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Contents

Preface

This addendum to the *PowerMate® Professional Series Service and Reference Manual* (document number 819-181764-000) provides updated specifications, illustrated parts lists, and NECCSD service and support telephone numbers.

This information applies to PowerMate Professional Built to Order (BTO) systems and systems with the following model numbers:

- MT-2550-24874X
- MT-2560-24874X
- MT-2560-24874C
- MT-2560-2784S
- MT-2560-2785S.

This addendum is written for NECCSD-trained customer engineers, system analysts, service center personnel, and dealers. The material in this addendum is organized as follows.

Section 1 — Specifications, provides specfications for the computer's BTO options (storage devices and I/O boards).

Section 2 — Illustrated Parts Breakdown, provides an exploded view diagram of the system. Also included are updated parts lists for field-replaceable parts.

Section 3 — NECCSD Service and Information, provides updated NECCSD service and support telephone numbers and online information access procedures.

Section 4 — Processor Speed Settings, provides jumper setting information for changing the processor speed setting for a PowerMate Professional Series system.

Section 1

Specifications

This section provides specifications for the following PowerMate Professional built-to-order (BTO) options:

- Diskette drive (see Table 1-1)
- Quantum Stratus 3.2-GB IDE hard disk (see Table 1-2)
- Quantum ST 4.3-MB IDE hard disk (see Table 1-3)
- Quantum ST 6.4-MB IDE hard disk (see Table 1-4)
- NEC 16X CD-ROM reader (see Table 1-5)
- Lite-on 24X CD-ROM reader (see Table 1-6)
- Lucky Goldstar 24X CD-ROM reader (see Table 1-7)
- U.S. Robotics 56K fax/modem board (see Table 1-8)
- 3COM 3C905-TX network interface board (see Table 1-9)
- 3COM 3C905B network interface card (see Table 1-10)
- Intel® LAN Pro 100M2 network interface card (see Table 1-11).

For other specifications, see the *PowerMate Professional Series Service and Reference Manual* (819-181764-000).

Table 1-1 Diskette Drive Specifications

Feature	Specification
Diskette Drive	NEC Diskette Drive FD1231H-013
Performance	
Recording Capacity	High density mode: Unformatted: 2.00/1.00 MB Formatted: 1440 KB (512B 18 Sec) 720 KB (256B 18 Sec) Normal density mode: Unformatted: 1.00/0.50 MB Formatted: 640 KB (256B 16 Sec) 320 KB (128B 16 Sec)
Data Transfer Rate	High density mode: 500/250 Kbit/sec Normal density mode: 250/125 Kbit/sec
Disk Speed	300 rpm
Number of Tracks	160 (80 tracks x 2 sides)
Maximum Bit Density	High density mode: 17434/8717 BPI Normal density mode: 8717/4359 BPI
Seek Time	3 ms
Head Setting Time	15 ms
Tracks per Inch	135 TPI
Recording Mode	MFM/FM
General Specifications	
Temperature	Operating: 4° to 46°
Relative Humidity	20° to 80°
Dimensions (W x H x D)	25.4 mm x 101.6 mm x 146 mm
Weight	430 grams (typical)

Table 1-2 3.2-GB Quantum Stratus Hard Disk Drive Specifications

Feature	Specification
Hard Disk Drive	3.2-GB Quantum Fireball ST
Physical Configuration	
Formatted Capacity	3228
Nominal rotational speed	5,400(rpm)
Number of Disks	2
Number of R/W Heads	4
Data Organization	Zones per surface:15 Tracks per surface: 7,066 Total tracks: 28,264
Sectors per Track	Inside zone: 154 Outside zone: 277 Total User Sectors: 6,306,048 Bytes per Sector: 512 Number of tracks per cylinder: 4
Recording	Recording technology: Multiple Zone Maximum linear density: 168,650 fci Encoding method: 16/17 PRML Interleave: 1:1 Track density: 7,777 tpi Maximum effective areal density: 1230 Mbits/in. sq.
Performance	Seek times Read-on-arrival: 10.0 ms typical; 12.0 ms max. Track-to-track: 2.0 ms typical Average write: 11.0 ms typical; 13.0 ms max. Full Stroke: 20.0 ms typical; 24.0 ms max. Data transfer rate Disk to read buffer: 78 Mb/sec. min; 132 Mb/sec. max; Read Buffer to IDE Bus (PIO Mode with IORDY): 16.7 MB/sec. max. Read Buffer to IDE Bus (Ultra ATA Mode): 33 Mb/sec. max.
Buffer Size	128 KB
Power	+5V +/-5%; 100 mV peak-to-peak allowable ripple/noise 12V +/-10%; 250 mV peak-to-peak allowable ripple/noise
Temperature (non-condensing)	Operating: 5° to 55° C (41° to 131°F) Non-operating: -40° to 65°C (-40° to 149°F)
Humidity (non-condensing)	Operating: 5% to 85% rh, 30°C (86°F) Non-operating: 5% to 95% rh, 40°C (104°F)
Altitude	Operating: -200 m to 3,000 m (-650 to 10,000 ft.) Non-operating: -200 m to 12,000 m (-650 to 40,000 ft.)
Dimensions	Height:1.0 inches (25.4 mm) Width: 4.0 inches (101.6 mm) Depth: 5.75 inches (146.1 mm)

