SYSTEMBAUGRUPPE D1120
SYSTEM BOARD D1120

TECHNISCHES HANDBUCH
TECHNICAL MANUAL

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Deutsch

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Systembaugruppe D1120
System Board D1120

Technisches Handbuch
Technical Manual

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Contents

Introduction

i This system board is available in different configuration levels. Depending on the hardware configuration of your device, it may be that you cannot find several options in your version of the system board, even though they are described.

You may find further information in the description "BIOS Setup".

Further information to drivers is provided in the readme files on hard disk or on the supplied drivers diskettes or on the "Drivers & Utilities" or "ServerStart" CD.

Notational conventions

The meanings of the symbols and fonts used in this manual are as follows:

⚠ Pay particular attention to texts marked with this symbol. Failure to observe this warning endangers your life, destroys the system, or may lead to loss of data.

i Supplementary information, remarks and tips follow this symbol.

► Texts which follow this symbol describe activities that must be performed in the order shown.

␣ This symbol means that you must enter a blank space at this point.

↵ This symbol means that you must press the Enter key.

Texts in this typeface are screen outputs.

Texts in this bold typeface are the entries you make via the keyboard.

Texts in italics indicate commands or menu items.

"Quotation marks" indicate names of chapters and terms that are being emphasized.

Important notes

Store this manual close to the device. If you pass on the device to third parties, you should also pass on this manual.

⚠ Be sure to read this page carefully and note the information before you open the device.

You cannot access the components of the system board without first opening the device. How to dismantle and reassemble the device is described in the Operating Manual accompanying the device.

Please note the information provided in the chapter "Safety" in the Operating Manual of the device.

Incorrect replacement of the lithium battery may lead to a risk of explosion. It is therefore essential to observe the instructions in the chapter "Add-on modules" - "Replacing the lithium battery".

$C \epsilon$ The shipped version of this board complies with the requirements of the EEC directive 89/336/EEC "Electromagnetic compatibility".

Compliance was tested in a typical PC configuration.

When installing the board, refer to the specific installation information in the Operating Manual or Technical Manual of the receiving device.

Connecting cables for peripherals must be adequately insulated to avoid interference.

Components can become very hot during operation. Make sure you do not touch components when making extensions to the system board. There is a danger of burns!

i The warranty is invalidated if the device is damaged during the installation or replacement of system expansions. Information on which system expansions you can use is available from your sales outlet or the customer service center.

Information on boards

To prevent damage to the system board or the components and conductors on it, please take great care when you insert or remove boards. Take care above all to ensure that extension boards are slotted in straight without damaging components or conductors on the system board, or any other components, for example EMI spring contacts.

Be especially careful with the locking mechanisms (catches, centering pins etc.) when you replace the system board or components on it, for example memory modules or processors.

Never use sharp objects (screwdrivers) for leverage.

Boards with electrostatic sensitive devices (ESD) are identifiable by the label shown.

When you handle boards fitted with ESDs, you must observe the following points under all circumstances:

- You must always discharge yourself (e.g. by touching a grounded object) before working.

- The equipment and tools you use must be free of static charges.

- Pull out the power plug before inserting or pulling out boards containing ESDs.

- Always hold boards with ESDs by their edges.

- Never touch pins or conductors on boards fitted with ESDs.

Features

The components and connectors marked do not have to be present on the system board.

- System board in micro ATX format
- Intel Celeron processor with 66 MHz Front Side Bus for PGA 370 socket, prepared for 100 MHz Front Side Bus

Intel Celeron processors support MMX technology. Size and frequency of first-level cache and second-level cache are depending on the processor used.

