

Value and Comprehensive Manageability

POWERMATE® ES 5250 SERIES

**SERVICE AND REFERENCE
MANUAL ADDENDUM**

NEC

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Contents

Preface.....	vii
1 System Overview	
System Board.....	1-2
ATI 3D RAGE XL Graphics Accelerator.....	1-2
Network Support.....	1-3
SCSI Adapter Board.....	1-4
EIDE and SCSI Hard Drives.....	1-4
2 System Boards and Hard Drives	
System Board Jumpers.....	2-2
Checking Power On Mode Jumper JP1.....	2-3
Setting CMOS Clear Jumper JBAT1.....	2-4
Setting Onboard Video Jumper JVGA1.....	2-4
Setting CPU Bus Frequency Selector Jumper JK1.....	2-4
Setting AGP Bus Frequency Selector Jumper JK2.....	2-5
SCSI Adapter Board Connectors and Jumpers.....	2-5
SCSI Hard Drive Connectors and Jumpers.....	2-6
3 Illustrated Parts Breakdown	
Parts and Options.....	3-2
Documentation and Packaging.....	3-3
Field Replaceable Unit List — Small Desktop.....	3-3
Illustrated Parts Breakdown (IPB) — Small Desktop.....	3-6
Field Replaceable Unit List — Desktop.....	3-7
Illustrated Parts Breakdown (IPB) — Desktop.....	3-10
Field Replaceable Unit List — Minitower.....	3-11
Illustrated Parts Breakdown (IPB) — Minitower.....	3-14
A PowerMate ES 5250 Series Release Notes	
Applications and Online Documentation.....	A-2
Installing Applications in the Correct Order.....	A-2
Installing NEC SNMP Agent.....	A-3
Uninstalling the NEC SNMP Agent or LANDesk Client Manager.....	A-4
When Both NEC SNMP Agent and LANDesk Client Manager Are Installed...	A-4
When LANDesk Client Manager Is Installed Without the NEC SNMP Agent..	A-4
Installing Cheyenne Backup.....	A-5
Installing PartitionMagic.....	A-5
Installing Internet Explorer 4.01 Add-On Components.....	A-5
Using the LS-120 SuperDisk Copy Utility.....	A-6
System Configuration.....	A-6
Configuring the System for the NEC SNMP Agent.....	A-6
Configuring the System for NEC WebTelligent.....	A-6
Configuring the System for Microsoft Internet Explorer.....	A-7
Changing Network Settings.....	A-7

Checking Differences Between CMOS Setup Defaults and Shipped Settings	A-8
From the Standard CMOS Setup Menu.....	A-8
From the PNP/PCI Configuration Menu	A-8
From the Integrated Peripherals Menu	A-8
Identifying the Pentium III Processor	A-9
Setting Boot Order in BIOS	A-9
Getting CD-ROM Support in Command Prompt Only Mode	A-10
SCSI Drive Limitations	A-10
Booting from a CD	A-10
Using the NEC OS Restore CD with a SCSI Drive	A-10
Intel Processor Serial Number Control Utility	A-10
Identifying System Requirements	A-11
Installing the Utility	A-11
Looking at Serial Number Features	A-11
Getting Answers to FAQs	A-11
Getting Intel Technical Support	A-13
Windows 95 Issues	A-13
Controlling CD Audio.....	A-13
Using Cheyenne Backup	A-13
Backing Up Large Drives.....	A-13
Using Cheyenne Backup with LANdesk Client Manager.....	A-13
Using Cheyenne Backup with the Seagate Travan Tape Backup.....	A-14
Clicking the Product Catalog Button	A-14
Restoring Software with a U.S. Robotics 56K V.90 Modem Installed.....	A-14
Configuring the System for PIIX4 Support.....	A-14
Reconfiguring Ultra DMA Support.....	A-14
Determining IDE Device Compatibility.....	A-15
Windows 98 Issues	A-15
Ejecting the NEC Application and Driver CD from a DVD-ROM Drive.....	A-15
Finding Tape Device Icons	A-15
Installing CD-ROM MS-DOS Drivers on Systems with	
Windows 98 Second Edition	A-15
Windows NT Issues.....	A-16
Installing TCP/IP Protocol	A-16
Restoring Network Card Drivers.....	A-16
Installing BootMagic in a System with Windows NT	A-17
Configuring BootMagic	A-17
Correcting the BootMagic Configuration.....	A-18

Regulatory Statements

List of Figures

PowerMate ES 5250 Series Small Desktop IPB	3-6
PowerMate ES 5250 Series Desktop IPB	3-10
PowerMate ES 5250 Series Minitower IPB.....	3-14

List of Tables

Locating System Board Jumpers	2-3
Power On Mode Jumper JP1 Settings.....	2-3
CMOS Clear Jumper JBAT1 Settings	2-4
Onboard Video Jumper JVGA1 Settings	2-4
CPU Bus Frequency Selector Jumper JK1 Settings.....	2-4
AGP Bus Frequency Selector Jumper JK2 Settings	2-5
Ordering Parts and Options.....	3-2
PowerMate ES 5250 Series Documentation and Packaging.....	3-3
PowerMate ES 5250 Series FRU List — Small Desktop	3-3
PowerMate ES 5250 Series FRU List — Desktop	3-7
PowerMate ES 5250 Series FRU List — Minitower	3-11

Preface

This addendum contains technical information for the NEC PowerMate® ES 5250 Series of small desktop, desktop, and minitower computers. It provides technical information for system components unique to the PowerMate ES 5250 Series computers.

The addendum is a supplement to the *NEC PowerMate ES 5200 Series Service and Reference Manual* (NEC part number 456-00043-000SRV).

The addendum is organized as follows.

Section 1, System Overview, provides an overview of the unique components of the PowerMate ES 5250 series, including an enhanced system board, Intel® Pentium® III 600-MHz processor, SCSI adapter board, and IDE and SCSI hard drives.

Section 2, System Boards and Hard Drives, provides connector, switch, and jumper setting information for the system board, SCSI adapter board, and hard drives.

Section 3, Illustrated Parts Breakdown, includes an illustrated parts breakdown diagram and parts list for the PowerMate ES 5250 Series computers.

Appendix A, NEC PowerMate ES 5250 Series Release Notes, describes recommended operating procedures and technical data not documented in other PowerMate ES 5250 Series documentation.

1

System Overview

- System Board
- SCSI Adapter Board
- EIDE and SCSI Hard Drives

This section provides an overview of the NEC PowerMate ES 5250[®] Series computer, an enhanced version of the PowerMate ES 5200 Series computer. Included in this section are descriptions of components that differ from those in the NEC PowerMate ES 5200 Series. Also included is an overview of several build-to-order options available for the PowerMate ES 5250 Series of computers.

Hardware and technical information that is common between the PowerMate ES 5250 series and the PowerMate ES 5200 series is not included in this addendum. The reader should refer to the *NEC PowerMate ES 5200 Series Service and Reference Manual* for common component information.

Externally, the front and back of the PowerMate ES 5250 series do not differ from the PowerMate ES 5200 series. Internally, the PowerMate ES 5250 uses an enhanced Micro-Star MS-6131 (rev 3.0C) system board with onboard

- ATI[®] 3D RAGE XL[™] graphics accelerator chip
- 8 MB of video memory
- Intel[®] 82559 10/100 Ethernet network chip
- support for a Pentium[®] III 600-MHz processor with 100-MHz front side bus (FSB).

Additionally, support is included for an Adaptec[®] 2940 Ultra2 Wide SCSI adapter board and high capacity Enhanced IDE (EIDE) and small computer system interface (SCSI) 7200 rpm hard drives.

See the following sections for additional information on the system board, SCSI adapter board, and hard drives.

System Board

The Micro-Star MS-6131 Rev. 3.0C NLX system board supports Intel Celeron[®] processors (up to 433 MHz), Pentium II processors (up to 450 MHz), and Pentium III processors (up to 600 MHz). The board uses the same Intel 82440BX PCI chipset, system memory, audio controller, clock, I/O controller, battery, and hardware monitor as the system boards used in the PowerMate ES 5200 Series.

Enhancements to the board include the addition of the ATI[®] 3D RAGE XL[™] graphics accelerator chip, 8 MB of video memory, Intel 82559 10/100 Ethernet network chip, and support for the Pentium III 600-MHz processor and 7200 rpm EIDE and SCSI hard drives.

ATI 3D RAGE XL Graphics Accelerator

The ATI 3D Rage XL graphics accelerator chip on the system board provides high quality full accelerated graphics port (AGP) 2X acceleration and 2D, 3D, and video acceleration.

For 3D acceleration, the chip features an integrated 1.2 million triangles/second set-up engine that reduces CPU use and bus bandwidth requirements. For 2D acceleration, the chip features hardware acceleration of Bitbit and Line Draw.

Motion video acceleration features include hardware DVD decode through Motion Compensation and Inverse Discrete Cosign Transformation to provide full frame rate playback of DVD content.

Included on the chip is a 4KB texture cache and support for Gouraud shading and Direct 3D texture lighting.

The chip is supported with 8 MB of video SGRAM installed on the system board.

Network Support

The system board has an Intel 82559 10BASE-T/100BASE-TX network controller chip and an external LAN connector at the back of the system. The chip combines small size and low power consumption to deliver highly manageable fast ethernet connectivity.

Features of the 82559 controller include:

- Advanced Configuration and Power Interface (ACPI)
- wake on Magic Packet
- wake on interesting packet
- advanced System Management Bus (SMS)
- Wired for Management (WfM) support
- IP checksum assist
- PCI 2.2 compliance
- PC 98 and PC 99 compliance
- full duplex support at both 10 and 100 Mbps
- Wake on LAN™
- low power 3.3V device.