Table 1-3 4.3-GB Quantum Stratus Hard Disk Drive Specifications

Feature	Specification
Hard Disk Drive	4.3-GB Quantum Fireball ST
Physical Configuration	
Formatted Capacity	4310
Nominal rotational speed	5,400 rpm
Number of Disks	3
Number of R/W Heads	6
Data Organization	Zones per surface: 15 Tracks per surface: 7,066 Total tracks: 42,396
Sectors per Track	Inside zone: 143 Outside zone: 239 Total User Sectors: 8,418,816 Bytes per Sector: 512 Number of tracks per cylinder: 6
Recording	Recording technology: Multiple Zone Maximum linear density: 152,390 fci Encoding method: 16/17 PRML Interleave: 1:1 Track density: 7,777 tpi Maximum effective areal density: 1115 Mbits/in^2
Performance	Seek times Read-on-arrival: 10.0 ms typical; 12.0 ms max. Track-to-track: 2.0 ms typical Average write: 11.0 ms typical; 13.0 ms max. Full Stroke: 20.0 ms typical; 24.0 ms max. Data transfer rate Disk to read buffer: 70 Mb/sec. min; 119 Mb/sec. max Read Buffer to IDE Bus (PIO Mode with IORDY): 16.7 MB/sec. max. Read Buffer to IDE Bus (Ultra ATA Mode): 33 Mb/sec. max.
Buffer Size	128 KB
Power	+5V +/-5%; 100 mV peak-to-peak allowable ripple/noise 12V +/-10%; 250 mV peak-to-peak allowable ripple/noise
Temperature (non-condensing)	Operating: 5° to 55° C (41° to 131°F) Non-operating: -40° to 65°C (-40° to 149°F)
Humidity (non-condensing)	Operating: 5% to 85% rh, 30°C (86°F) Non-operating: 5% to 95% rh, 40°C (104°F)
Altitude	Operating: -200 m to 3,000 m (-650 to 10,000 ft.) Non-operating: -200 m to 12,000 m (-650 to 40,000 ft.)
Dimensions	Height:1.0 inches (25.4 mm) Width: 4.0 inches (101.6 mm) Depth: 5.75 inches (146.1 mm)

Table 1-4 6.4-GB Quantum Stratus Hard Disk Drive Specifications

Feature	Specification
Hard Disk Drive	6.4-GB Quantum Fireball ST
Physical Configuration	
Formatted Capacity	6448
Nominal rotational speed	5,400 rpm
Number of Disks	4
Number of R/W Heads	8
Data Organization	Zones per surface: 15 Tracks per surface: 7,066 Total tracks: 56,528
Sectors per Track	Inside zone: 154 Outside zone: 277 Total User Sectors: 12,594,960 Bytes per Sector: 512 Number of tracks per cylinder: 8
Recording	Recording technology: Multiple Zone Maximum linear density: 168,650 fci Encoding method: 16/17 PRML Interleave: 1:1 Track density: 7,777 tpi Maximum effective areal density: 1230 Mbits/in^2
Performance	Seek times Read-on-arrival: 10.0 ms typical; 12.0 ms max. Track-to-track: 2.0 ms typical Average write: 11.0 ms typical; 13.0 ms max. Full Stroke: 20.0 ms typical; 24.0 ms max. Data transfer rate Disk to read buffer: 78 Mb/sec. min; 132 Mb/sec. max Read Buffer to IDE Bus (PIO Mode with IORDY): 16.7 MB/sec. max. Read Buffer to IDE Bus (Ultra ATA Mode): 33 Mb/sec. max.
Buffer Size	128 KB
Power	+5V +/-5%; 100 mV peak-to-peak allowable ripple/noise 12V +/-10%; 250 mV peak-to-peak allowable ripple/noise
Temperature (non-condensing)	Operating: 5° to 55° C (41° to 131°F) Non-operating: -40° to 65°C (-40° to 149°F)
Humidity (non-condensing)	Operating: 5% to 85% rh, 30°C (86°F) Non-operating: 5% to 95% rh, 40°C (104°F)
Altitude	Operating: -200 m to 3,000 m (-650 to 10,000 ft.) Non-operating: -200 m to 12,000 m (-650 to 40,000 ft.)
Dimensions	Height:1.0 inches (25.4 mm) Width: 4.0 inches (101.6 mm) Depth: 5.75 inches (146.1 mm)