- Intel chipset 810
  consisting of GMCH 82810, ICH 82801 and FWH82802
- AC'97 Audio Codec (Audio, Mono Micro-In, Stereo Line-In, Stereo CD-In, Stereo AUX-In, Game/Midi-Port, Stereo Line-Out (max. 2 x 0,5 W/8 Ω))
- 2 DIMM slots for 16 to 512 Mbyte main memory (SDRAM memory modules meet the PC100 specification) without ECC
- Flash BIOS
- Energy saving functions:
  - ACPI and APM
  - Switching on/off, standby mode, suspend mode via on/off switch
  - Switching on/off via software
  - Wake on RTC
  - Wake on LAN
  - Wake on PCI Cards
- Security functions:
  - System, Setup and Keyboard password
  - parallel and serial ports can be deactivated
  - Write protection for floppy disk drive
  - Virus warning function for the boot hard disk
  - Virus protection function for the flash BIOS and the EEPROMs on the memory modules
- 4 PCI slots
  PCI slots support 3.3 V main voltage.
- IDE hard disk controller connected to PCI bus for up to four IDE drives
  (e.g. IDE hard disk drives, ATAPI CD-ROM drives)
  The IDE hard disk controller are ATA33/66, ultra DMA capable and support PIO modes 0-4.
- Floppy disk drive controller (possible formats: 720 Kbyte, 1.44 Mbyte, 2.88 Mbyte)
- The system board supports booting from a 120 Mbyte IDE floppy disk drive.
- 2D/3D graphics processor, 24 bit 230 MHz RAMDAC

- Monitor connector: Sub D
- 1 external parallel interface (ECP- and EPP-compatible)
- 1 external serial port (16C550 compatible with FIFO)
- 1 internal serial port (16C550 compatible with FIFO)
  This port does not support the ring indicator signal.
- 1 internal WOL interface
- 2 external PS/2 interfaces for keyboard and mouse
- 2 external USB ports
- Real-time clock/calendar with integrated battery backup

Interfaces and connectors
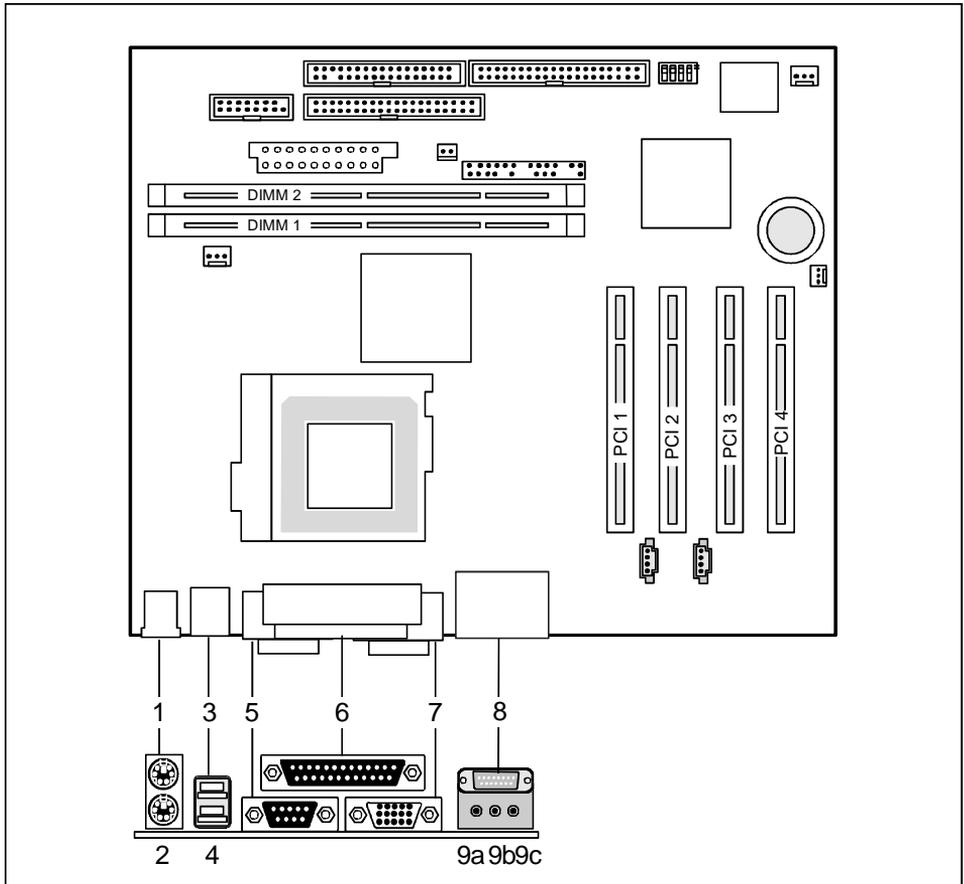
1 = PS/2 mouse port
2 = PS/2 keyboard port
3 = USB port B
4 = USB port A
5 = Serial port 1
6 = Parallel port