The chip also has Alert on LAN™, a technology that alerts system administrators when a system has a problem.

SCSI Adapter Board

Some systems may come with the Adaptec 2940 Ultra2 Wide SCSI board installed in a PCI expansion slot. The SCSI adapter board brings the highest performance SCSI I/O technology to the PCI local bus, transferring data up to a maximum rate of 80 MB/second (up to a 133 MB host bus burst data rate). The adapter board is compatible with all device protocols, including SCSI-1, SCSI-2, Ultra SCSI, and Ultra2 SCSI.

For systems with the SCSI adapter board, the Adaptec *SCSISelect* configuration utility comes installed on the system. The utility can be used to configure the adapter board. The utility eliminates the need to use jumpers or terminators when adding SCSI peripherals.

For systems with the adapter board and SCSI hard drive, a four-connector SCSI cable is used to connect the drive to the adapter board. With this configuration, up to four SCSI devices can be connected, including the factory installed adapter board and SCSI hard drive. By purchasing additional SCSI interface cables, up to a total of fifteen SCSI peripherals can be connected to the adapter board.

Additional information on the SCSI adapter board is given in Section 2 of this addendum.

EIDE and SCSI Hard Drives

All systems ship with a 3 1/2-inch hard drive, either EIDE or SCSI. Systems might come with one of the following drives:

- 4.3-GB Ultra DMA 33, 5400 rpm
- 8.4-GB Ultra DMA 33, 5400 rpm
- 12.9-GB Ultra DMA 33, 5400 rpm
- 12.8-GB Ultra DMA 33, 7200 rpm
- 17-GB Ultra DMA 33, 7200 rpm
- 20-GB Ultra DMA 33, 7200 rpm
- 9.1-GB SCSI Ultra Wide, 7200 rpm
- 18-GB SCSI Ultra Wide, 7200 rpm.

Further information on the SCSI hard drives is included in Section 2 of this addendum. Information on the EIDE hard drives is included in the *PowerMate ES 5200 Series Service and Reference Guide*.

2

System Boards and Hard Drives

- System Board
- SCSI Adapter Board
- SCSI Hard Drive

This section contains the connector, switch, and jumper setting information for the following components of the PowerMate ES 5250 Series computers:

- system board
- SCSI adapter board
- 9.1-GB 7200 rpm Wide Ultra SCSI hard drive
- 18-GB 7200 rpm Wide Ultra SCSI hard drive.

For information on common components in the PowerMate ES 5250 Series of computers, refer to the *PowerMate ES 5200 Series Service and Reference Manual*.


System Board Jumpers

System board jumpers set system configuration for a particular requirement. The system board has the following jumpers (jumper locations are shown in the following figure).

CAUTION

Jumpers are set correctly at the factory for the system configuration. Only change the appropriate jumper settings. Otherwise, keep the jumpers at their factory settings.

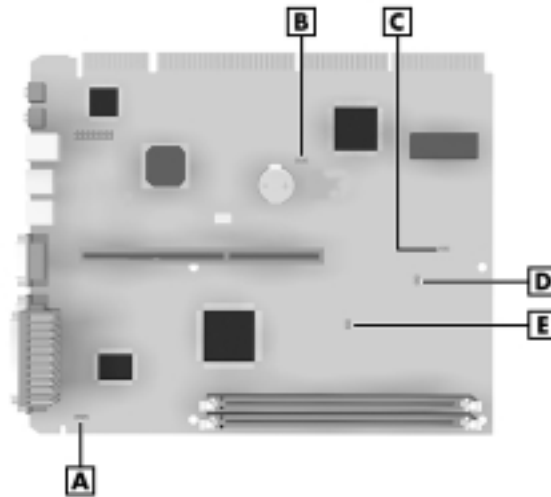
- Power On Jumper JP1 — sets the way the system starts up (jumper correctly set at factory, do not change the factory setting).
- CMOS Jumper JBAT1 — clears CMOS and resets the settings back to their factory state.
- VGA Mode Jumper JVGA1 — disables onboard video if adding a video board to the system.

 **Note:** The location of jumper JVGA1 on the PowerMate ES 5250 system board (see the following figure) differs from the location of jumper JVGA1 on the PowerMate ES 5200 system board.

- CPU Bus Frequency Selector Jumper JK1 — selects 66-MHz or 100-MHz CPU bus frequency.
- AGP Bus Frequency Selector Jumper JK2 — selects AGP bus frequency or PCI bus frequency.

Jumper settings are described in the following paragraphs. For detailed procedures on changing a system board jumper setting, refer to the *PowerMate ES 5200 Series Service and Reference Manual*.

Locating System Board Jumpers



A – VGA Mode Jumper JVGA1
B – CMOS Clear Jumper JBAT1
C – Power On Mode Jumper JP1

D – CPU Bus Frequency Selector Jumper JK1
E – AGP Bus Frequency Selector Jumper JK2

WARNING

The system power must be off before opening the system and changing a jumper setting.

Checking Power On Mode Jumper JP1

The Power On Mode JP1 jumper settings are shown in the following table. Keep the jumper setting in the open setting (pins 1 and 2, no jumper).

Power On Mode Jumper JP1 Settings

JP1 Pins	Function
1-2 Not Jumped	Factory setting — no jumper, do not change. This setting conforms to BIOS setting for “Restore AC/Power Loss” in Power Management section of CMOS Setup Menu.
2-3	Do not use this jumper setting.

Setting CMOS Clear Jumper JBAT1

If the CMOS needs to be cleared and reset back to the factory settings, move the jumper from pins 1 and 2 to 2 and 3 on jumper block JBAT1 (see the following table for settings). After approximately five seconds, move the jumper back to pins 1 and 2 to keep any future CMOS changes.

CMOS Clear Jumper JBAT1 Settings

JBAT1 Pins	Function
1-2 Jumpered	Factory setting. Keeps CMOS changes.
2-3 Jumpered	Clears CMOS changes.

Setting Onboard Video Jumper JVGA1

If adding a video board to the system, the onboard video must be disabled by moving the jumper from pins 1 and 2 to pins 2 and 3 on jumper block JVGA1 (see the following table for settings).

Onboard Video Jumper JVGA1 Settings

JVGA1 Pins	Function
1-2 Jumpered	Factory setting. Enables onboard video.
2-3 Jumpered	Disables onboard video.

Setting CPU Bus Frequency Selector Jumper JK1

Enables automatic detection of the CPU bus frequency (66 MHz or 100 MHz) when pins 1 and 2 are jumpered on jumper block JK1. When the jumper is removed from JK1, the system automatically sets the CPU bus frequency to 100 MHz (see the following table for settings).

CPU Bus Frequency Selector Jumper JK1 Settings

JK1 Pins	Function
1-2 Jumpered	Factory setting. Enables auto detection of 66-MHz and 100-MHz frequencies.
1-2 Not Jumpered	Sets CPU bus frequency to 100 MHz.

Setting AGP Bus Frequency Selector Jumper JK2

The AGP bus frequency selector jumper JK2 sets the AGP bus frequency to 66 MHz when pins 1 and 2 are jumpered. Removing the jumper from pins 1 and 2 sets the AGP bus to the PCI bus frequency (see the following table for settings).

AGP Bus Frequency Selector Jumper JK2 Settings

JK2 Pins	Function
1-2 Jumpered	Factory setting. Sets the AGP bus frequency to 66 MHz.
1-2 Not Jumpered	Sets the AGP bus frequency to the PCI bus frequency.

SCSI Adapter Board Connectors and Jumpers

The build-to-order Adaptec 2940U2W Ultra2 Wide SCSI adapter board is installed in one of the PCI expansion board slots in the system.

The board has four connectors:

- 68-pin high density Ultra2 Wide SCSI internal connector
- 68-pin high-density Ultra2 Wide SCSI external connector
- 68-pin high density Ultra Wide SCSI internal connector
- 50-pin high density Ultra SCSI internal connector.

For systems with the SCSI adapter board and SCSI hard drive, one end of the factory installed SCSI interface ribbon cable connects to the 68-pin high density Ultra2 Wide SCSI internal connector on the SCSI board. The other end connects to the internal SCSI hard drive.

The SCSI adapter board has no switches or jumpers to set. The SCSI IDs and terminations are normally set by jumpers on the SCSI hard drive (see “Hard Drive Connectors and Jumper Settings” in this section). Settings can also be set through the factory installed Adaptec *SCSISelect*[™] software. All SCSI settings are preset at the factory, including SCSI IDs and terminations.

CAUTION

All SCSI adapter board software settings are correctly set at the factory for the system configuration. Do not change the settings. Doing so may disable the adapter board, hard drive, or both.

You can view the SCSI settings or reconfigure the SCSI adapter board through the factory installed Adaptec *SCSISelect*[™] software. The software is accessed during system startup by pressing the **Ctrl** and **A** keys when the following message appears on the screen:

Press <Ctrl><A> for SCSISelect(TM) Utility!

For further information on the SCSI adapter board, refer to the Adaptec SCSI documentation.

SCSI Hard Drive Connectors and Jumpers

A typical SCSI hard drive installed in the system has a 68-pin connector for attaching the SCSI interface cable. The other end of the cable attaches to the internal 68-pin connector on the SCSI adapter board.

The drive must have a unique address (ID), which is set through jumper blocks on the hard drive. Additional jumpers set the drive's termination and other required functions.

CAUTION

Hard drive jumpers are correctly set at the factory for optimum operation. Do not reset the jumpers. Doing so may disable the hard drive, adapter board, or both.

For further information on the SCSI hard drive, including jumper information, refer to the hard drive documentation.