Table 1-5 NEC 16X CD-ROM Reader Specifications

Feature	Specification
16X CD-ROM Reader	NEC CDR-1600A/BR
Performance	
Data Transfer Rate	2400 KB/sec
Burst Transfer Rate	16.67 MB/sec (PIO Mode 4) (Single-DMA Mode 2) 16.67 MB/sec (Multi-DMA Mode 2)
Supported Modes	1X, 12X, and 16X Rotational modes CD-Audio CD-ROM (Mode 1 and Mode 2) PIO Mode 4 Multi DMA Mode 2 CD-XA (Mode 2, form 1 and form 2) CD-I (FMV) CD+ Video CD CD Extra Multisession Photo CD™ Single Session Photo CD™
General Specifications	
Capacity	656 MB (Mode 1) 748 MB (Mode 2)
Physical Format	Standards: Red, Yellow, and Orange (part 2) book.
Weight	1.03 Kg
Operating Temperature	5°C to 45°C

Table 1-6 Lite-on 24X CD-ROM Reader Specifications

Feature	Specification
CD-ROM Reader	Lite-on Technology 24X CD-ROM reader LTN-242
Features	
Data Transfer Rate	20X max: 1,600 ~ 3,000KB/Sec (12X ~ 20X) 24X max: 1,600 ~ 3,600KB/Sec (12X ~ 20X)
Average Access Time	≤110 ms typical
Disc	Disc format: ISO9660 Data Discs CD-ROM (Mode 1 and Mode 2) Mixed Mode (Audio Combined CD-ROM disc) CD-ROM/XA (Mode 2, Form 1 & Form 2) CD-I/FMV Video CD CD-DA Photo-CD (Single & Multisession) Karaoke CD CD Extra Disc Diameter: 8 cm and 12 cm
Interface	ATAPI/E-IDE
Audio Specification	Signal to Noise Ratio: 70 dB typical Headphone Level: ≥0.6 Vrms at 1 Khz, 33 Ohm Load
Front Panel	Power On/Busy LED Open/close/Stop Button Play/skip Button Volume Control Stereo Headphone Jack Emergency Eject Hole
Rear Panel	IDE Interface Analog & Digital Audio Outputs Power Input Mode Select Jumper
Power	
Startup Current:	12V (peak): 1.5 amps; 5V (RMS): 0.6 amps
Seek Power (typical):	5.6 watts
Operating Power (typical):	4.2 watts
Idle Mode Power (typical):	3.8 watts
Standby Mode Power (typ):	1.0 watts
Sleep Mode Power (typical):	0.7 watts
Voltage Tolerance:	+5V +/-5%; +12V +/-10%

Table 1-6 Lite-on 24X CD-ROM Reader Specifications

Feature	Specification
Temperature	Operating: 5° to 45° non-operating: -20° to 60°
Humidity	Operating: 20% to 80% (non-condensing) non-operating: 20% to 90% (non-condensing)
Altitude	Operating: -61 to 3,048 meters Non-operating: -61 to 12,192 meters
Physical Dimensions	H x W x L: 41.5 x 146 x 191 mm max Weight: ≤1.1Kg typical

Table 1-7 Lucky Goldstar 24X CD-ROM Reader Specifications

Feature	Specification
CD-ROM Reader	LG Electronics CD-ROM reader CRD-8240B
Performance	
Data Transfer Rate (Sustained)	1X : 150 Kbytes/sec 24X (max): 3,600 Kbytes/sec
Data Transfer Rate/Burst (ATAPI)	16.67 Mbytes/sec (PIO mode 4) 16.67 Mbytes/sec (MULTI-DMA mode 2)
Disc format	Mixed Mode (Audio and Data Combined) CD-DA, Mode1 (basic format), Mode2 (form1 and form2) Photo-CD (Multisession), CD-XA Ready CD-I Ready, CD-Plus
Data Capacity (Yellow Book) (User Data/Block)	2,048 bytes/block (Mode1 and Mode 2, form1) 2,340, 2336 bytes/block (Mode2) 2,324 bytes/block (Mode 2, form2) 2,352 bytes/block (CD-DA)
Rotational Speed	1X (CLV): Approximately 200 to 530 rpm 10X ~ 24X (CAV): Approximately 5000 rpm
Average Access Time	
1/3 Stroke	90 ms typical (max 24X) 110 ms typical (max 24X) including latency
Full Stroke	160 ms typical (max 24X) 180 ms typical (max 24X) including latency
Random Access	90 ms typical (max 24X) 110 ms typical (max 24X) including latency
Data Buffer Capacity	128 Kbytes

Table 1-7 Lucky Goldstar 24X CD-ROM Reader Specifications

Feature	Specification
Spin up, spin down, eject time	Spin up time 1.5 sec Spin down time 0.8 sec Eject time 2.0 sec typical Load time 1.5 sec typical
Voltage Tolerance	+5V DC +/-5%; +12V DC +/-5%
Temperature	Operating: 5° to 45° non-operating: -20° to 60°
Humidity	Operating: 10% to 80% (non-condensing) Storage: 5% to 90 % (non-condensing)
Physical Dimensions	H x W x L: 41.5 x 146 x 201 mm max Weight: 0.958 Kg

