SIEMENS
NIXDORF

PC

System boards D841, D842

ISA/PCI

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Technical Manual
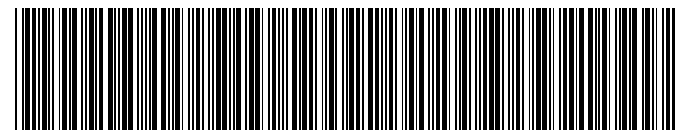
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Siemens Nixdorf Informationssysteme AG
User Documentation Department
BS2000 OS ID4, Otto-Hahn-Ring 6,
81730 München, Germany

Fax: (0 89) 6 36-4 04 43

SIEMENS NIXDORF

System boards D841, D842

ISA/PCI

Technical Manual

November 1995 edition

Introduction

Important notes

Settings

Add-on modules

Interface assignment and IRQs

Error messages

Index

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Contents

Introduction

This description applies for the system boards D841 and D842 with PCI Bus (**P**eripheral **C**omponent **I**nterconnect). Unless otherwise specified, the settings described apply for both system boards.

Explanation of symbols

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

⚠ This indicates instructions which it is essential to observe. Failure to do so may endanger your health, the operational integrity and electrical safety of your PC, or the security of your data.

i 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 from the PC.

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

Texts in italics indicate commands or menu items.

"Quotation marks" indicate highlighted text and names of chapters.

Features

– 64-bit microprocessor Pentium with 16 Kbyte internal cache (first level cache; 8 Kbyte data cache, 8 Kbyte address cache) or OverDrive processor for Pentium

– Math coprocessor: integrated in processor

– Memory configuration on system board: 8 Mbyte to 128 Mbyte RAM onboard

– Second level cache on the system board: 256 Kbytes

– PCI bus

– Disk controller connected to PCI bus for up to four IDE drives (e.g. fast IDE hard disk drives, IDE CD ROM drive)

– Monitor controller connected to PCI bus; graphics processor TSENG ET4000/W32P with Windows accelerator and 1 Mbyte or 2 Mbyte DRAM video memory

– Real-time clock/calendar with integrated battery backup

– 128 Kbyte Flash BIOS

– Floppy disk controller (up to 2.88 Mbyte format)

– Bus interface for platter

– Connector for external loudspeaker

– Connector for external monitor controller (VESA VGA pass-through)

– Image port

– Parallel interface (ECP- and EPP-compatible)

– Two serial interfaces

– PS/2 mouse interface

– PS/2 keyboard interface

– Monitor interface

– D842: Voltage converter

System board D841
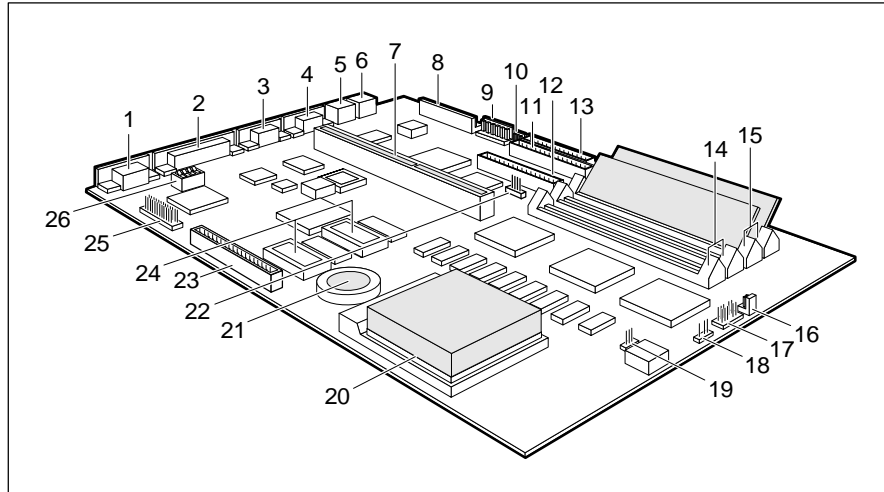
1 = Monitor interface
2 = Parallel interface
3 = Serial interface (Ser 2)
4 = Serial interface (Ser 1)
5 = PS/2 mouse interface
6 = PS/2 keyboard port
7 = Bus interface
8 = Connector for power supply 5 V
9 = Connector for power supply 3.3 V
10 = Connector for soft-off power supply
11 = Connector 1 for IDE drives 1 and 2
     (e.g. hard disk drive)
12 = Connector 2 for IDE drives 3 and 4
13 = Connector for
     floppy disk drive