3

Illustrated Parts Breakdown

- Parts and Options
- Documentation and Packaging
- Field Replaceable Unit List — Small Desktop
- Illustrated Parts Breakdown — Small Desktop
- Field Replaceable Unit List — Desktop
- Illustrated Parts Breakdown — Desktop
- Field Replaceable Unit List — Minitower
- Illustrated Parts Breakdown — Minitower

This section contains the NEC CSD part lists and illustrated parts breakdowns (IPB) for the PowerMate ES 5250 Series build-to-order small desktop, desktop, and minitower systems.

The following sections provide

- telephone numbers for ordering system parts and options
- list of documentation and packaging for the system
- lists of field-replaceable parts for each system
- an illustrated parts breakdown figure for each system.

Parts and Options

The following table lists the telephone numbers to use when ordering spare parts and options.

Ordering Parts and Options

Items	Telephone Number
To order spare parts (Dealers)	1-800-632-4525
To order spare parts (Customers)	In the U.S. 1-800-233-6321 In Canada 1-800-727-2787

Documentation and Packaging

The following documentation and packaging may be ordered from NEC CSD (depending on availability).

PowerMate ES 5250 Series Documentation and Packaging

Description
User's Guide, PowerMate ES 5250 Series
Shipping carton, small desktop
Shipping carton, desktop
Shipping carton, minitower
NEC OS Restore CD – WIN 95
NEC OS Restore CD – WIN 98
NEC OS Restore CD – NT 4.0
NEC Application and Driver CD – WIN 95
NEC Application and Driver CD – WIN 98
NEC Application and Driver CD – NT 4.0

The following documentation is available online at the NEC CSD website (www.nec-computers.com/):

- PowerMate ES 5200 Series Service and Reference Manual
- PowerMate ES 5250 Addendum to PowerMate ES 5200 Series Service and Reference Manual.

Field Replaceable Unit List — Small Desktop

The following table lists the field replaceable units (FRU) for the PowerMate ES 5250 Series small desktop computers. See “Illustrated Parts Breakdown (IPB) — Small Desktop” for a figure showing an exploded view of these parts.

PowerMate ES 5250 Series FRU List — Small Desktop

Item	Description
1	Microsoft IntelliMouse
2	Keyboard, Chicony
3	Power cable
4	IDE cable, 3-connector
5	Diskette drive signal cable
6	CD-ROM audio cable

PowerMate ES 5250 Series FRU List — Small Desktop

Item	Description
7	Wake-ON LAN cable
8	Chassis intrusion switch and cable assembly
9	RJ-11 cable
10	System board guide rails (2)
11	System board latch (1)
12a	32-MB SDRAM, DIMM
12b	64-MB SDRAM, DIMM
12c	128-MB SDRAM, DIMM
12d	256-MB SDRAM, DIMM
13a	Retention mechanism (for Celeron processors)
13b	Retention mechanism (for Pentium II processors)
13c	Retention mechanism (for Pentium III processors)
14	Retaining arm (for Celeron and Pentium III processors)
15a	Heat sink (for Celeron processors)
15b	Heat sink (for Pentium II processors)
15c	Heat sink (for Pentium III processors)
16a	300-MHz Celeron processor
16b	333A-MHz Celeron processor
16c	366A-MHz Celeron processor
16d	350-MHz Pentium II processor
16e	400-MHz Pentium II processor
16f	450-MHz Pentium II processor
16g	450-MHz Pentium III processor
16h	500-MHz Pentium III processor
16i	600-MHz Pentium III processor
17	Battery
18	PowerMate ES 5250 Series system board (Intel 440BX) with onboard audio, ATI Rage XL graphics, 8-MB video memory, Intel 82559 LAN chip, 600-MHz processor support
19	I/O plate
20	Riser card
21	Rear USB connector and cable assembly
22	Sound card, Creative Labs Sound Blaster® Live!™ PCI
23a	56 Kbps Fax/modem US Robotics V.90 Python ISA board
23b	56 Kbps MDM100 Winmodem PCI board
24	3Com 10/100 Hurricane Ethernet network card with Wake-ON LAN
25	Chassis cover, small desktop
26	Speakers, Harman Kardon 10 watt
27	Speaker AC adapter, Harman Kardon
28	Power supply, 145 watt
29	Internal hard drive bracket

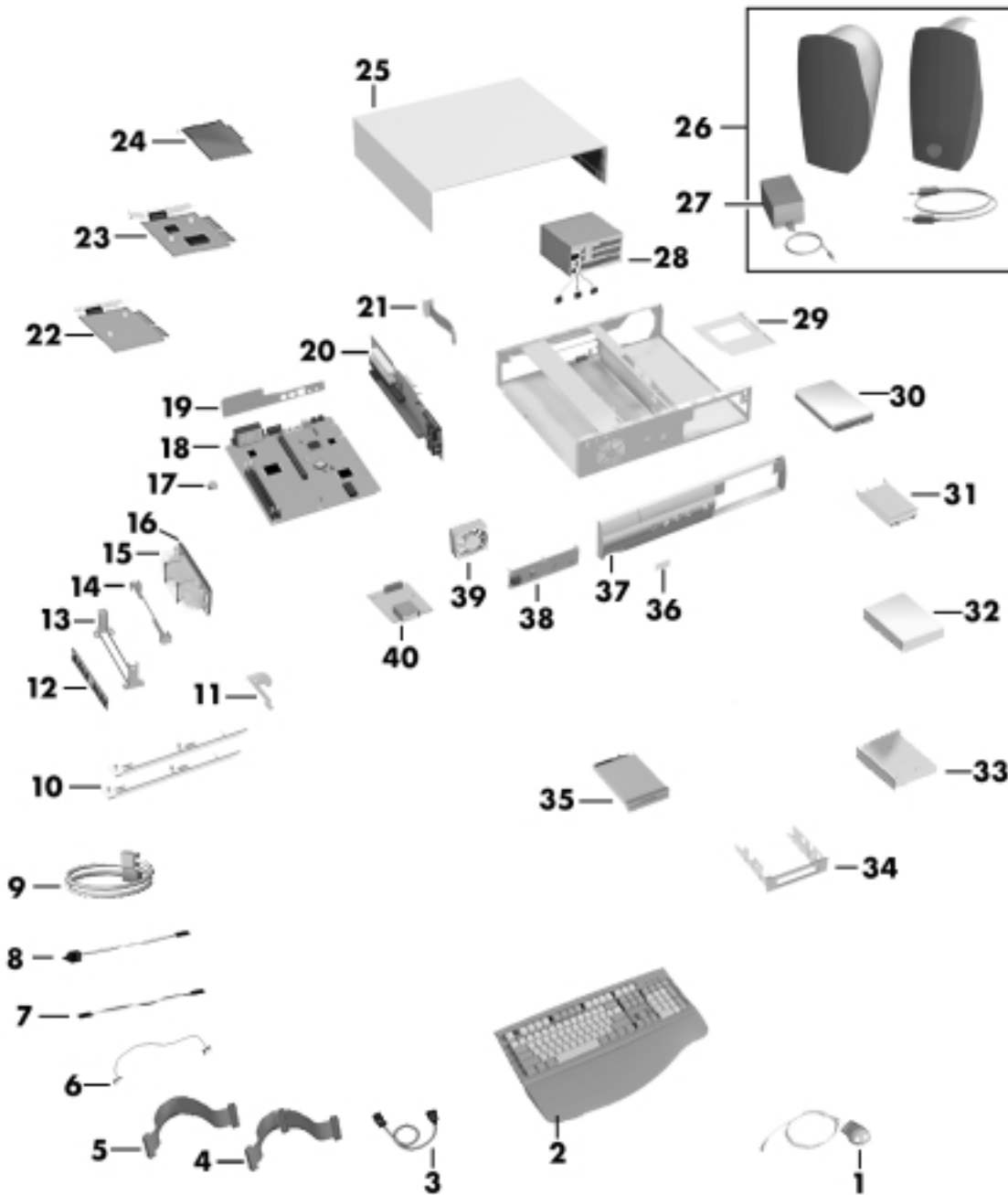
PowerMate ES 5250 Series FRU List — Small Desktop

Item	Description
30a	4.3-GB IDE 5400 rpm hard drive
30b	8.4-GB IDE 5400 rpm hard drive
30c	12.9-GB IDE 5400 rpm hard drive
30d	12.8-GB IDE 7200 rpm hard drive
30e	17-GB IDE 7200 rpm hard drive
30f	20-GB IDE 7200 rpm hard drive
30g	9.1-GB Ultra Wide SCSI 7200 rpm hard drive
30h	18.0-GB Ultra Wide SCSI 7200 rpm hard drive
31	Diskette drive, w/o bezel
32a	32X IDE CD-ROM, Lite-On
32b	32X IDE CD-ROM, NEC
32c	40X IDE CD-ROM, Lite-On
33	DVD-ROM
34	LS-120 cradle
35	LS-120 drive
36	Logo, "NEC PowerMate"
37	Front panel
38	Front panel PCB switch (includes Power and Sleep)
39	Fan assembly
40	Front USB port board and cable assembly
not shown	SCSI adapter board
not shown	SCSI interface cable, 4-connector
not shown	Headset w/microphone
not shown	Tape cartridge
not shown	Zip disk
not shown	LS-120 diskette

Illustrated Parts Breakdown (IPB) — Small Desktop

The following figure shows the illustrated parts breakdown (IPB) for PowerMate ES 5250 Series small desktop computers. Each item in the IPB is identified with a number that cross-references to the small desktop FRU list.

PowerMate ES 5250 Series Small Desktop IPB



Field Replaceable Unit List — Desktop

The following table lists the field replaceable units (FRU) for PowerMate ES 5250 Series desktop computers. See “Illustrated Parts Breakdown (IPB) — Desktop” for a figure showing an exploded view of these parts.