Table 1-8 Fax/Modem Board Specifications

Feature	Specification
Fax/Modem Board	U.S. Robotics 56.6 Kbps
Data (maximum speed)	x2 technology ITU-T V.34+ ITU-T V.34 ITU-T V.32bis ITU-T V.32 ITU-T V.23 ITU-T V.22bis ITU-T V.22 Bell 212A Bell 103
Error Control and Data Compression	ITU-T V.42 ITU-T V.42bis MNP5
Fax Modulation Schemes	ITU-T V.17 ITU-T V.29 ITU-T V.27ter ITU-T V.21
Fax Standards	EIA 578 Class 1 Fax EIA 592 Class 2.0 Fax

Table 1-9 3COM 905-TX Network Board Specifications

Feature	Specification
Network Board	3COM 905-TX
Features	10/100Base Ethernet card
	Connectors: 10Base-T AUI Coaxial cable .
	32-bit bus master PCI design
	Single driver configuration
	Automated 10/100 NWay speed auto-negotiation in Fast EtherLink XL PCI.
	AutoLink configuration softawre for NetWare drivers
	Support for Plug and Play
	Custom ASIC combining 10/100 bus interface and 8 KB RAM on one chip
	IEEE 802.3 and 802.3u compliant
	PCI 2.1 compliant
Dimensions	L x W, 3.375 in x 4.75 in
Operating Ranges	Temperature 32° to 158° F (0° - 70°) Humidity 10-90% (non-condensing) Altitude to 9800 ft.
Power	Power Requirements: +5V +/- 5% at 650 mA max

Table 1-10 3COM 509B-COMBO Network Board Specifications

Feature	Specification
Network Board	3COM 509B-COMBO
Features	IEEE 802.3I 10BASE-T and Ethernet IEEE 802.3 industry standard for a 10 Mbps CSMA/CD local area network.
Dimensions	L x W x H: 6.14 in x 3.95 in x 3.05 in
Operating Ranges	Temperature 32° to 158° F (0° - 70°); humidity 10-90% (non-condensing)
Power	+5V +/- 5% @ 200mA max; +12V +/- 5% @ .05 A max

Table 1-11 Intel EtherExpress Pro/100 Network Board Specifications

Feature	Specification
Network Board	Intel EtherExpress Pro/100
Features	32-bit Direct Bus Mastering on PCI bus
	Shared memory structure
	10BASE-T and 100BASE-TX capability using a single RJ-45 connector
	IEEE 802.3u Auto-Negotiation for hardware selection of highest operating speed.
	Support for boot ROM (Flash or EPROM) up to 1MB
	Remote Wake Up support (Wake-on-LAN technology)
	Capable of functioning as Standard 10/100Mbps NIC in non-WOL system
	Less than 100 mA in low power mode.
Dimensions	L x W, 3.75 in x 6.75 in
Temperature	Operating: 0° to 55°C Non-operating: -40° to 70° C.
Power	+5V +/- 5% @ 200mA max; +12V +/- 5% @ .05 A max

Section 2

Illustrated Parts Breakdown

This section contains the illustrated parts breakdown (IPB) and NECCSD part numbers for the PowerMate Professional Series computers.

The information in this subsection applies to PowerMate Professional Built to Order (BTO) systems and systems with the following model numbers:

- MT-2550-24874X
- MT-2560-24874X
- MT-2560-24874C
- MT-2560-2784S
- MT-2560-2785S.

Table 2-1 lists the field-replaceable parts for the computer*. Figure 2-1 provides the illustrated parts breakdown.

Use the following telephone numbers when ordering parts.

- Dealers in the U.S. should call 1(800) 632-4565 to order NECCSD spare parts.
- Users in the U.S. must call 1(800) 233-6321 for parts.
- Users in Canada must call 1(800) 727-2787 for parts.
- To order options in the U.S., call the NECCSD sales office at 1-888-306-4636.

*This data was prepared January 1998. For an up-to-date listing of spare parts, please call FaxFlash^{SM} at 1-888-329-0088 (or 1-978-635-6090 outside the U.S.) and order document 42181874.

Table 2-1 PowerMate Professional Series Field-Replaceable Parts List*

Item	Description	Part Number
1	AC Power Cable	808-857649-101A
2	Chassis Intrusion Switch and Cable Assembly	158-052263-000
2a	Plastic Chassis Intrusion Switch Housing	158-052262-000
3	LED Power Cable	158-052170-001
4	HDD LED Cable	158-052169-001
5	Sleep Switch Cable Assembly	158-050895-004
6	Reset Switch Cable Assembly	158-050685-031
7	Audio Cable	158-050824-000
8	Microsoft Mouse	158-052115-000
9	Keyboard, Chicony	158-052121-000
10	Plastic Blank Panel - 5 1/4”	158-030810-000
11	Front Bezel w/IR PCB and Cable	158-052129-000
12	PowerMate Professional Logo Panel	158-030872-075
13	Internal Power Cable and Switch	158-050906-001
14	Reset/Sleep Button	158-050896-003
15	PCB Guide	158-052127-012
16	200-Watt Power Supply with Fan w/o Power Switch	158-052259-000
17	Power Supply Plastic Air Flow Duct	158-031073-000
18	Side Cover	158-052127-002
19	Adaptec SCSI Host Adapter	158-052132-000A
20	Matrox Mystique video board with 2-MB video RAM	158-052254-000A
21	Number Nine Imagine 128 Series 2 video board with 4-MB video RAM	158-052264-000A
22	Top Cover	158-052127-013
23a	8-Watt Speaker with Cables and Adapter	158-050980-001

* This data was prepared January 1998. For an up-to-date listing of spare parts, please call FaxFlash at 1-888-329-0088 (or 1-978-635-6090 outside the U.S.) and order document 42181874.