7 = VGA port
8 = Game/Midi port
9a = Audio Line-Out
9b = Audio Line-In
9c = Audio Micro-In
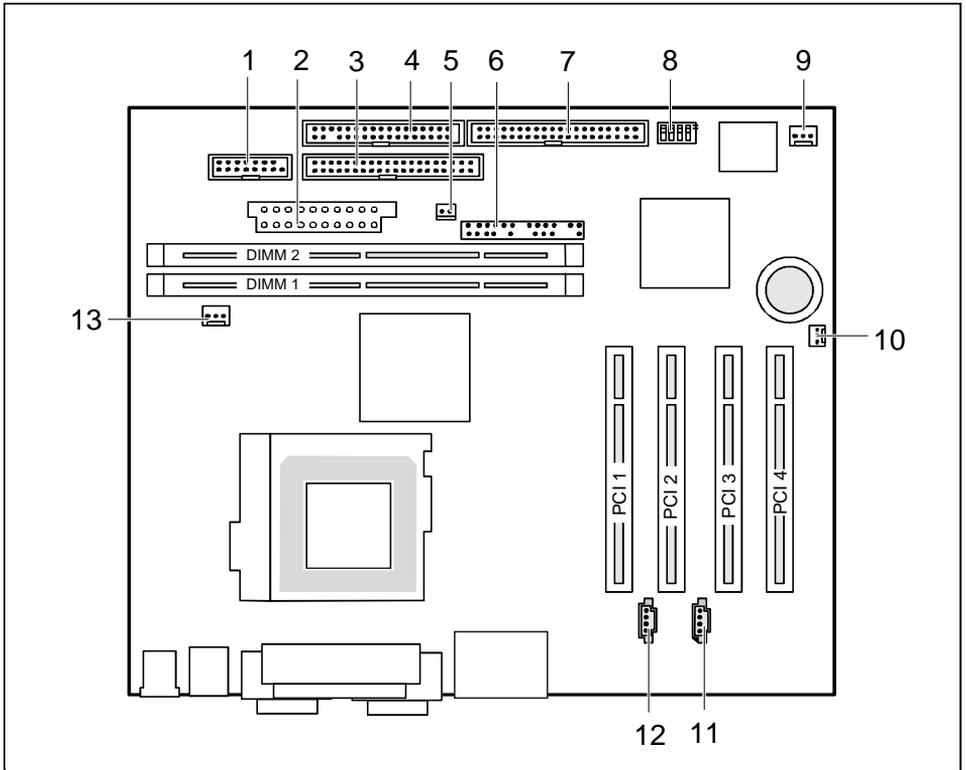
1 = Serial chipcard reader interface or serial port 2
2 = Power supply
3 = IDE drives 3 and 4 (secondary)
4 = Floppy disk drive
5 = ON/OFF switch
6 = Connector for control panel and loudspeaker

7 = IDE drives 1 and 2 (primary)
8 = Switch block
9 = Fan 2 (e. g. for the processor)
10 = Wake On LAN
11 = CD audio input
12 = AUX Audio Input
13 = Fan 1 (e. g. for the processor)

The components and connectors marked do not have to be present on the system board.

PCI bus interrupts

The following table shows which PCI bus interrupts on the system board are assigned.

PCI bus interrupt	Component on system board:
A	PCI bus slot 1
B	PCI bus slot 2
C	PCI bus slot 3
D	PCI bus slot 4
D	USB controller
A	Graphics processor
B	SMBus
B	AC'97

Possible screen resolution

Depending on the operating system used the screen resolutions in the following table refer to the screen controller on the system board.

If you are using an external screen controller, you will find details of supported screen resolutions in the Operating Manual or Technical Manual supplied with the controller.

