Introduction

This Technical Manual applies for the system board D1085.

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 & Utility" 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.

This symbol is followed by supplementary information, remarks and tips.

▶ 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 PC.

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 PC.

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“.
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.

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.

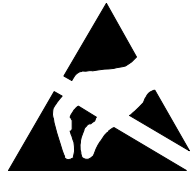
When installing the board, refer to the specific installation information in the Operating Manual or Technical Manual of the receiving device.

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!

The warranty expires 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 office or the customer service.

Boards with electrostatic sensitive devices (ESD) may be identified by labels.



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 ATX format
- Intel Pentium II processor with 66 MHz Front Side Bus for slot 1 processor socket

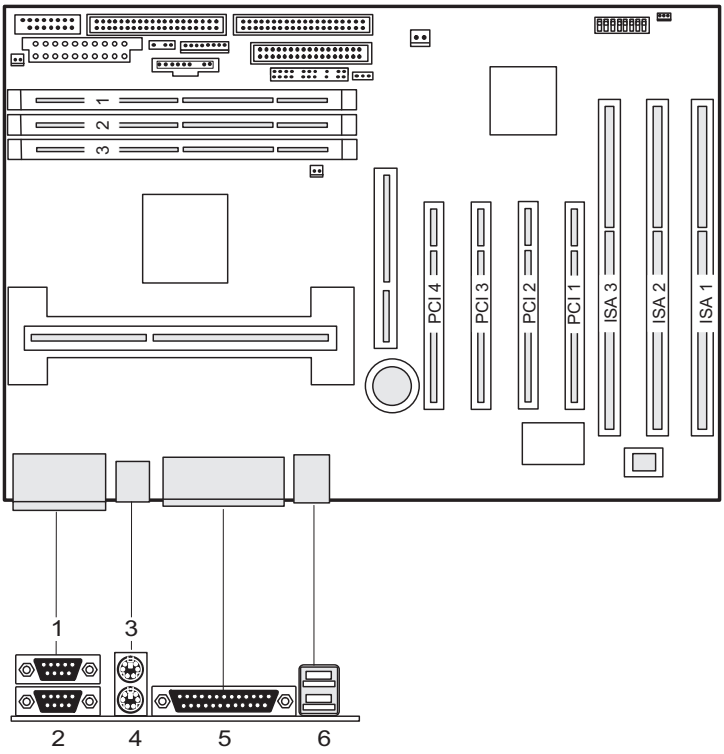
or

- Intel Celeron processor with 66 MHz Front Side Bus for slot 1 processor socket

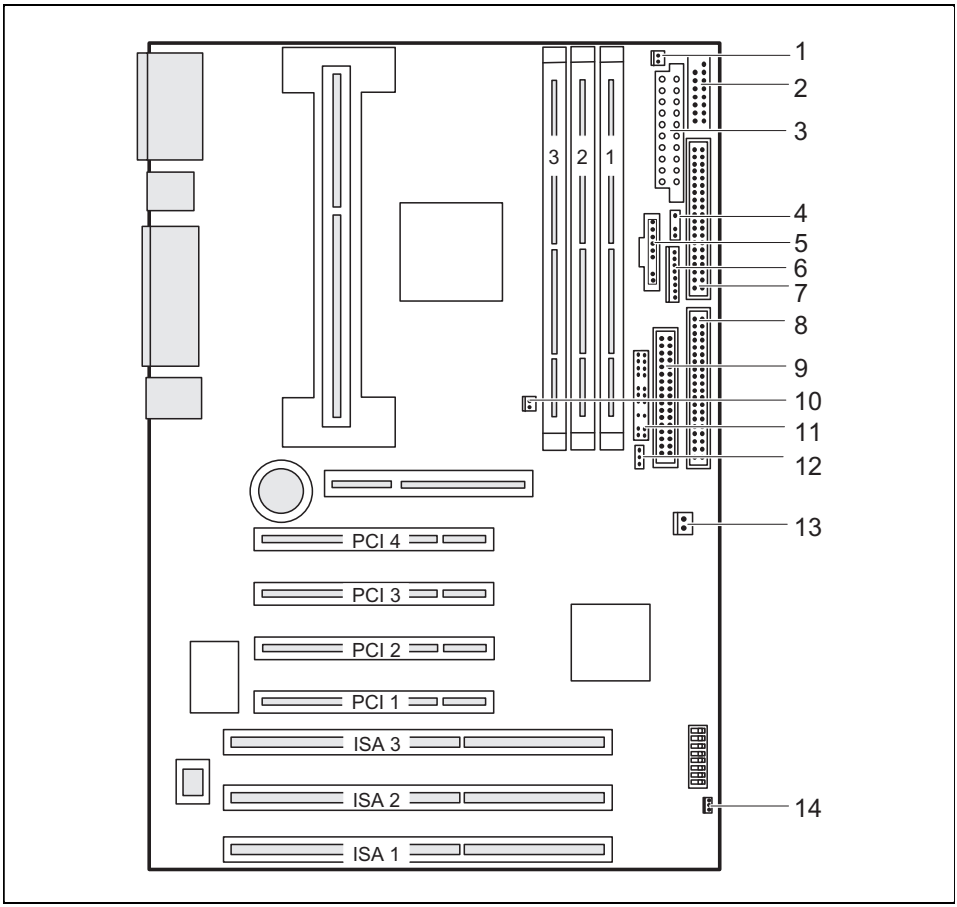
Intel Pentium II and Celeron processors support MMX technology. The size of first-level cache and second-level cache is depending on the processor used.