Table 2-1 PowerMate Professional Series Field-Replaceable Parts List*

Item	Description	Part Number
23b	8-Watt Speaker Adapter	158-056391-000
24	IDE Hard Drive Signal Cable (3-connector)	158-050836-001
25	Wide SCSI Adapter Cable (3-connector)	158-052178-000
26	Floppy Drive Signal Cable (3-connector)	158-050857-001
27	CD-ROM Signal Cable (2-connector)	158-050562-010
28	CPU Module Retention Kit	158-056595-000
29a	32-MB EDO SIMM (8 x 32)	158-082663-060
29b	16-MB EDO SIMM (4 x 32)	158-082662-060
29c	64-MB EDO SIMM (16 x 32)	158-082803-060
30a	233-MHz Pentium II CPU Module w/512-KB cache and Heatsink	158-056596-000
30b	266-MHz Pentium II CPU Module w/512-KB cache and Heatsink	158-056597-000
30c	300-MHz Pentium II CPU Module w/512-KB cache and Heatsink	158-056695-000
31	Coin-cell Battery	158-060367-000
32	System Board, with Audio	158-056546-000
33a	4.35-GB SCSI Ultra-Wide HDD (ST3433371)	158-050395-362
33b	3.2-GB IDE Hard Disk (Quantum Stratus)	158-050395-386
33c	6.4-GB IDE Hard Disk (Quantum ST)	300666-01
33d	4.3-GB IDE Hard Disk (Quantum ST)	300667-01
34a	NEC 16X (max) CD-ROM Reader	CDR1600A/BR
34b	Lite-on 24X CD-ROM Reader	217-00033
34c	Lucky Goldstar 24X CD-ROM Reader	730128-02
35	3-1/2 inch 1.44-MB Floppy Drive (w/o Bezel)	158-056414-000
36	Speaker with Cable	158-050865-008

Table 2-1 PowerMate Professional Series Field-Replaceable Parts List*

Item	Description	Part Number
37a	56K Fax/Modem Card (Akita II)	207-00068
37b	3COM 3C905-TX Network Interface Card	158-052256-00A
37c	3COM 3C509B Network Interface Card	158-050796-000
37d	Intel LAN Pro 100M2 Network Interface Card	207-00066
38	RJ-11 Cable	158-050519-001
--	PCMCIA Drive Bay Adapter**	158-050997-001
--	PCMCIA ISA Controller Card**	158-050997-002
--	PCMCIA 2-Connector Cable**	158-050997-003
--	Rail Kit**	158-050893-100
--	Rear I/O Ground Spring)**	158-030782-016

** = Not shown in Figure 1

* This data was prepared January 1998. For an up-to-date listing of spare parts, please call FaxFlash at 1-888-329-0088 (or 1-978-635-6090 outside the U.S.) and order document 42181874.

