity, 1-6
- RDM Station, 1-5
- Remote console features, 1-2
- System failure detection features, 1-2

P

Paging times, 3-10

R

RDM Agent, 1-5

- Requirements, 2-1

RDM BIOS, 3-3

- COM port baud rate, 3-5
- Communication protocol, 3-5
- Dial out retry times, 3-7
- Entering, 3-3
- Hidden partition, 3-15, 3-24
- Modem initial command, 3-7
- Paging times, 3-10
- RDM SEEPRM verification, 3-10
- Remote console, 3-4
- Remote console phone number, 3-6
- System critical paging numbers, 3-9
- Waiting mode password, 3-8

RDM connectivity, 1-6

RDM installation, 2-1

RDM module test utilities, A-1

- Hardware check, A-1
- Simulating a server failure, A-1

RDM SEEPRM verification, 3-10

RDM Station, 1-5

Configuring, 4-8

- Exiting from Remote mode, 4-14
- Installing, 2-15
- Loading a previous configuration, 4-12
- Remote mode operation, 4-13
- Requirements, 2-2
- Saving the configuration, 4-10
- Setting the font properties, 4-10
- Setup, 2-15
- Uninstalling, 2-20

Rebooting the server, 4-28

Receiving files, 4-25

Remote console, 3-4

- Features, 1-2
- Phone number, 3-6

Remote mode, 3-2, 3-11

- Hidden partition utilities, 3-15
- Operation, 4-13

Remotely accessing the server, 4-15

- Rebooting the server, 4-28
- Receiving files, 4-25
- Running the talk utility, 4-27
- Saving a log file, 4-21
- Sending files, 4-23
- Server snapshot, 4-17
- Viewing a snapshot file, 4-23

Running the RDM Station utility, 4-1

Running the talk utility, 4-27

Runtime mode, 3-2, 3-12

S

Saving a log file, 4-21

Saving the configuration, 4-10

SCO OpenServer and RDM, B-1

Sending files, 4-23

Server snapshot, 4-17

Setting up RDM-enabled servers

- Entering the RDM BIOS, 3-3
- Hidden partition utilities in Remote mode, 3-15

- How to activate the hidden partition, 3-24
- Operation modes, 3-1
 - Local mode, 3-1, 3-11
 - Remote mode, 3-2, 3-11, 3-14, 3-15
 - Runtime mode, 3-2, 3-12
- RDM BIOS, 3-3
 - COM port baud rate, 3-5
 - Communication protocol, 3-5
 - Dial out retry times, 3-7
 - Hidden partition, 3-15, 3-24
 - Modem initial command, 3-7
 - Paging times, 3-10
 - RDM SEEPROM verification, 3-10
 - Remote console, 3-4, 3-6
 - Remote console phone number, 3-6
 - System critical paging numbers, 3-9
 - Waiting mode password, 3-8
- Remote mode, 3-11
- Runtime mode, 3-12
- TESTASM utility, 3-22
- Simulating a server failure, A-1
- Snapshot window information, C-1
 - ASM health log, C-3
 - Basic DMI information, C-1
 - RDM basic information, C-5
 - System failure status, C-3
- Software installation, 2-9
- System critical paging numbers, 3-9
- System failure detection features, 1-2
- System requirements, 2-1
 - RDM Agent requirements, 2-1
 - RDM Station requirements, 2-2

T

- TESTASM utility, 3-22
- Toolbar buttons, 4-7
- Troubleshooting
 - RDM Agent, 5-1
 - Hidden partition, 5-2
 - BIOS messages, 5-3

- Remote console limitations, 5-4
- Server Doctor, 5-5
- RDM Station, 5-6

U

- Using RDM Station, 4-1
- Utility menus, 4-3

V

- Viewing a snapshot file, 4-23

W

- Waiting mode password, 3-8