PowerMate ES 5250 Series FRU List — Desktop

Item	Description
1	Microsoft IntelliMouse
2	Keyboard, Chicony
3	Power cable
4	IDE cable, 3-connector
5	Diskette drive signal cable
6	PCMCIA cable, 2-connector
7	CD-ROM audio cable
8	Wake-ON LAN cable
9	RJ-11 cable
10	System board guide rails (2)
11	System board latches (2)
12a	32-MB SDRAM, DIMM
12b	64-MB SDRAM, DIMM
12c	128-MB SDRAM, DIMM
12d	256-MB SDRAM, DIMM
13a	Retention mechanism (for Celeron processors)
13b	Retention mechanism (for Pentium II processors)
13c	Retention mechanism (for Pentium III processors)
14	Retaining arm (for Celeron and Pentium III processors)
15a	Heat sink (for Celeron processors)
15b	Heat sink (for Pentium II processors)
15c	Heat sink (for Pentium III processors)
16a	300-MHz Celeron processor
16b	333A-MHz Celeron processor
16c	366A-MHz Celeron processor
16d	350-MHz Pentium II processor
16e	400-MHz Pentium II processor
16f	450-MHz Pentium II processor
16g	450-MHz Pentium III processor
16h	500-MHz Pentium III processor
16i	600-MHz Pentium III processor
17	Battery
18	PowerMate ES 5250 Series system board (Intel 440BX) with onboard audio, ATI Rage XL graphics, 8-MB video memory, Intel 82559 LAN chip, 600-MHz processor support
19	I/O plate

PowerMate ES 5250 Series FRU List — Desktop

Item	Description
20	Riser card
21	Chassis intrusion switch
22	Rear USB connector and cable assembly
23	Left side bracket
24	Left side brace
25	Sound card, Creative Labs Sound Blaster® Live!™ PCI
26a	56 Kbps Fax/modem US Robotics V.90 Python ISA board
26b	56 Kbps MDM100 Winmodem PCI board
27	3Com 10/100 Hurricane Ethernet network card with Wake-ON LAN
28	PCMCIA - controller card, ISA
29	Chassis cover, desktop
30	Speakers, Harman Kardon 10 watt
31	Speaker AC adapter, Harman Kardon
32	Power supply, 200 Watt
33	Internal hard drive bracket
34a	4.3-GB IDE 5400 rpm hard drive
34b	8.4-GB IDE 5400 rpm hard drive
34c	12.9-GB IDE 5400 rpm hard drive
34d	12.8-GB IDE 7200 rpm hard drive
34e	17-GB IDE 7200 rpm hard drive
34f	20-GB IDE 7200 rpm hard drive
34g	9.1-GB Ultra Wide SCSI 7200 rpm hard drive
34h	18.0-GB Ultra Wide SCSI 7200 rpm hard drive
35	Diskette drive, w/o bezel
36a	32X IDE CD-ROM, Lite-On
36b	32X IDE CD-ROM, NEC
36c	40X IDE CD-ROM, Lite-On
37	8-GB IDE tape backup (Seagate)
38	100 MB IOMEGA Zip drive (IDE)
39	PCMCIA 3.5" drive bay adapter
40	PCMCIA swap box
41	DVD-ROM
42	LS-120 cradle
43	LS-120 drive
44	Front panel PCB switch (includes Power and Sleep)
45	Front USB port board and cable assembly

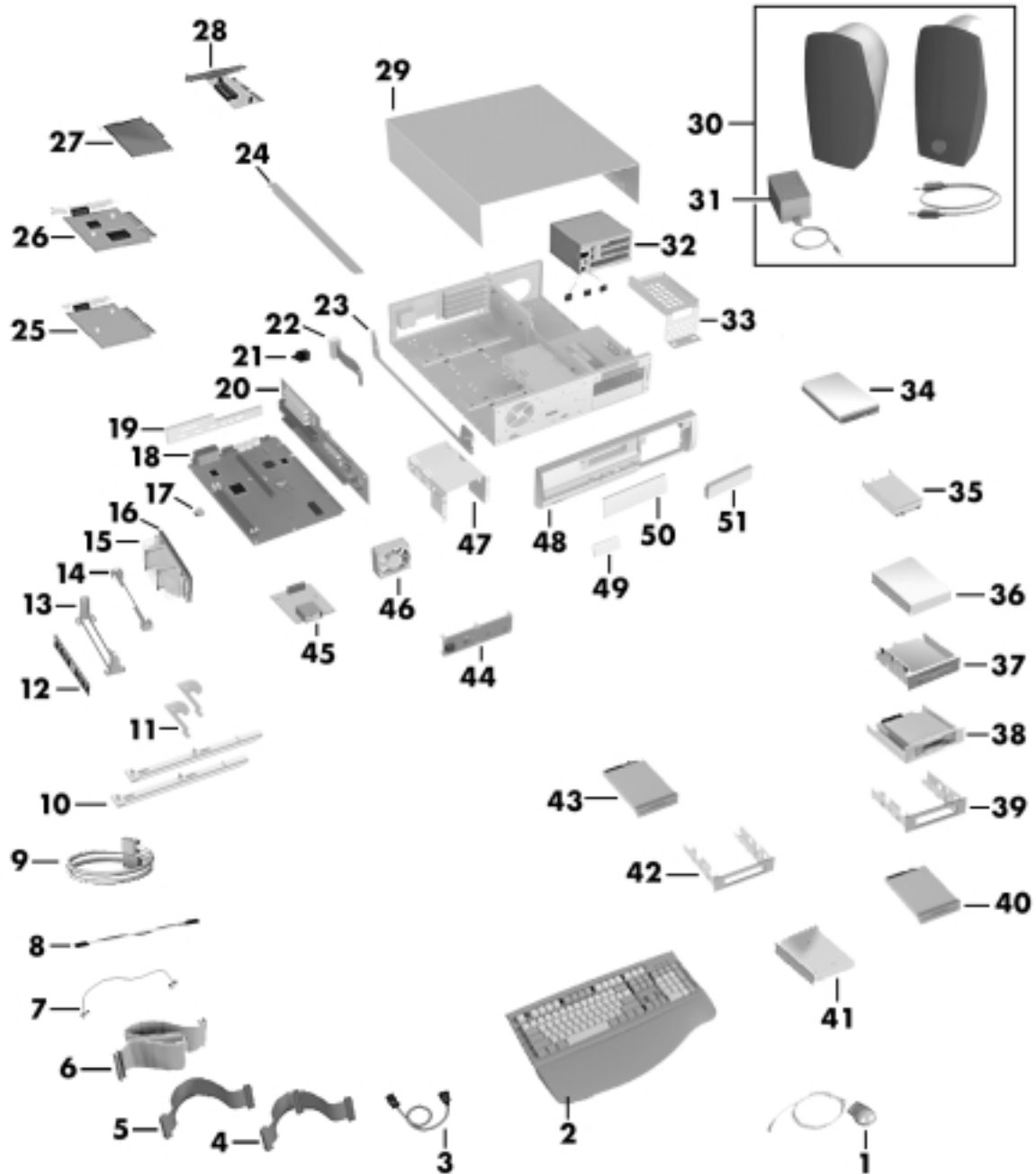
PowerMate ES 5250 Series FRU List — Desktop

Item	Description
46	Fan assembly
47	Additional 3 1/2-inch drive bracket
48	Front panel
49	Logo, "NEC PowerMate"
50	Plastic blank panel for additional 3.5" accessible device bay
51	Plastic blank panel, 5.25"
not shown	SCSI adapter board
not shown	SCSI interface cable, 4-connector
not shown	Headset w/microphone
not shown	Tape cartridge
not shown	Zip disk
not shown	LS-120 diskette

Illustrated Parts Breakdown (IPB) — Desktop

The following figure shows the illustrated parts breakdown (IPB) for the PowerMate ES 5250 Series desktop computers. Each item in the IPB is identified with a number that cross-references to the desktop FRU list.

PowerMate ES 5250 Series Desktop IPB



Field Replaceable Unit List — Minitower

The following table lists the field replaceable units (FRU) for the PowerMate ES 5250 Series minitower computers. See “Illustrated Parts Breakdown (IPB) — Minitower” for a figure showing an exploded view of these parts.