Screen resolution	Refresh rate (Hz)	Horizontal-rate (kHz) **	Max. number of colors
640x480	60 - 85	31,5 - 43,3	256
640x480	60 - 85	31,5 - 43,3	65536
640x480	60 - 85	31,5 - 43,3	16777216
800x600	60 - 85	35,1 - 53,7	256
800x600	60 - 85	35,1 - 53,7	65536
800x600	60 - 85	35,1 - 53,7	16777216
1024x768	60 - 85	48,8 - 68,7	256
1024x768	60 - 85	48,8 - 68,7	65536
1024x768	60 - 85	48,8 - 68,7	16777216
1152x864	60 - 85	54,4 - 76,9	256
1152x864	60 - 85	54,4 - 76,9	65536
1152x864	60 - 85	54,4 - 76,9	16777216
1280x1024	60 - 85	64,0 - 91,1	256
1280x1024	60 - 85	64,0 - 91,1	65536
1280x1024	60 - 85	64,0 - 91,1	16777216
1600x1200	60 - 75	75,0 - 93,8	256

*   no 16 color mode

**   The horizontal rate values may have a tolerance range of ±0.3 kHz.

Settings with switches
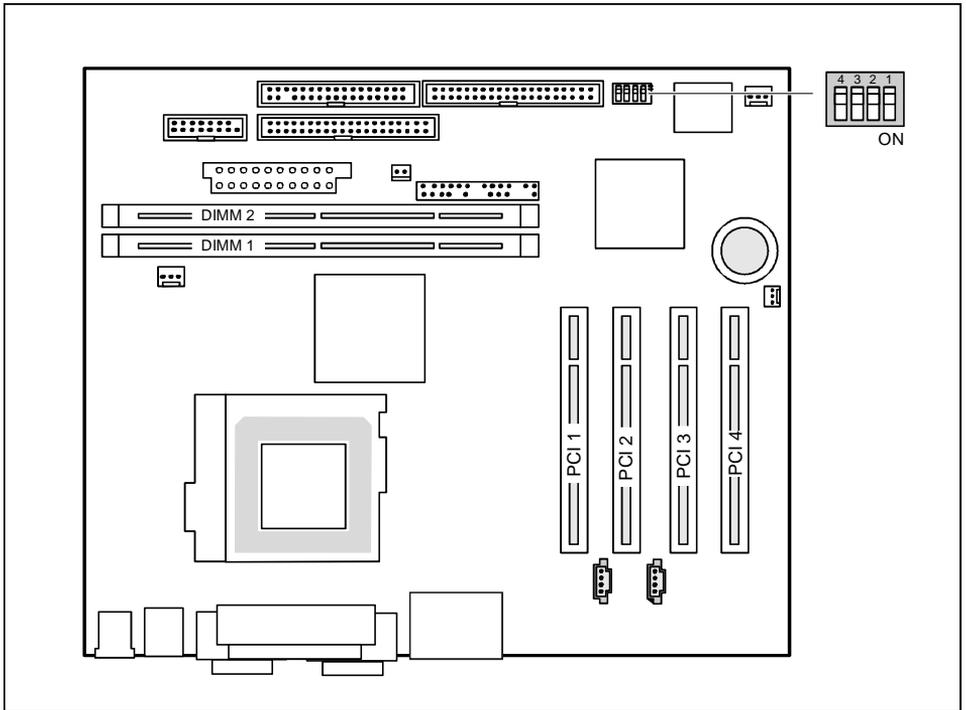
Switch 1 = must be set to *off*
Switch 2 = System BIOS recovery (RCV)

Switch 3 = Write-protection for floppy disk
Switch 4 = Clear CMOS (must be set to *off*
during operation)

i The clock frequency of the processor is set automatically.

Recovering System BIOS - switch 2

Switch 2 enables recovery of the old system BIOS after an attempt to update has failed. To restore the old system BIOS you need a Flash BIOS Diskette (please call our customer service center).

On The System BIOS executes from floppy drive A: and the inserted "Flash-BIOS-Diskette" restores the System BIOS on the system board.