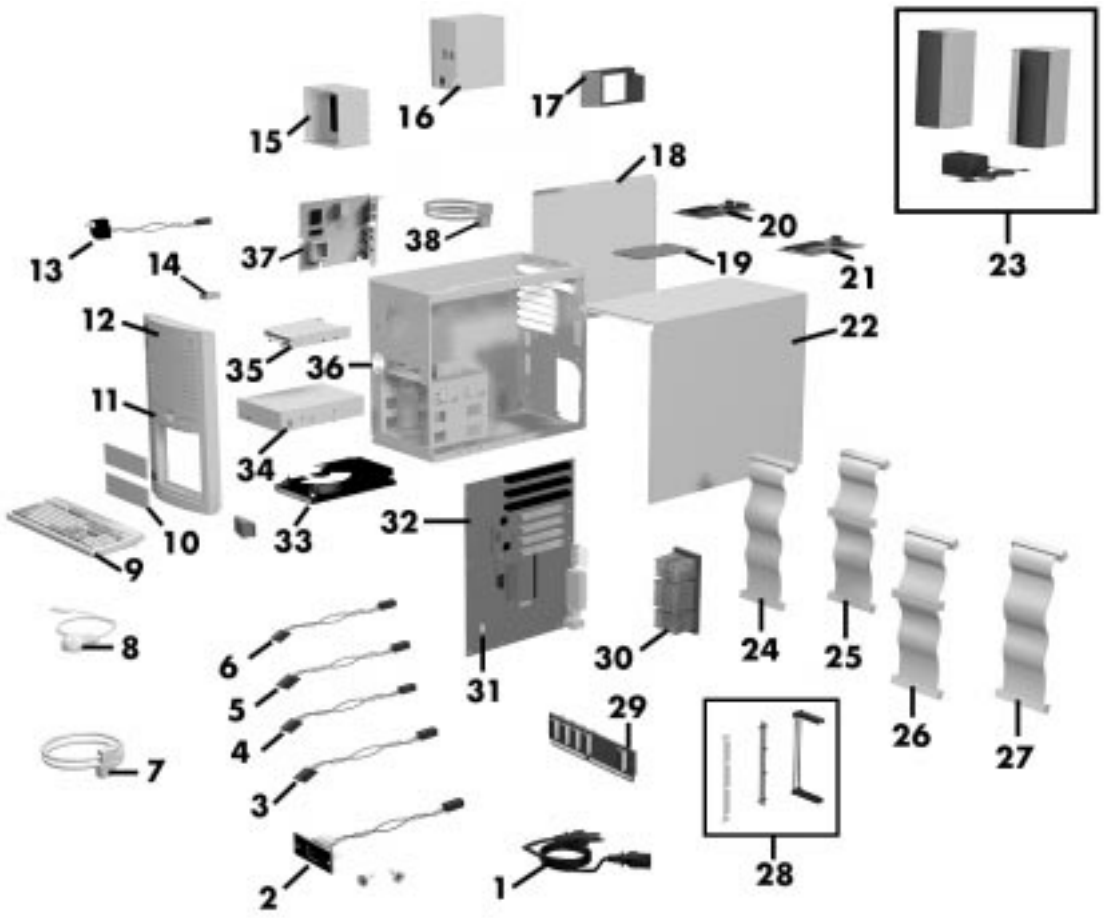

Figure 2-1 PowerMate Professional Series Illustrated Parts Breakdown*

* This data was prepared January 1998. For an up-to-date listing of spare parts, please call FaxFlash at 1-888-329-0088 (or 1-978-635-6090 outside the U.S.) and order document 42181874.

Table 2-2 lists PowerMate Professional Series memory and video options.

Table 2-2 PowerMate Professional Series Options

Description	Part Number
8-MB EDO SIMM (2 x 32)*	158-082630-060
16-MB EDO SIMM (4 x 32)*	158-082662-060
32-MB EDO SIMM (8 x 32)*	158-082663-060
64-MB EDO SIMM (16 x 32)*	158-082803-060
2-MB SGRAM Video Upgrade Module for Matrox Mystique	207-00041

* All SIMM kits have tin edge connectors.

Table 2-3 lists PowerMate Professional Series documentation, backup CD, and packaging part numbers.

Table 2-3 PowerMate Professional Series Documentation and Packaging*

Description	Part Number
PowerMate Professional Series User's Guide	819-181880-000
PowerMate Professional Series Service and Reference Manual	819-181764-000
Driver CD	370-00149
CD Restore (Windows 95)	370-00293
Shipping Carton (Multimedia)	158-040619-000

* This data was prepared January 1998. For an up-to-date listing of spare parts, please call FaxFlash at 1-888-329-0088 (or 1-978-635-6090 outside the U.S.) and order document 42181874.

Section 3

NECCSD Service and Information

This section includes the following updated information and procedures:

- NECCSD service telephone numbers (see Table 3-1)
- online information access procedures.

Table 3-1 NECCSD Service and Information Telephone Numbers

Service	Call
To contact the NECCSD Technical Support Center (TSC):	In the U.S. and Canada, call 1 (800) 632-4565
To order spare parts (Dealers):	Call 1 (800) 632-4565
To order spare parts (Customers):	In the U.S., call 1 (800) 233-6321 In Canada, call 1 (800) 727-2787
To contact Customer Service about service and contract warranty issues:	Call 1 (888) 632-9128
To log onto the NECCSD Electronic Bulletin Board System (BBS) to download software drivers and the latest BIOS for ROM flashing:	Call 1 (978) 635-4706 (see BIOS Update Utility in Section 2 of the service manual)
To contact the NECCSD Diskette Fulfillment Center to order a diskette with software drivers or the latest BIOS for ROM flashing:	Call 1 (800) 842-6446
For information about NECCSD products, call FaxFlash (use this automated service to have the latest Technical Information Bulletins sent to your fax machine 24 hours a day):	In the U.S., call 1 (888) 329-0088 1 (888) FAX-0088 Outside the U.S., call 1 (978) 635-6090
To send technical questions over email:	tech-support@neccsd.com
To fax technical questions to customer support:	In the U.S., fax 1 (978) 635-4100
To access the NECCSD Web page:	www.nec-computers.com
To access the NECCSD FTP site:	ftp.nectech.com
To purchase a new system or an option kit through NEC NOW, or to obtain sales literature or option information:	Call 1 (888) 863-2669 1 (888) 8NEC-NOW

The following sections provide valuable information on how to access the various online services available for your use.