- Processor cache module with SEC contact technology for Intel slot 1 processor slot (SEC = Single Edge Contact)
- 16 to 256 Mbytes main memory (SDRAM)
- 256 to 768 Mbytes main memory (SDRAM)
- Error identification and error recognition via ECC
- Flash BIOS
- AGP slot for AGP graphics controller (AGP = Accelerated Graphics Port)
- 4 PCI slots (all with busmaster capability)
- 3 ISA slots
- IDE hard disk controller connected to PCI bus for up to four IDE drives (e.g. IDE hard disk drives, ATAPI CD ROM drive), (ultra DMA33 mode capable)
- Real-time clock/calendar with integrated battery backup
- Floppy disk controller (up to 2.88 Mbytes format)
- Supports booting from a 120 Mbyte IDE floppy disk drive
- Parallel port (ECP- and EPP-compatible)
- 2 serial ports (16C550 compatible with FIFO)
- PS/2 mouse port
- PS/2 keyboard port
- Security functions
- USB (Universal Serial Bus)
- Energy saving functions
- Connector for chipcard reader
- Fan connector
- Connector for infrared connection
- Wakeup on LAN (WOL)
- Prepared for system monitoring
- Cover detection

Interfaces and connectors



1 = Serial port 2
2 = Serial port 1
3 = PS/2 mouse port
4 = PS/2 keyboard port
5 = Parallel port
6 = USB ports



1 = System fan
2 = Chipcard reader
3 = Power supply
4 = Infrared receiver (IrDA)
5 = Device ID
6 = Power supply monitor
7 = IDE drives 3 and 4 (secondary)
8 = IDE drives 1 and 2 (primary)
9 = Floppy disk drive
10 = Processor fan
11 = Control panel
12 = Intrusion plug
13 = Power On
14 = Wake-up on LAN

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

Resource table

	assigned IRQ	possible IRQ	Possible Address (hex)	Possible DMA
Keyboard	IRQ1			
IrDA / WOL / Serial port COM2		3 4	03F8, 02F8 03E8, 02E8	
Serial interface COM1 / Chip card reader		3 4	03F8, 02F8 03E8, 02E8	
Floppy disk drive controller	IRQ6			2
Parallel interface LPT1		5, 7	0278, 0378	1, 3
RTC	IRQ8			
USB controller			PnP	
Mouse controller	IRQ12			
Numeric processor	IRQ13			
IDE controller 1	IRQ14		01F0-01F7	
IDE controller 2	IRQ15		0170-0177	