Off Normal operation (default setting).

Write protection for floppy disks - switch 3

Switch 3 is used to define whether floppy disks can be written or deleted in the floppy disk drive. To write and delete floppy disks, the write-protection in *BIOS Setup* must be disabled (in menu *Security*, the field *Diskette Write* must be set to *Enabled*).

On   The floppy disk drive is write-protected.

Off   Read, write and delete floppy disks is possible (default setting).

Clear CMOS - switch 4

Switch 4 enables the CMOS registers to be reset.

On   CMOS registers are reset.

Off   CMOS registers are not reset.

i   In normal operation switch 4 must always be set to *Off*.

Add-on modules

⚠ For all steps described in this chapter exit the suspend mode before switching off the device and then pull the power plug out of the power outlet!

Even when you have run down the device, parts of the device (e. g. memory modules, AGP and PCI extension boards) are still energized. Should this be the case, the voltage indicator LED glows or flashes.

All PCI slots have bus master capability and support 3.3 V.
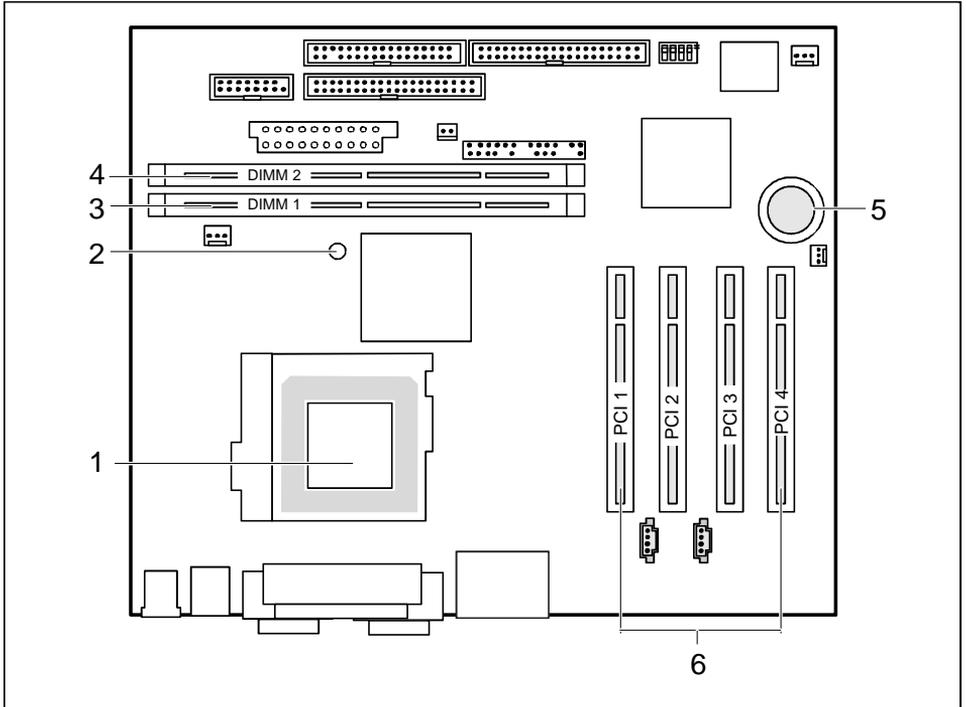
1 = Slot for processor with heat sink
2 = Voltage indicator LED
3 = Location bank 1 for main memory
4 = Location bank 2 for main memory
5 = Lithium battery
6 = PCI slots 2, 3, 4, 1