NECCSD FaxFlash Service

The NECCSD FaxFlash[SM] service is a self-help, automated electronic information service for obtaining up-to-date product application notes, installation procedures, troubleshooting tips, data sheets, technical information bulletins, illustrated parts lists, part numbers, and other information about the system.

Using a fax machine, you can obtain information from FaxFlash 24 hours a day, 7 days a week. Simply call the FaxFlash number on a touch-tone telephone and order the information you want by following the voice prompts. FaxFlash automatically faxes the information to you.

If you are new to FaxFlash, first order one of the following catalogs. Each catalog lists the available documents and their document numbers. Current catalogs include:

- Catalog 1, NECCSD Telephone Directory and Online Service Information
- Catalog 3, NECCSD Computer Product Specifications, Warranty Policy, Ultracare Guidelines, and Sales Information
- Catalog 5, NEC ProServa™ and Express Serva Product Information
- Catalog 6, NEC Ready Consumer Desktop Systems
- Catalog 7, NEC PowerMate Commercial Desktop Systems
- Catalog 8, NEC Portable Systems (including Versa® Notebook and MobilePro Handheld Computers).

Catalogs 5, 6, 7, and 8 contain technical support information, including Technical Information Bulletins, Illustrated Parts lists, Frequently Asked Questions (FAQs) lists, and other product support documents.

Order information from FaxFlash as follows.

1. Be sure that the fax machine or fax/modem is on. Have the document number ready for the document you want.
2. At the touch-tone telephone, enter **888-329-0088** (U.S. and Canada only) or **978-635-6090** (international).

3. Listen to the instructions provided by the voice prompts.

   Press **1** if you do not want an introduction to FaxFlash. Follow the automated instructions for ordering the document or catalog.

   Press **2** if you want an introduction to FaxFlash. Follow the automated instructions for ordering the catalog or document.

3. When prompted, enter your fax number and name.

   For international use, first enter the international long distance access number (011), your country code, your area code or city code, then your fax number.

The information you requested is automatically sent to your fax machine. Please wait for the ordered document to arrive at the fax machine before calling to order more documents. If FaxFlash attempts to send the second order before the first order is completed, the order may be canceled. After three tries, FaxFlash assumes that your line is busy and terminates any further processing of the order.

NECCSD Bulletin Board Service

If you have access to a modem, you can use the NECCSD Bulletin Board Service (BBS) to provide you with the latest information on hardware and software. The BBS allows you to download files (video drivers, printer drivers, BIOS updates, etc.) for system enhancements and upgrades.

You can also access the BBS through the CompuServe online service.

Log onto the BBS as follows.

1. From the Windows desktop, click the Start button.
2. Point to Programs. Point to Accessories and then click HyperTerminal.
3. Double click the **Hypertrm.exe** icon. The HyperTerminal program appears.
4. Follow the instructions on the screen to set up your modem. Click the **HyperTerminal Help** button for information about dialing the phone number.

   If you need to check communications settings, check that the settings match the following BBS parameters:

   - Baud rate: select any baud rate that matches your modem
   - Parity: none
   - Data bits: 8

- Stop bits: 1
- Flow control: Xon/Xoff (select Hardware if using 14.4 bps or higher).

5. Following the HyperTerminal instructions, enter the BBS phone number (978-635-4706). Your business phone system and/or location might require a 9 1 or 1 prefix.

> **NOTE:** The first time that you use the BBS, you are requested to provide information for a new user questionnaire.

6. Press **Enter** twice.
7. Enter your first name, last name, and password. Press **Enter** after each.
8. Follow the screen prompts until the Main Menu is displayed.
9. At the Main Menu, select **J** to join a conference. Select **Conference 1** for the desktop conference.
10. From the Main Menu, press **F** and **Enter** for the File menu.
11. At the File menu, select **F** for a list of downloadable files. Follow the prompts to select a file for downloading.

> **CAUTION:** Executable files automatically format your diskette when you download files from the BBS. Formatting destroys any data on the diskette. Before you download files from the BBS, check that you do not have information on the diskette that you need.

After you complete downloading your file, log off the BBS as follows:

1. Press **Enter** (to continue).
2. Press **G** (command for Goodbye/Hangup).
3. Press **Enter**.

E-mail/Fax Technical Support Service

If you have a modem , the NECCSD Technical Support Center offers technical support by E-mail over the Internet network. The Internet address is:

tech-support@neccsd.com

If you have access to a fax machine or fax/modem, you can also fax technical questions to the NECCSD Technical Support Center. The fax number is:

(978) 635-4100

When using the E-mail or fax support service, include the following words in the subject field for prompt response from the appropriate technical person:

- Desktop (desktop or minitower systems)
- Monitor
- CD-ROM
- Printer
- Notebook.

Provide as much specific information about your questions as possible. Also, if you are sending a fax, please include your voice telephone number and your fax number with the question. You will receive a response to your questions within one business day.