PowerMate ES 5250 Series FRU List — Minitower

Item	Description
1	Microsoft IntelliMouse
2	Keyboard, Chicony
3	Power cable
4	IDE cable, 3-connector
5	Diskette drive signal cable
6	PCMCIA cable, 2-connector
7	CD-ROM audio cable
8	Wake-ON LAN cable
9	Chassis intrusion switch and cable assembly
10	RJ-11 cable
11a	32-MB SDRAM, DIMM
11b	64-MB SDRAM, DIMM
11c	128-MB SDRAM, DIMM
11d	256-MB SDRAM, DIMM
12a	300-MHz Celeron processor
12b	333A-MHz Celeron processor
12c	366A-MHz Celeron processor
12d	350-MHz Pentium II processor
12e	400-MHz Pentium II processor
12f	450-MHz Pentium II processor
12g	450-MHz Pentium III processor
12h	500-MHz Pentium III processor
12i	600-MHz Pentium III processor
13a	Heat sink (for Celeron processors)
13b	Heat sink (for Pentium II processors)
13c	Heat sink (for Pentium III processors)
14	Retaining arm (for Celeron and Pentium III processors)
15a	Retention mechanism (for Celeron processors)
15b	Retention mechanism (for Pentium II processors)
15c	Retention mechanism (for Pentium III processors)
16	Battery
17	PowerMate ES 5250 Series system board (Intel 440BX) with onboard audio, ATI Rage XL graphics, 8-MB video memory, Intel 82559 LAN chip, 600-MHz processor support
18	System board guide rails (2)

PowerMate ES 5250 Series FRU List — Minitower

Item	Description
19a	4.3-GB IDE 5400 rpm hard drive
19b	8.4-GB IDE 5400 rpm hard drive
19c	12.9-GB IDE 5400 rpm hard drive
19d	12.8-GB IDE 7200 rpm hard drive
19e	17-GB IDE 7200 rpm hard drive
19f	20-GB IDE 7200 rpm hard drive
19g	9.1-GB Ultra Wide SCSI 7200 rpm hard drive
19h	18.0-GB Ultra Wide SCSI 7200 rpm hard drive
20	Hard drive bracket — minitower
21	Riser card
22	I/O plate
23	Rear USB connector and cable assembly
24	Sound card, Creative Labs Sound Blaster® Live!™ PCI
25a	56 Kbps Fax/modem US Robotics V.90 Python ISA board
25b	56 Kbps MDM100 Winmodem PCI board
26	3Com 10/100 Hurricane Ethernet network card with Wake-ON LAN
27	PCMCIA - controller card, ISA (minitower and desktop systems)
28	Left chassis side, minitower
29	Chassis top, minitower
30	Right chassis side, minitower
31	Speakers, Harman Kardon 10 watt
32	Speaker AC adapter, Harman Kardon
33	Power supply, 200 Watt
34	Diskette drive, w/o bezel
35a	32X IDE CD-ROM, Lite-On
35b	32X IDE CD-ROM, NEC
35c	40X IDE CD-ROM, Lite-On
36	8-GB IDE tape backup (Seagate)
37	100 MB IOMEGA Zip drive (IDE)
38	PCMCIA 3.5" drive bay adapter
39	PCMCIA swap box
40	DVD-ROM
41	LS-120 cradle
42	LS-120 drive
43	Right chassis foot lock
44	Left chassis foot lock

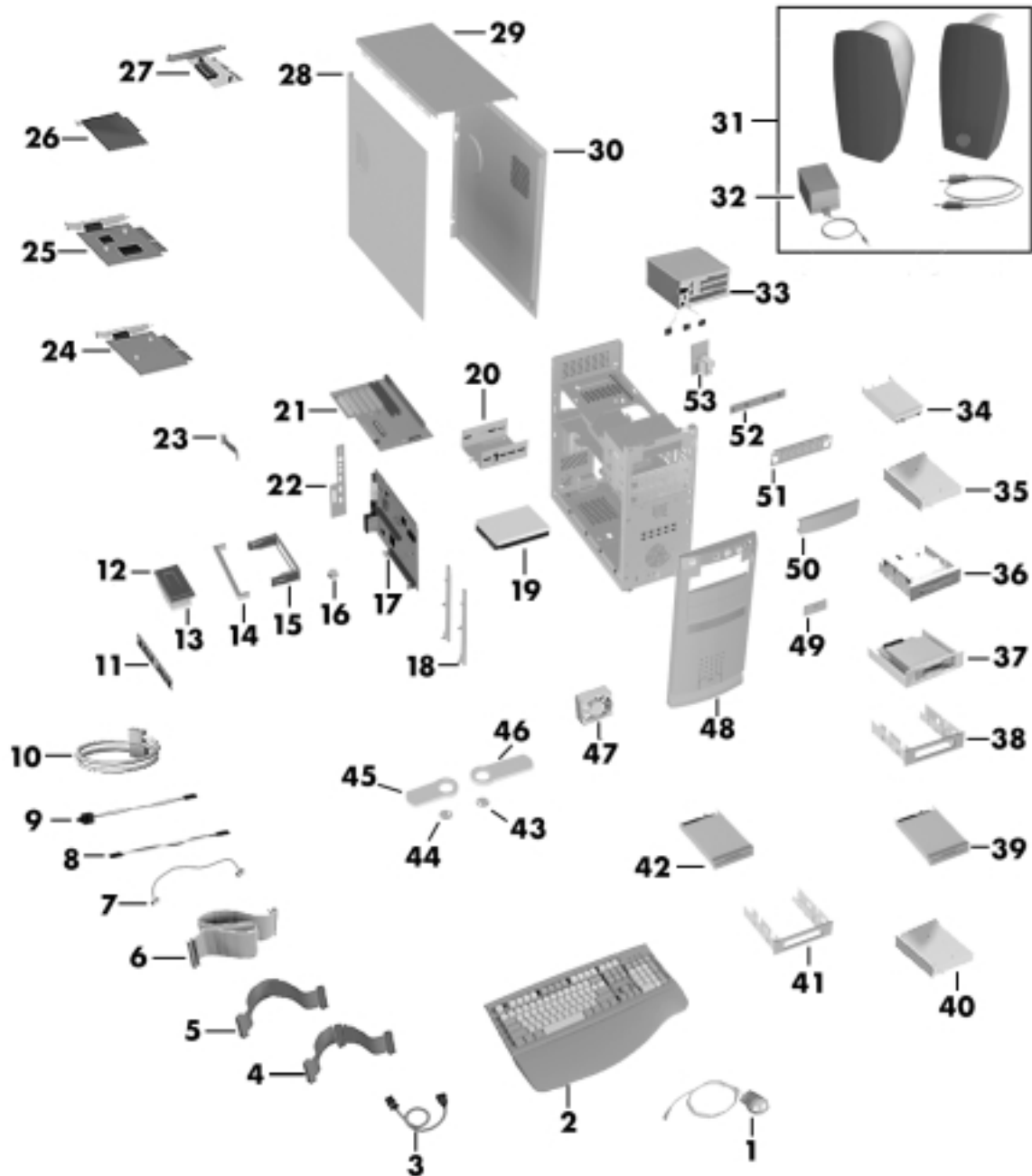
PowerMate ES 5250 Series FRU List — Minitower

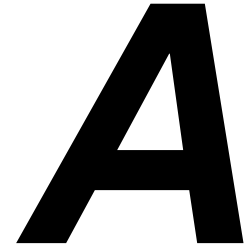
Item	Description
45	Left chassis foot
46	Right chassis foot
47	Fan assembly
48	Front panel
49	Logo, "NEC PowerMate"
50	Plastic blank panel, 5.25"
51	Metal bay cover, 5.25"
52	Front panel PCB switch (includes Power and Sleep) — minitower
53	Front USB port board and cable assembly
not shown	SCSI adapter board
not shown	SCSI interface cable, 4-connector
not shown	Headset w/microphone
not shown	Tape cartridge
not shown	Zip disk
not shown	LS-120 diskette

Illustrated Parts Breakdown (IPB) — Minitower

The following figure shows the illustrated parts breakdown (IPB) for the PowerMate ES 5250 Series minitower computers. Each item in the IPB is identified with a number that cross-references to the minitower FRU list.

PowerMate ES 5250 Series Minitower IPB





PowerMate ES 5250 Series Release Notes

- Applications and Online Documentation
- System Configuration
- SCSI Drive Limitations
- Intel Processor Serial Number Control Utility
- Windows 95 Issues
- Windows 98 Issues
- Windows NT Issues

The *PowerMate ES 5250 Series Release Notes* provide up-to-date information on installing the applications that come with your computer. These notes also provide additional valuable information about your computer that was not included in the printed user's guide or online NEC Help Center.

Please read these notes in their entirety.

Applications and Online Documentation

The system comes with the operating system preloaded. Microsoft® Internet Explorer® 5.0 also comes preinstalled on systems with the Windows® 98 operating system. Install all other applications and online documentation from the NEC Application and Driver CD.

See the guidelines in the following sections to install applications, the NEC Help Center online documentation, and the Healthy Environment online brochure.

Installing Applications in the Correct Order

Follow these guidelines when you install applications and the NEC Help Center:

- For systems with the Windows 95 or Windows NT® operating system, install Microsoft Internet Explorer 5.0 or Internet Explorer 4.01 *first* and alone, *before* installing any other application from the NEC Application and Driver CD.

Internet Explorer 5.0 already comes preinstalled on systems with the Windows 98 operating system.

Both Internet Explorer 5.0 and Internet Explorer 4.01 versions come on the NEC Application and Driver CD.


The Internet Explorer 4.01 version includes Service Pack 1 (SP1) which takes time to initialize after setup. Be sure to wait for the initialization process to complete before you attempt to install LANDesk® Client Manager. Wait until all disk activity has stopped.

CAUTION

Installing LANDesk Client Manager before Internet Explorer 4.01 completes initialization causes a DMI start "failed to launch Intel LANDesk Client Manager" error.

- Install LANDesk Client Manager alone and *before* installing the Cheyenne® Backup utility, NEC Configuration Change Notification, NEC Auto Backup utility, or NEC WebTelligent™ software.

NEC Configuration Change Notification, NEC Auto Backup utility, and NEC WebTelligent are NEC ToolTelligent™ software components.


 **Note:** LANDesk Client Manager should be installed *before* any of the applications or utilities that function in conjunction with it. Install the Cheyenne Backup utility, the NEC Configuration Change Notification, NEC Auto Backup utility, and the NEC WebTelligent software *after* installing LANDesk Client Manager.

- Do not install both the NEC SNMP Agent and LANDesk Client Manager on the same computer. The two applications are incompatible. If both NEC SNMP Agent and LANDesk Client Manager are installed, it is not possible to remove either application. To remove them, a full restore must be performed after which all applications must be reinstalled.

 **CAUTION**

Do not install both the NEC SNMP Agent and LANDesk Client Manager on the same computer.

- The installation and operation of the NEC Help Center requires the installation of Microsoft Internet Explorer 4.01 or 5.0.