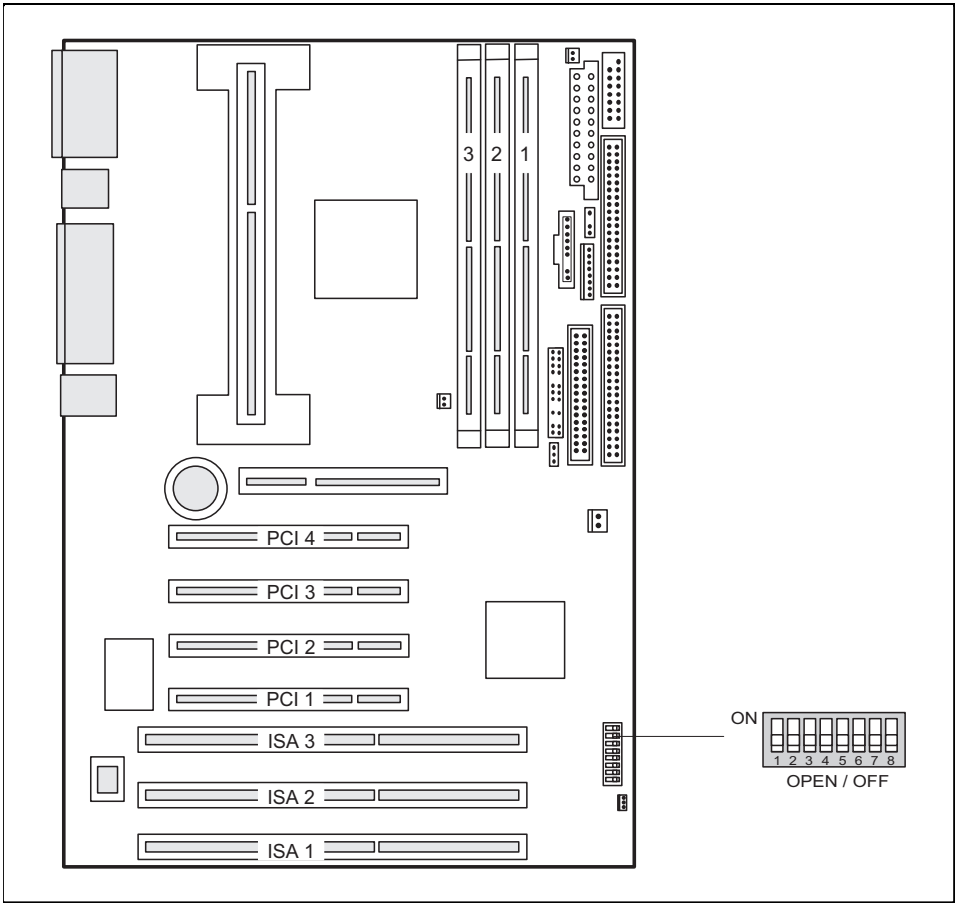
"assigned IRQ" = interrupts assigned as shipped
"Possible IRQ" = these interrupts can be used for your particular application
"Possible address" = this address can be used for your particular application
"Possible DMA" = these DMAs can be used for your particular application

PCI bus interrupts

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

PCI bus slot	PCI bus interrupt	Component on system board:
1	A	AGP slot
2	B	
3	C	
4	D	USB controller

Settings with switch block



Switch 1 = must be set to *off*
Switch 2 = System BIOS recovery
Switch 3 = Write protection for floppy disks
Switch 4 = reserved
Switches 5 - 8 = clock frequency

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 restores the System BIOS on the system board.

off The System BIOS is started from the system board (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).