Installing / removing processor
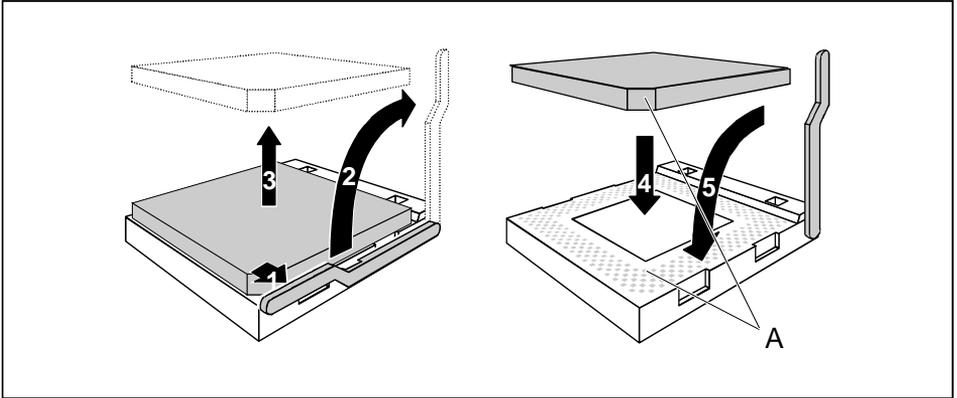
► Push the lever in the direction of the arrow (1) and lift it as far as it will go (2).

► Remove the old processor from the socket (3).

► Insert the new processor in the socket so that the angled corner of the processor matches the coding on the socket (A) with regard to the position (4).

⚠ The angled corner of the processor may be covered by the heat sink. In this case let yourself be guided by the marking in the rows of pins on the underside of the processor.

► Push the lever back down so that it snaps into place.

Upgrading main memory

These slots are suitable for 16, 32, 64, 128 and 256 Mbyte memory modules of the DIMM format. Memory modules with different memory capacities can be combined.

⚠️ You may only use unbuffered 3.3V memory modules. Buffered memory modules are not permitted.

SDRAM memory modules must be designed for a clock frequency of 100 MHz (meets PC100 specification).

Installing memory modules
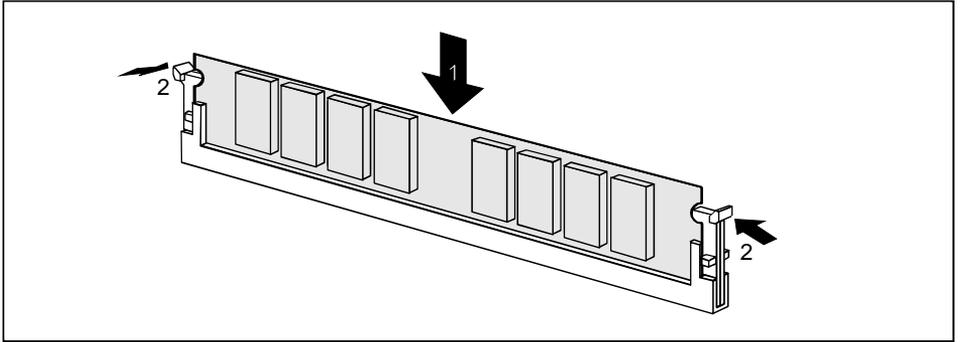
► Flip the holders on each side of the relevant location outwards.

► Insert the memory module into the location.

Watch the coding of the memory module when doing so.

► At the same time flip the lateral holders upwards until the memory module snaps in place.

Removing a memory module

► Flip the holders to the right and left of the location outwards.

► Pull the memory module out of its location.

Replacing the lithium battery

⚠ Incorrect replacement of the lithium battery may lead to a risk of explosion.

The lithium battery must be replaced with an identical battery or a battery type recommended by the manufacturer (CR2032).

Do not throw lithium batteries into the trashcan. It must be disposed of in accordance with local regulations concerning special waste.
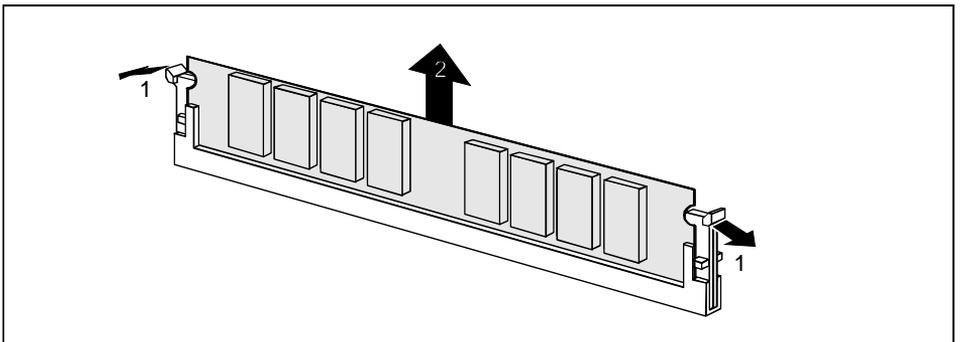
Make sure that you insert the battery the right way round. The plus pole must be on the top!