 **Note:** If you attempt to install the NEC Help Center without either version of Internet Explorer on your system, the Help Center setup program prompts you to install Internet Explorer 4.01. The NEC Help Center is designed to work with Internet Explorer version 4.01 **or higher**.

See “NEC Application and Driver CD” in Chapter 3 of the *PowerMate ES 5250 Series User’s Guide* for detailed information about installing applications from the Application and Driver CD.

Installing NEC SNMP Agent

See the previous section “Installing Applications in the Correct Order” and “NEC SNMP Agent” in Chapter 4 of the *PowerMate ES 5250 Series User’s Guide* for detailed installation information.

 **CAUTION**

Do not install both the NEC SNMP Agent and LANDesk Client Manager on the same computer.

Uninstalling the NEC SNMP Agent or LANDesk Client Manager

LANDesk Client Manager and the NEC SNMP Agent are not fully compatible when both are installed on the same computer. See the following sections for information about uninstalling these applications.

When Both NEC SNMP Agent and LANDesk Client Manager Are Installed

If both applications are installed, LANDesk Client Manager does not function correctly and cannot display ASIC-related tabs for temperature, fan, voltage, and chassis intrusion status.


In addition, each time the computer is restarted, a Service Control Manager window displays an error message and prompts the user to press **Enter**.

If LANDesk Client Manager and the NEC SNMP Agent have both been installed, it is not possible to remove either application using the uninstall utility. If you attempt to remove one of the applications, you must perform a full operating system restore using the NEC OS Restore CD.

After the full restore, reinstall all appropriate applications from the NEC Application and Driver CD. Do not reinstall *both* LANDesk Client Manager and the NEC SNMP Agent.

When LANDesk Client Manager Is Installed Without the NEC SNMP Agent

You can use the uninstall utility to remove LANDesk Client Manager if the NEC SNMP Agent has not been installed on the system. When you uninstall LANDesk Client Manager, do not interrupt the uninstall process or power off the system. The uninstall utility displays a message box indicating that the uninstall process takes 10 minutes or longer to completely remove LANDesk Client Manager.

 **Note:** NEC Management Tools, such as the NEC Configuration Change Notification and NEC Auto Backup, require the installation of LANDesk Client Manager. If you remove LANDesk Client Manager, also remove the NEC Management Tools to prevent error message reports.

If you interrupt the uninstall process or power off the system, you cannot use the uninstall utility to remove the LANDesk application. You must then use the NEC OS Restore CD to perform a full operating system restore. After the full restore, you must reinstall all appropriate applications from the NEC Application and Driver CD.

Installing Cheyenne Backup

After installing the Cheyenne® Backup utility on the system and rebooting the system, an “Unable to connect to Group” error message might be displayed. This message indicates that a backup tape unit is not installed. Installing a tape unit or reconfiguring the Cheyenne Backup utility removes this message.

See “Using Cheyenne Backup” for issues related to using the utility in Windows 95.

Installing PartitionMagic


Install PartitionMagic™ files from the NEC Application and Driver CD. Select the PartitionMagic software from the Applications tab in the Installation utility menu. The utility loads files from the NEC Application and Driver CD to **C:\Program Files\PowerQuest\PartitionMagic4**. You can find setup and documentation files in the following folders:

- Btmagic
- Diskette
- Setup
- Userinfo.

If the PartitionMagic setup program asks you for a serial number, enter the following number:

PM400ENOEMCD-673785

See the documentation in the Userinfo folder for information about using PartitionMagic, BootMagic™, and the recovery diskette program. Reading the Userinfo files requires the Adobe® Acrobat Reader. The Adobe Acrobat Reader comes on the NEC Application and Driver CD. Select the Adobe software from the Applications tab in the Installation utility menu.

 **Note:** If you are installing BootMagic in a system with the Windows NT operating system, see “Installing BootMagic in a System with Windows NT” at the end of this document.

Installing Internet Explorer 4.01 Add-On Components

Choosing the Installing Internet Explorer 4.01 Add-On Components option on the NEC Application and Driver CD results in a file opening error message. Due to the space these components require, the component files are not included on the CD. NEC CSD recommends that you run Internet Explorer 4.01, click the Help menu, and select Product Update. This procedure takes you to the Microsoft Internet Explorer 4.01 website where you can install these components.

Using the LS-120 SuperDisk Copy Utility

Using the LS-120 SuperDisk™ Copy utility on 1.44-MB or 120-MB media intermittently causes system lockups and diskette eject failures. This condition only occurs when you use the SuperDisk Copy utility supplied with the SuperDisk Tools diskette shipped with the system.

To safely copy a 1.44-MB diskette, NEC CSD recommends using the standard Microsoft® Disk Copy program supplied with the Microsoft Windows® operating system. You can find the Microsoft Disk Copy program by double clicking **My Computer** and right clicking the **LS-120** icon. The context menu displays Copy Disk as one of the available items. Using this Copy Disk program allows the LS-120 SuperDisk drive to copy 1.44-MB diskettes without system lockups and allows the drive to eject the 1.44-MB diskette. However, this utility does not copy 120-MB media.

If you need to duplicate 120-MB media, you must use the SuperDisk Copy utility. To avoid data loss, make sure you save all data and close all applications before you attempt to copy 120-MB diskettes with the SuperDisk Copy utility. To recover from a diskette eject failure or a system lockup after completing the SuperDisk Copy, restart the system by pressing the power button to turn off the system. Then press the power button again to turn on system power.

Please call NEC CSD Technical Support services for the updated SuperDisk Copy utility.

System Configuration

See the following sections for system configuration information.

Configuring the System for the NEC SNMP Agent


TCP/IP must be enabled before you can use the NEC SNMP Agent. See “Changing Network Settings” in this document to enable TCP/IP. See “Installing Applications in the Correct Order” in this document and “NEC SNMP Agent” in Chapter 4 of the *PowerMate ES 5250 Series User’s Guide* for installation information.

Configuring the System for NEC WebTelligent

TCP/IP must be enabled before you can use NEC WebTelligent. See “Changing Network Settings” in this document to enable TCP/IP. See “NEC WebTelligent” in Chapter 4 of the *PowerMate ES 5250 Series User’s Guide* for detailed installation information.

Configuring the System for Microsoft Internet Explorer

TCP/IP must be enabled before you can use Microsoft Internet Explorer 4.01 or higher. See the next section, “Changing Network Settings,” to enable TCP/IP. Install Internet Explorer version 4.01 or 5.0 from the NEC Application and Driver CD.

 **Note:** Internet Explorer 5.0 comes preinstalled on systems with the Windows 98 operating system.

Changing Network Settings

All systems are configured with the NetBEUI and NWLink protocols enabled. However, before you connect a system to your network you might need to:

- enable a different network protocol
- disable unneeded protocols for enhanced system performance
- add or change network, domain, and gateway information.

The following procedure describes how to disable the NetBEUI and NWLink protocols, enable TCP/IP, and provide network, domain, and gateway information. (If a different protocol is enabled, the menu choices might differ from those described in the procedure.)

For information about installing TCP/IP on a system with Windows NT 4.0, see “Installing TCP/IP Protocol” in this document.

1. From the Windows desktop, click **Start** on the taskbar, point to **Settings**, and click **Control Panel**.
2. Double click the **Network** icon in the Control Panel window.
3. Click the **Configuration** tab. In the Configuration display, the following protocols are loaded:
 - NetBEUI Protocol
 - NWLink IPXSPX-Compatible Transport
 - NWLink NetBIOS
4. Highlight **NWLink IPXSPX-Compatible Transport** and click **Remove**. A warning window appears asking for confirmation to continue.
5. Click **Yes**. The NWLink IPXSPX-Compatible Transport and NWLink NetBIOS lines disappear from the Configuration display.
6. Repeat steps 4 and 5 to remove the **NetBEUI** Protocol.
7. In the Configuration tab display, click **Add**. Highlight **Protocol** and click **Add**.
8. Highlight **Microsoft** and then **TCP/IP** and click **OK**. The TCP/IP Setup window appears. If there is a DHCP server on the network, click **Yes**; otherwise click **No**.

-
9. Change the path in the window to **C:\I386**. Click **Continue**. The Network window appears. If Yes was clicked in step 8, skip to step 16. If No was clicked in step 8, the Windows Setup window appears.
 10. Click **Close**. The Microsoft TCP/IP Properties Box appears.
 11. Fill in the **IP Address**, the **Subnet Mask**, and the **Default Gateway** in the “Specify an IP address” area.
 12. Click the **DNS** tab and enter the host and domain name in the DNS display.
 13. Click the **Identification** tab and change the Computer Name if appropriate.
 14. Click the **WINS** tab and enter the WINS address if appropriate.
 15. Click the **Routing** tab and enable IP forwarding if appropriate.
 16. Click **OK**. When prompted to restart the system, click **Yes**.

Checking Differences Between CMOS Setup Defaults and Shipped Settings

The CMOS settings as shipped for your system might differ from the default settings. If the Setup Defaults are loaded, and depending upon your system configuration, it might be necessary to adjust certain CMOS settings to recreate the shipped BIOS settings.

You can find information about entering CMOS Setup in Chapter 3 of the *PowerMate ES 5250 Series User's Guide*. It is recommended that you write down the current settings before making any changes.

If the default settings are loaded, either manually or because of a dead CMOS battery, you might need to change some of the settings. Check the settings described in the following sections.

From the Standard CMOS Setup Menu

“Drive A” defaults to “1.44M, 3.5IN.” If the system is using the optional LS120 120-MB SuperDisk Drive, or the system is not using a diskette drive, set Drive A to “Disabled.”

From the PNP/PCI Configuration Menu

“PNP OS Installed” defaults to “Yes.” If the system is using the Windows NT operating system, change this setting to “No.”