Clock speed - switch 5, 6, 7 and 8

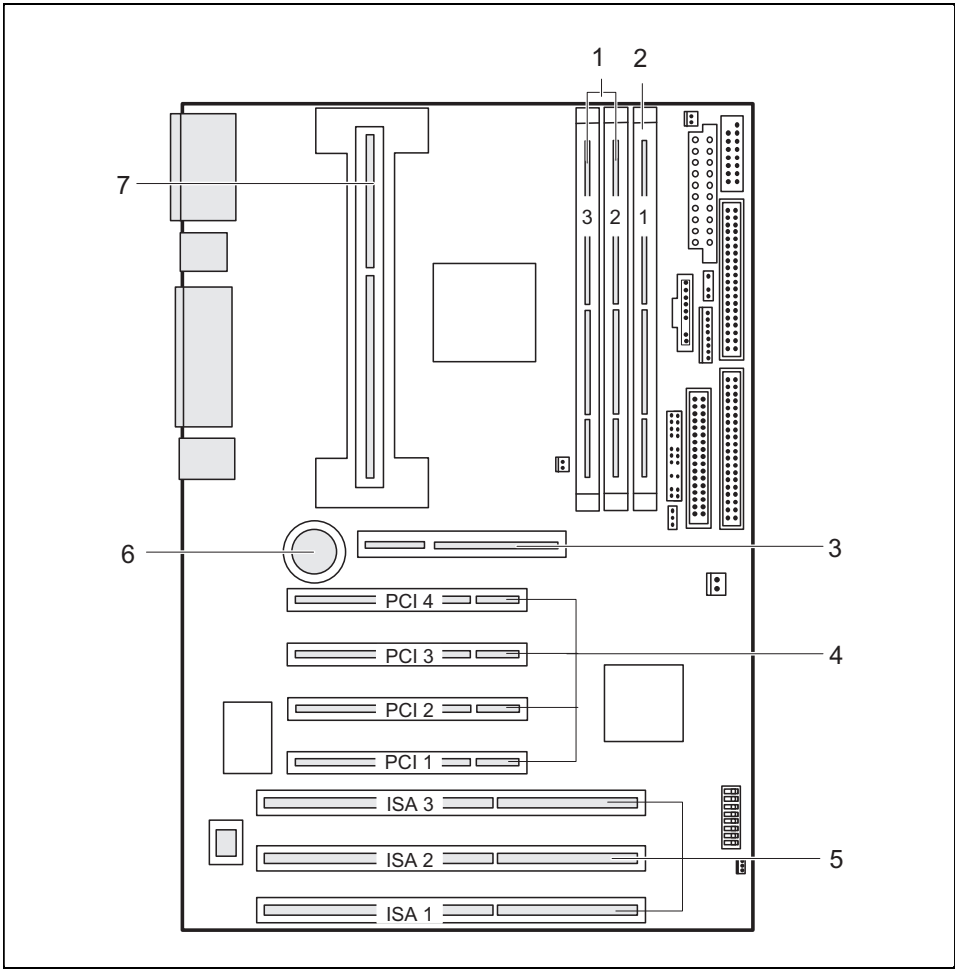
The switches may only be set as specified in the table below for the particular processor used.

This system board you may use only with processors with a host bus frequency of 66 MHz. Do not use processors with a host bus frequency of 100 MHz!

Pentium II with 66 MHz Host Bus frequency:

processor	switch 5	switch 6	switch 7	switch 8
233 MHz	off	off	on	on
266 MHz	on	on	off	on
300 MHz	off	on	off	on
333 MHz	on	off	off	on
366 MHz	off	off	off	on
400 MHz	on	on	on	off

Add-on modules



1 = 2 locations for main memory (DIMM)
2 = 1 location for main memory (DIMM)
3 = 1 AGP slot
4 = 4 PCI slots
5 = 3 ISA slots
6 = Lithium battery
7 = Pentium II with heat sink

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

Upgrading main memory

Two or three locations are available on the system board for main memory. These slots are suitable for 16, 32, 64 and 128 Mbyte SDRAM memory modules of the DIMM format.

The board supports a maximum of 384 Mbytes when using 128 Mbyte SDRAM memory modules. Memory modules with different memory capacities can be combined.

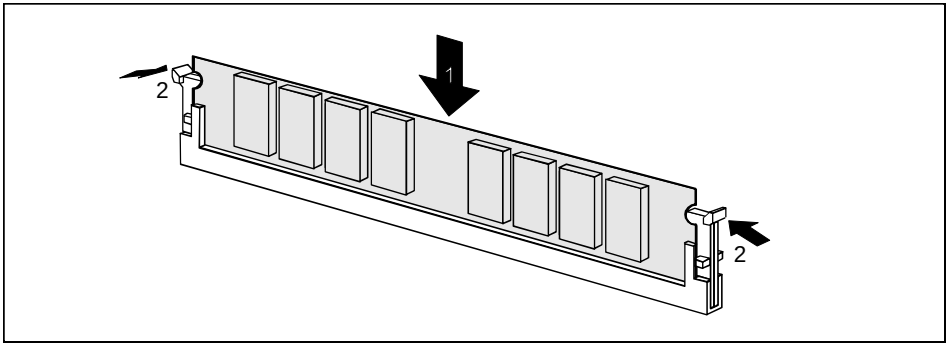
256 Mbyte SDRAM memory modules are possible on request. Then the board supports a maximum of 768 Mbytes.