- **VAROITUS**
  Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

- **VARNING**
  Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

- **ADVARSEL**
  Lithiumbatteri - Explosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Lever det brugte batteri tilbage til leverandøren.

- **ADVARSEL**
Explosionsfare ved feilaktig skifte av batteri. Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten. Brukte batterier kasseres i henhold til fabrikantens instruksjoner.
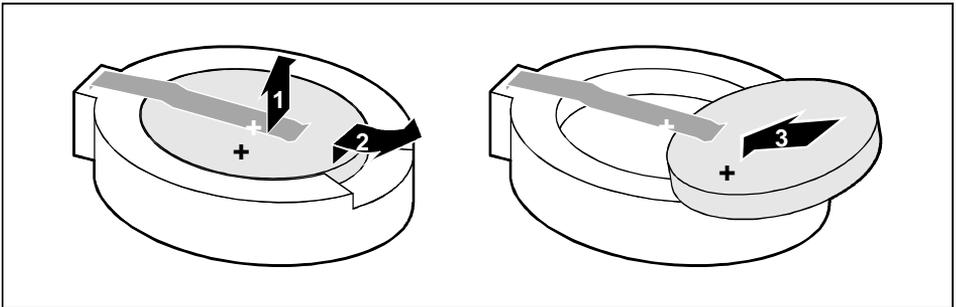
► Lift the contact (1) a few millimeters and remove the battery from its socket (2).

► Insert a new lithium battery of the same type in the socket (3).

Glossary

The technical terms and abbreviations given below represent only a selection of the full list of common technical terms and abbreviations.

Not all technical terms and abbreviations listed here are valid for the described system board.

ACPI .... Advanced Configuration and Power Interface
AC'97 .... Audio Codec '97
AGP .... Accelerated Graphics Port
AMR............................. Audio Modem Riser
AOL .... Alert On LAN
APM............................. Advanced Power Management
ATA.............................. Advanced Technology Attachment
BIOS .... Basic Input Output System
CAN .... Controller Area Network
CPU .... Central Processing Unit
C-RIMM .... Continuity Rambus Inline Memory Module
DIMM .... Dual Inline Memory Module
ECC .... Error Correcting Code
EEPROM .... Electrical Erasable Programmable Read Only Memory
FDC .... Floppy Disk Controller
FIFO .... First-In First-Out
FSB.............................. Front Side Bus
FWH .... Firmware Hub
GMCH.......................... Graphics and Memory Controller Hub
I²C............................... Inter Integrated Circuit
IAPC .... Instantly Available Power Managed Desktop PC Design
ICH .... I/O Controller Hub
IDE............................... Intelligent Drive Electronics
IPSEC.......................... Internet Protocol Security
ISA............................... Industrial Standard Architecture
LAN.............................. Local Area Network
LSA.............................. LAN Desk Service Agent
MCH .... Memory Controller Hub
MMX .... MultiMedia eXtension
PCI............................... Peripheral Component Interconnect
PXE .... Preboot eXecution Environment
RAM............................. Random Access Memory
RAMDAC .... Random Access Memory Digital Analog Converter
RDRAM........................ Rambus Dynamic Random Access Memory
RIMM .... Rambus Inline Memory Module
RTC .... Real Time Clock
SB................................ Soundblaster
SDRAM........................ Synchronous Dynamic Random Access Memory
SGRAM .... Synchronous Graphic Random Access Memory
SMBus .... System Management Bus
SVGA........................... Super Video Graphic Adapter
USB .... Universal Serial Bus
VGA............................. Video Graphic Adapter
WOL .... Wake On LAN