From the Integrated Peripherals Menu

“Onboard Sound” defaults to “Enabled.” If the system is using the optional Creative Labs SB Live sound card, set this item to “Disabled.”


“Onboard LAN” defaults to “Enabled.” If the system is using the optional 3Com 3C905B-TX 10/100 Ethernet, set this item to “Disabled.”

“Onboard FDC Controller” defaults to “Enabled.” If the system is using the optional LS120 120-MB SuperDisk Drive, or the system is not using a diskette drive, set this item to “Disabled.”

Identifying the Pentium III Processor

NEC computer systems with the Intel® Pentium® III processor come equipped with the most advanced Intel Pentium processor available.

Because the new Pentium III processor was introduced after the release of Microsoft® Windows® 98, Windows 95, and Windows NT® operating systems, these operating systems are not able to correctly identify the processor. These operating systems might identify the Pentium III processor as a Pentium II or Pentium Pro processor.

 **Note:** Intel LANDesk Client Manager software also does not recognize the new Pentium III processor and identifies it as a Pentium II processor.

Windows identifies the processor on the General tab of the Windows System Properties sheet. You can get to System Properties in either of the following ways:

- Right click the My Computer icon on the Windows desktop and select **Properties** from the drop-down menu.
- Select **Settings** from the Windows Start menu, click **Control Panel**, double click the System icon.

Processor identification in Microsoft Windows and in Intel LANDesk Client Manager does not effect in any way the performance of your Pentium III processor. At bootup, the system BIOS detects the Pentium III processor.

You can obtain a patch to fix the Windows processor identification once Microsoft releases the patch. Check for the patch on the Microsoft website (www.microsoft.com) or NEC CSD website (www.nec-computers.com).

Future versions of LANDesk Client Manager will correct the processor identification in LANDesk Client Manager.

Setting Boot Order in BIOS

To use the CD-ROM drive as a boot device, the BIOS must list it before the hard drive and/or before the network. The system does not boot from a Zip® drive if it is listed as the first boot device.

Getting CD-ROM Support in Command Prompt Only Mode

CD-ROM support is not available when you select **F8** at the “Starting Windows 9x” prompt and select the **Command Prompt Only** option. To initiate CD-ROM support in the Command Prompt Only mode, run **DOSSTART.BAT** which is located in the C:\WINDOWS directory.

SCSI Drive Limitations

The following procedures and operating limitations apply to systems whose only hard drive is a SCSI device.

Booting from a CD

In systems with only a SCSI hard drive, it is not possible to boot from an IDE CD-ROM drive.

Using the NEC OS Restore CD with a SCSI Drive

If a situation arises in which a full operating system restore must be performed using the NEC OS Restore CD, first boot the system from the bootable diskette. (This might be necessary, for example, if the system does not boot from the hard drive.) The bootable diskette comes with all systems that have a SCSI hard drive. After the system boots, proceed with the NEC OS Restore procedure.

Intel Processor Serial Number Control Utility

The Intel[®] Processor Serial Number Control utility is a Windows[®] program that enables or disables the reading of the Pentium[®] III processor serial number by software. This function lets you control which software programs or websites have permission to read the processor serial number. When installed, the utility runs automatically each time the system powers on.

This utility places an icon in the Windows system tray. The icon provides a visual status of the processor serial number. You have the option of hiding the system tray icon. You can disable the processor serial number at any time. However, enabling the serial number requires restarting the system.

The following information describes:

- system requirements
- installation procedures
- processor serial number features
- answers to frequently asked questions
- Intel technical support.

Identifying System Requirements


The Intel Processor Serial Number Control utility requires:

- a Pentium III processor-based system
- Windows 95, Windows 98, or Windows NT[®] 4.0 (or later)
- 2 megabytes of hard drive space.

Installing the Utility

The Intel Processor Serial Number Control Utility (version 1.0) comes on the NEC Application and Driver CD. See your *PowerMate ES 5250 Series User's Guide* for information about using the NEC Application and Driver CD.

Run **setup.exe** from the directory where you unzip the file.

 **Note:** Installing this utility on a system which does not contain a Pentium III processor generates an error message.

Looking at Serial Number Features

The Intel processor serial number, a new feature of the Pentium III processor, is an identifier for the processor. The processor serial number is designed to be unique, and when used in conjunction with other identification methods, can be used to identify the system or user. This number can be used in a wide variety of applications which benefit from stronger forms of system and user identification.

The processor serial number is analogous to a conventional serial number, with these important differences:

- A software application can read the processor serial number.
- You can disable the reading of the serial number via utility programs such as this one, or via the BIOS, depending on the system configuration.

For additional information about the Pentium III processor and the processor serial number, please visit www.intel.com/pentiumiii.

Getting Answers to FAQs

See the following answers to questions about the processor serial number.

What are the benefits of the processor serial number?

You can use the processor serial number in applications which benefit from stronger forms of system and user identification.

Why would I want to turn off my processor serial number?

Intel believes the processor serial number can provide compelling benefits to users. They are developing features in conjunction with the processor serial number to allow responsible service providers to provide services which maintain your privacy. However, if you are concerned that a given application/service using your processor number might impact your privacy, you can turn off the processor serial number using the utility or the BIOS setting.

What is the default state of the processor serial number?

The default state of the processor serial number is on, until the Processor Serial Number Control utility is installed. Once the Processor Serial Number Control utility is installed, it turns the processor serial number off by default. You can use the utility to turn on the processor serial number.

Can a website read my serial number without my knowledge?

No, generally not. Websites cannot read serial numbers unless you allow them to download a program which can read the processor serial number. Almost all browsers are configured to warn users whenever they download executable software. Unless you disable the warning in the browser, you should receive a notification.

Does Intel track serial numbers?

Generally not, other than related to the manufacturing process. Intel does not, in the absence of advance and express consent of a user, collect serial number data which is otherwise identified with a user.

Which programs and/or websites currently use the processor serial number?

You can find a complete list of programs which can take advantage of the processor serial number and other new capabilities of the Pentium III processor at <http://www.intel.com/pentiumiii/utility.htm>.

How can I tell if my processor serial number is turned on?

The control utility allows you to check the status by:

- Viewing the icon itself. The disabled icon shows a red circle with a white “x.”
- Clicking the task tray icon and selecting the “Status” menu item. Or you can select the menu from the tool tip shown when you position the mouse over the task tray icon.

Getting Intel Technical Support

For world wide 7 days a week, 24 hours a day technical support, please visit the Intel support website at <http://support.intel.com>.

Email: support@intel.com.

In the United States, call **800-628-8686** from 5:00 a.m. to 5:00 p.m. Pacific Standard Time.

For world wide phone contacts, please see <http://support.intel.com/support/feedback.htm>.

Windows 95 Issues

The following material describes information specific to systems running the Microsoft® Windows 95® operating system.

Controlling CD Audio

CD audio volume is not controlled by the Windows 95 taskbar Volume Control. To control CD audio volume, access your CD player program. Move the volume slider bars up or down to increase or decrease CD audio volume.

Using Cheyenne Backup

The following notes describe conditions and procedures specific to systems with the Windows 95 operating system running Cheyenne Backup. See also “Installing Cheyenne Backup” earlier in this document.

Backing Up Large Drives

When Cheyenne Backup is set to automatically back up a system drive greater than 2.1 GB to a network drive, multiple instances of the Copy program might be launched. The number of Copy programs launched depends upon the number of drive letters assigned to the hard drive. The first instances end with an indication that no data was transferred. The last instance completes the backup successfully.

Using Cheyenne Backup with LANDesk Client Manager

Cheyenne Backup can occasionally report that a backup was incomplete. Cheyenne Backup does not back up files that are open, so it might report this condition if the backup was run while files are open, or because LANDesk® Client Manager itself is running.

When this happens, the report window displays buttons for options to back up files or utilities that are open. See your documentation on Cheyenne Backup for more information on these options.

Using Cheyenne Backup with the Seagate Travan Tape Backup

Currently, Cheyenne Backup does not work with the Seagate Travan drive in the Windows 95 environment. The Cheyenne Backup utility does support other backup drives, for example, diskette drives, Zip drives, and QIC drives.

Clicking the Product Catalog Button

When a computer running the Windows 95 operating system is first booted, a Welcome screen appears. If the **Product Catalog** button is clicked, the user is prompted to insert the Windows 95 CD. This CD is not included with the system. Click **Cancel** to clear the message.

Restoring Software with a U.S. Robotics 56K V.90 Modem Installed

If your system has a U.S. Robotics[®] 56K V.90 Modem installed and you restore the Windows 95 operating system, the system might display a message indicating it cannot load the Modem.inf file. If this message appears, follow the instructions in “Applications and Online Documentation” in this document. Select the US Robotics 56K Modem from the appropriate Operating System section of the NEC Application and Driver CD.


Configuring the System for PIIX4 Support

The following support limitations apply to PIIX4 (PCI ISA IDE Xcelerator).

Reconfiguring Ultra DMA Support

The PCI IDE interface on the PowerMate ES 5250 Series system supports the latest ATA ULTRA DMA/33 interface. NEC CSD configured the system with the PIIX4 component released from Intel Corporation. However, standard versions of Windows[®] 95 released prior to the release of PIIX4 do not recognize the PIIX4 as capable of supporting ULTRA DMA/33.

Standard versions of Windows 95 require the addition of several information files (.INF files) for the support of PIIX4 features. NEC CSD already includes these .INF files in the preinstalled software that comes with your system. NEC CSD recommends that customers use the version of Windows 95 that is included with their system.

 **Note:** NEC CSD recommends that customers use the version of Windows 95 that is included with their system because this version is already configured for Ultra DMA/33.