DIMM = Dual Inline Memory Module
SDRAM = Synchronous Dynamic Random Access Memory

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

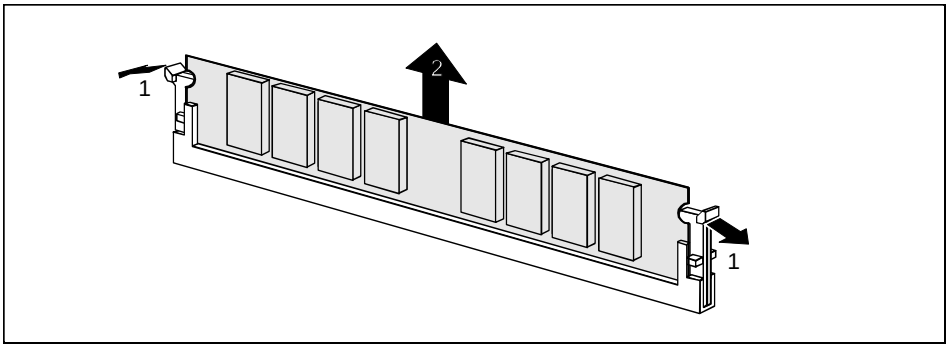
SDRAM memory modules must have a cycle time of 15 ns or less or be designed for a clock frequency of 66 MHz or higher.

Installing memory modules



- ▶ Flip the holders on each side of the relevant location outwards.
- ▶ Insert the memory module into the location (1).
- ▶ At the same time flip the lateral holders upwards until the memory module snaps in place (2).

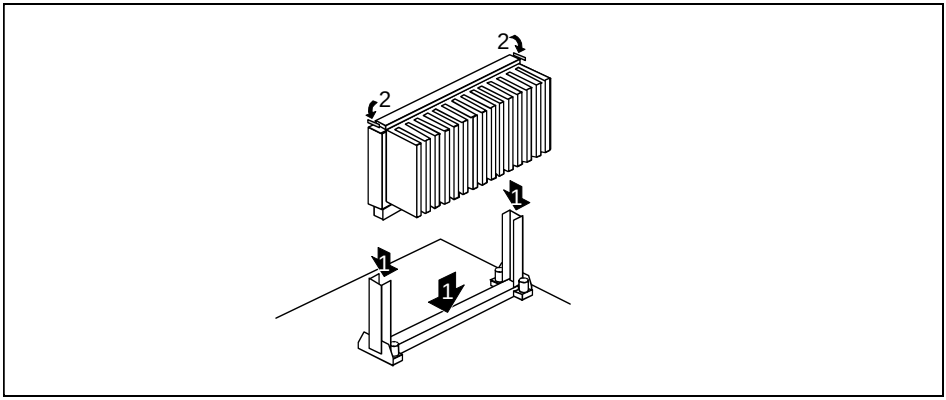
Removing a memory module



- ► Flip the holders to the right and left of the location outwards (1).
- ► Pull the memory module out of its location (2).