Internet

If you have a modem, you can access the NECCSD Home Page on the Internet World Wide Web. You can do this through a commercial online service or through your Internet account. The NECCSD Home Page contains general information about NECCSD products.

You can also use the Internet to access the NECCSD ftp (file transfer protocol) site to download various files (video drivers, printer drivers, BIOS updates). The files are essentially the same files as on the NECCSD Bulletin Board Service.

To access the World Wide Web NECCSD Home Page, enter the following Internet Uniform Resource Locator (URL) through your service:

http://www.nec-computers.com/

To access the NECCSD ftp Site, enter the following Internet ftp address through your service:

ftp.nectech.com

Once in the file menu, follow the prompts to choose and download the file(s) you want.

NECCSD Technical Support Services

NECCSD also offers direct technical support through its Technical Support Center. (NECCSD technical support is for U.S. and Canadian customers only; international customers should check with their sales provider.)

Direct assistance is available 24 hours a day, seven days a week. Call the NECCSD Technical Support Center, toll free, at 1-800-632-4565 (for U.S. and Canada only).

Free technical support for hardware is limited to the length of the standard warranty. Software support for preloaded software is limited to 90 days from the time of the first call to the NECCSD Technical Support Center. For software support after the initial 90 days or hardware support after the warranty period, a fee is charged.

Before calling , please have available your system's name, model number, serial number, and as much information as possible about your system's problem.

For outside the U.S., please contact your local NECCSD sales provider.

Section 4

Processor Speed Settings

This section provides jumper setting information for changing the processor speed setting for a PowerMate Professional Series system.

The information in this section applies to PowerMate Professional Built to Order (BTO) systems and systems with the following model numbers:

- MT-2550-24874X
- MT-2560-24874X
- MT-2560-24874C
- MT-2560-2784S
- MT-2560-2785S.

The system board must be configured for the frequency of the installed processor and the corresponding host bus, PCI bus, and ISA bus frequencies. This jumper should be set correctly at the factory for the system.

The following procedure explains how to locate and change the processor speed jumper setting in the unlikely event that it is not set correctly at the factory.

For other jumper setting information, see the *PowerMate Professional Series Service and Reference Manual* (819-181764-000).

CAUTION: Jumpers are set correctly at the factory for the configuration.

If the system requires a jumper change, change only the setting for that condition. Otherwise, keep the settings at their factory settings.

WARNING: The system power must be off before changing a jumper setting.

1. Power off and unplug the system and any peripherals.
2. Remove the system unit cover (see “Removing the System Unit Cover” in Section 3 of the PowerMate Professional Series Service and Reference Manual).
3. Locate the jumpers on the system board (see “System Board Jumper Locations” in Section 3 of the PowerMate Professional Series Service and Reference Manual).

   You may have to remove any installed expansion boards to access the jumpers (see “Removing Expansion Boards” in Section 3 of the PowerMate Professional Series Service and Reference Manual).
4. Check the processor/bus speed jumper setting against the following figure. If necessary, change the jumper setting by lifting the plastic block and placing it on the appropriate pins.

   NECCSD recommends using needle-nose pliers to move a jumper.

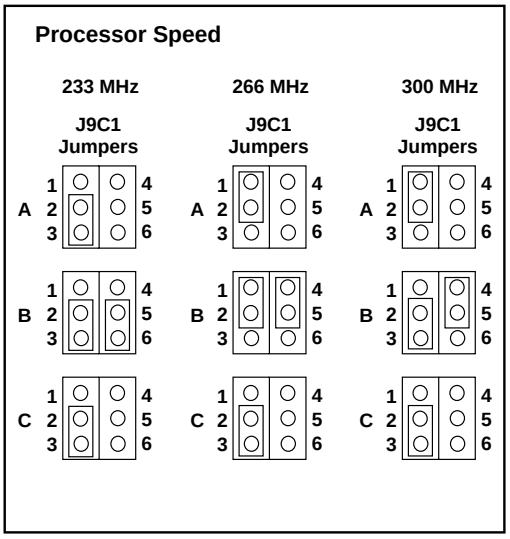

Figure 4-1 Processor Settings

5. Reinstall any removed expansion boards (see “Removing Expansion Boards” in Section 3 of the PowerMate Professional Series Service and Reference Manual).
6. Replace the system unit cover (see “Replacing the System Unit Cover” in Section 3 of the PowerMate Professional Series Service and Reference Manual).
7. Power on the system.

Index

(For United States Use Only)

FEDERAL COMMUNICATIONS COMMISSION
RADIO FREQUENCY INTERFERENCE STATEMENT

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 and power cables to ensure compliance of this unit to the specified limits of the rules.

(For Canadian Use Only)

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

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

BATTERY REPLACEMENT

A lithium battery in your computer maintains system configuration information. In the event that the battery fails to maintain system configuration information, NEC recommends that you replace the battery. See Chapter 4 in the *PowerMate Professional Series Service and Reference Manual* for battery replacement information.

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 replacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rébut 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. In MINNESOTA, call 1-800-225-PRBA if further disposal information is required.

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