When users install their own version of Windows 95, ULTRA DMA/33 does not function without the addition of these files. These .INF files can be added to a new install of Windows 95 by using the NEC OS Restore CD. This results in full ULTRA DMA/33 support. To add the files, run the OS Restore program in the Windows operating system. Select the option to install PIIX4 support.

Determining IDE Device Compatibility

The new PIIX4 component contains a small change in the IDE interface. This change to lower voltage levels on one signal has no effect on most of the IDE hard drives on the market. A small number of older drives fail to function with this new setting.

Windows 98 Issues

The following material describes information specific to systems running the Microsoft® Windows 98® operating system.

Ejecting the NEC Application and Driver CD from a DVD-ROM Drive

If your system has a Hitachi DVD-ROM drive (4X GD-2500) and you manually load applications or drivers from the NEC Application and Driver CD, a dialog box appears with the message “Reminder: Please remove CD-ROM.”

Pressing the eject button on the DVD-ROM drive displays another dialog box with the message: “Eject request to Drive in Use: An Eject request was received for a drive that is in use, continue with eject operation?”

Click **OK** to eject the CD from the DVD-ROM drive. The first dialog box is displayed. Click **OK** to complete the software loading operation.

Finding Tape Device Icons

Windows 98 displays tape device detection icons in Control Panel and Device Manager when no tape devices are installed in the system. This is normal for the chipset used on the PowerMate ES 5250 Series system board. The Windows 98 operating system indicates that support for a tape device is available.

Installing CD-ROM MS-DOS Drivers on Systems with Windows 98 Second Edition

CD-ROM MS-DOS® drivers are not installed on systems running the Windows® 98 Second Edition operating system as shipped from the factory.

Install the CD-ROM MS-DOS drivers from the NEC PowerMate ES 5250 Series Application and Driver CD using the following procedure:

1. Insert the Application and Driver CD into the CD-ROM drive. The Application and Driver CD dialog box appears.
2. Left click the **MISC** tab.

-
3. Left click the **+** next to “CDROM Support in DOS” in the dialog box. Drop down choices appear.
 4. Highlight **Installation** with a left mouse click. Then click **Install** in the lower left corner of the dialog box. The installation program installs the driver.
 5. Click **exit**.
 6. Remove the CD from the CD-ROM drive. Reboot the system.

Windows NT Issues

The following material describes information specific to systems running the Microsoft® Windows NT® operating system.

Installing TCP/IP Protocol

Use the following procedure to correctly install TCP/IP in Windows NT 4.0 Workstation.

1. Right click the Network Neighborhood icon on the Windows desktop.
2. In the Network dialog box, left click the **Protocols** tab. Click **Add**.
3. Click **yes** or **no** in the TCP/IP Setup Dialog Box depending on whether or not you choose DHCP.

The Windows Setup dialog box appears, indicating Windows will look for files to copy in the location below, which is G:\I386, or that you can type in the location for Windows to look for it.

4. DO NOT choose G:\I386. Instead, TYPE **C:\I386** and click **continue**.
5. Continue with the TCP/IP installation in the normal way.

Restoring Network Card Drivers

If you are running a system with the Windows NT operating system, use the following procedure to install either the Intel® Pro 100 or 3Com® 3C905B-TX drivers from the NEC Application and Driver CD.

1. Locate the entire directory for the network card you are installing in your system. Copy the entire directory to a local temporary directory.
2. In the Windows NT Control Panel, select **network** and click **adapters**.
3. Select **ADD** and click the **HaveDisk** button. A dialog box is displayed.
4. In the Path windows, type the name of the temporary directory for the network card files you copied. Click **OK**. Windows NT installs the driver files for the network card.

Installing BootMagic in a System with Windows NT

BootMagic™ is a utility included in the PowerQuest PartitionMagic™ software. See “Installing PartitionMagic” earlier in this document for general installation information.

If you have a Windows NT operating system, use the information in the following section to correctly configure BootMagic.

If you already installed BootMagic and the configuration resulted in an error message, see “Correcting the BootMagic Configuration” later in this document.

Configuring BootMagic

If you have a system with the Windows NT operating system, use the following procedure to correctly configure BootMagic.

1. Follow the instructions in the PartitionMagic Userinfo folder to install BootMagic. When the “BootMagic Configuration” box appears at the end of the installation, continue to the next step.
2. Configure BootMagic.
 - If you want to use BootMagic:
Click the **ENABLE BOOTMAGIC** button. The BootMagic menu appears during the next bootup sequence and lets you select Windows NT as the operating system.
 - If you do not want to use BootMagic:
Do *not* select the **ENABLE BOOTMAGIC** button. The BootMagic menu does not appear at bootup.
3. Select **SAVE/EXIT** in the BootMagic Configuration box to complete the configuration process. Either choice, to enable BootMagic or to not enable BootMagic, requires the **SAVE/EXIT** selection.

CAUTION

To correctly complete the BootMagic configuration, you must select **SAVE/EXIT** from the BootMagic Configuration box, even if you do not want to use BootMagic. Omitting this step results in an error message.

Correcting the BootMagic Configuration

If you installed BootMagic in a system with the Windows NT operating system and the installation resulted in an error message, use the following procedure to correct the configuration information.

1. In the Windows Start menu, select Programs, PowerQuest BootMagic, and BootMagic Configuration. The BootMagic Configuration box appears.

Nothing should be listed under the MENU NAME heading in the center of the box.

2. Click **ADD**. The “Bootmagic Add OS” box appears. This is the only option listed and it is already highlighted.
3. Click **OK**. Click **OK** again. The main BootMagic Configuration screen appears with “Windows NT” listed under MENU NAME.
4. Check the BootMagic configuration.
 - If you want to use BootMagic:
Click the **ENABLE BOOTMAGIC** button. The BootMagic menu appears during the next bootup sequence and lets you select Windows NT as the operating system.
 - If you do not want to use BootMagic:
Do *not* select the **ENABLE BOOTMAGIC** button. The BootMagic menu does not appear at bootup.
5. Select **SAVE/EXIT** in the BootMagic Configuration box. Either choice, to enable BootMagic or to not enable BootMagic, requires the SAVE/EXIT selection.

CAUTION

To correctly complete the BootMagic configuration, you must select **SAVE/EXIT** from the BootMagic Configuration box, even if you do not want to use BootMagic. Omitting this step results in an error message.

Index

A

- AGP bus frequency selector jumper
 - location, 2-3
 - settings, 2-5

C

- CMOS clear jumper
 - location, 2-3
 - settings, 2-4
- Connectors
 - SCSI adapter board, 2-5
- CPU bus frequency selector jumper
 - location, 2-3
 - settings, 2-4

D

- Documentation and packaging, 3-3

E

- EIDE hard drives, 1-4
- Enhancements
 - 3D Rage XL graphics, 1-2
 - Pentium III 600 MHz processor, 1-2
 - system board, 1-2

F

- FRU lists
 - desktop, 3-7
 - minitower, 3-11
 - small desktop, 3-3

G

- Graphics
 - 3D Rage XL, 1-2
 - memory, 1-2

H

- Hard drives
 - EIDE, 1-4
 - SCSI, 1-4

I

- Illustrated Parts Breakdown diagrams
 - desktop, 3-10
 - minitower, 3-14
 - small desktop, 3-6

J

- Jumpers
 - AGP bus frequency selector, 2-5
 - CMOS clear, 2-4
 - CPU bus frequency selector, 2-4
 - locations on system board, 2-3
 - onboard video, 2-4
 - power on mode, 2-3
 - SCSI adapter board, 2-5

N

- Network support, 1-3

P

- Parts
 - desktop FRU list, 3-7
 - minitower FRU list, 3-11
 - ordering, 3-2
 - small desktop FRU list, 3-3
- Power on mode jumper
 - location, 2-3
 - settings, 2-3

R

- Release notes, A-2

S

- SCSI adapter board, 1-4
- SCSI board
 - jumpers and connectors, 2-5
- SCSI hard drive, 1-4
 - connectors, 2-6
 - jumpers, 2-6
- System board
 - enhancements, 1-2
 - jumper locations, 2-3
- System board enhancements
 - 3D Rage XL graphics, 1-2
 - network support, 1-3

V

- Video jumper
 - location, 2-3
 - settings, 2-4

Regulatory Statements

- FCC Statement
- Note for Canada
- Battery Replacement
- Battery Disposal

The following regulatory statements provide information about use of the PowerMate ES 5250 Series system:

- FCC Statement (For United States Only)
- Note for Canada
- Battery Replacement
- Battery Disposal.

FCC Statement (For United States Use Only)

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from the one to which the receiver is connected.

Use shielded and properly grounded I/O cables and power cable to ensure compliance of this unit to the specified limits of the rules.

Note for Canada

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Battery Replacement

A lithium battery in the computer maintains system configuration information. If the battery fails to maintain system configuration information, NEC recommends that the battery be replaced. For battery replacement information, see “CMOS Battery Removal” in Section 3 of the *PowerMate ES 5200 Series Service and Reference Manual* or call your NEC NEC CSD Technical Support Center.

WARNING: There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer’s instructions.

ATTENTION: Il y a danger d’explosion s’il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d’un type recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

Battery Disposal

Do not place used batteries in your regular trash.

The nickel-cadmium or nickel metal-hydride batteries must be collected, recycled, or disposed of in an environmentally-approved manner.

The incineration, landfilling, or mixing of batteries with the municipal solid waste stream is **prohibited by law** in most areas.

Return batteries to a federal or state approved battery recycler. This may be where you purchased the battery or a local seller of automotive batteries.

Contact your local waste management officials for other information regarding the environmentally sound collection, recycling, and disposal of the batteries.

NEC

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