Installing/removing the processor

Installing the Pentium II

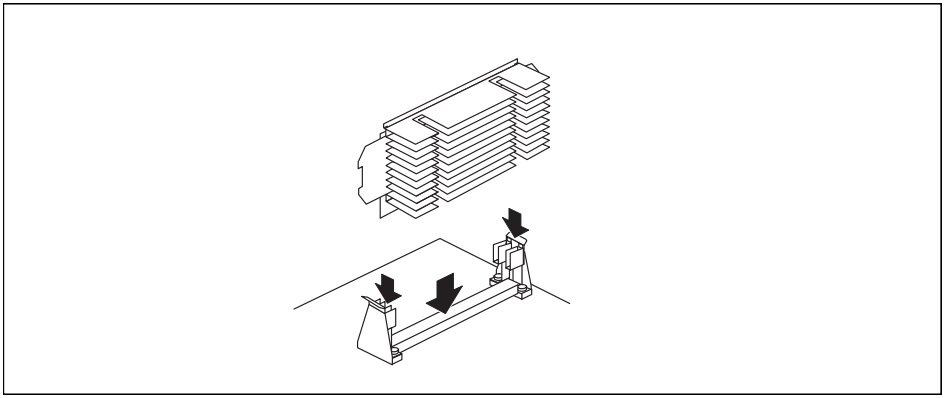


- Place the Pentium II in the holder (1).
- Push the Pentium II down in the holder and press it into the slot until the clamps (2) to the left and right snap into place.
- Set the clock frequency of the new Pentium II using switches 5 to 8 of the switch block.
- If the Pentium II has a fan, attach the associated cable to the fan connector (FAN) on the system board.

Removing the Pentium II

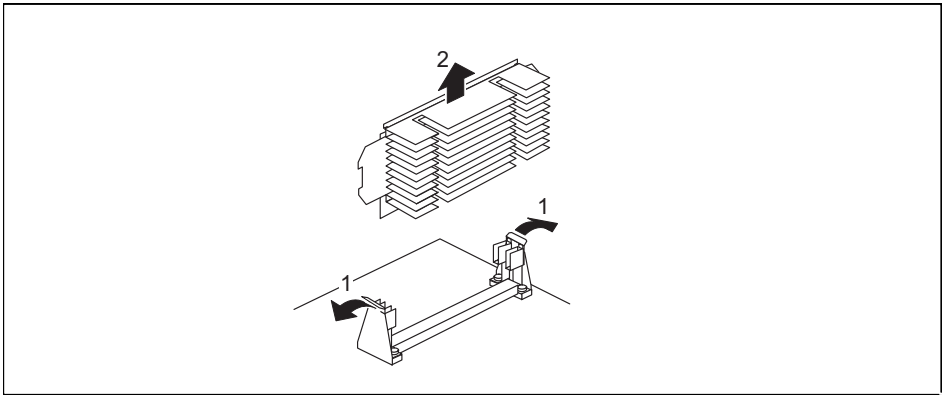
- If the Pentium II is equipped with a fan, then disconnect the plug-in connection of the related cable.
- Press the clamps (2) on either side of the Pentium II inwards and pull the Pentium II up and out.

Installing the Celeron



- ► Place the Celeron in the holder.
- ► Push the Celeron down in the holder and press it into the slot until it snaps into place.
- ► Set the clock frequency of the new processor using switches 5 to 8 of the switch block.
- ► If the Celeron has a fan, attach the associated cable to the fan connector (FAN) on the system board.

Removing the Celeron



- ► If the Celeron is equipped with a fan, then disconnect the plug-in connection of the related cable.
- ► Press the two side holders somewhat outward while pulling the Celeron upward out of the socket.

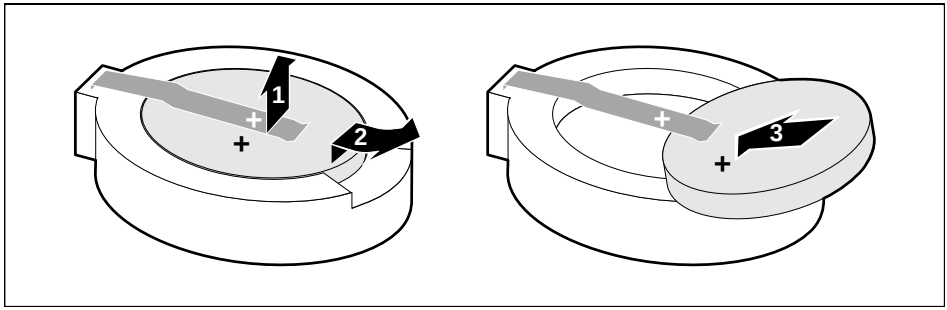
Replacing the lithium battery

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!



- 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).

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Technical Manual
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