14 = Location bank 1 for main memory
15 = Location bank 0 for main memory
16 = Connector for soft-off power switch
17 = Connector for LED indicators
18 = Connector for external
     loudspeaker
19 = Socket for processor fan
20 = Processor with heat sink
21 = Lithium battery
22 = Connector for LED indicator of
     SCSI hard disk drive
23 = Imageport connector
24 = Sockets for video memory
25 = Connector for external monitor
     controller
     (VESA VGA Pass-Through)
26 = Switch block

System board D842
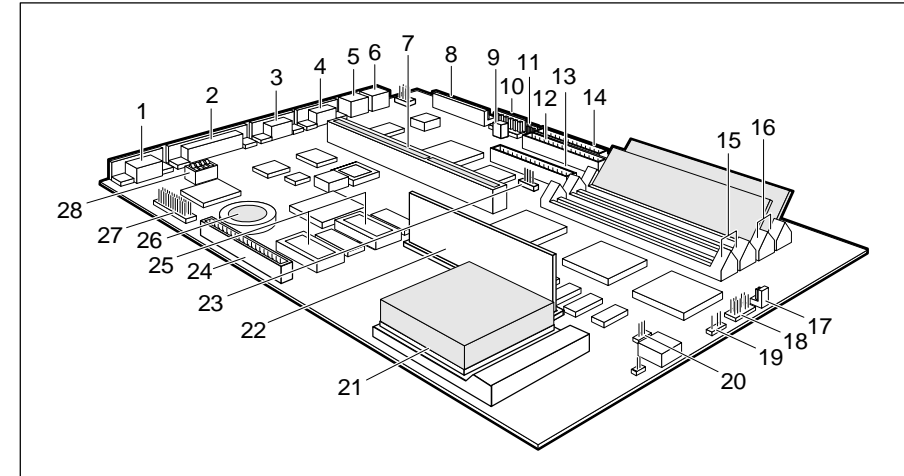
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     controller
     (VESA VGA Pass-Through)
28 = Switch block

Possible screen resolution

The screen resolutions in the following table refer to the monitor controller on the system board.

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

You can use the *REFRATE* program (under Windows 95), the *WDSETUP* program (under MS-Windows) or the *SET-VGA* program (under MS-DOS) to set the screen resolution. Detailed information is provided in the corresponding help.

⚠ You may set only those resolutions and refresh rates specified in the "Technical data" section of the monitor description. Otherwise you may damage your monitor. If you are in any doubt, contact your sales office or customer service.

Screen resolution	Refresh rate (Hz)	Horizontal rate (kHz)	Max. number of colors
640x350	70	31,5	16
640x350	84	38	16
640x480	60	31,5	16777216
640x480	75	38	16777216
640x480	90	48	65536
720x400	70	31,5	16
720x400	84	38	16
800x600	56	35	16777216 *)
800x600	56	35	65536
800x600	60	38	16777216 *)
800x600	60	38	65536
800x600	75	47	65536
800x600	90	60	256
1024x768	87 interlaced	36	65536 *)
1024x768	87 interlaced	36	256
1024x768	60	49	65536 *)
1024x768	60	49	256
1024x768	70	57	256
1024x768	75	60	256
1280x1024	87 interlaced	49	256 *)
1280x1024	87 interlaced	49	16
1280x1024	60	64	256 *)
1280x1024	75	80	256 *)

*) Only with 2 Mbyte of video memory

Important notes

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

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 section "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. Your vendor or dealer or their authorized representatives will take used batteries back free of charge so that they can be recycled or disposed of in the proper manner.

ADVARSEL

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

ADVARSEL

⚠ Eksplosjonsfare ved feilaktig skifte av batteri. Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten. Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

VARNING

⚠ Eksplosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkarenfabrikanten. Kassera använt batteri enligt fabrikantens instruktion.
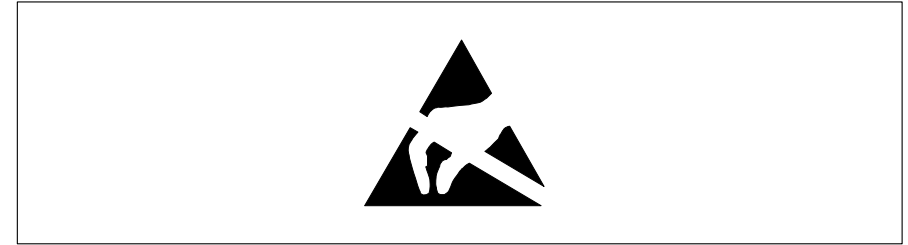
VAROITUS

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

Modules with **e**lectrostatic **s**ensitive **d**evices (ESD) may be identified by labels.

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

– When you handle modules fitted with ESDs, 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 modules containing ESDs.
– Always hold modules with ESDs by their edges.
– Never touch pins or conductors on modules fitted with ESDs.

Notes on software

Program with time loops

Problems can occur with programs in which time loops have been implemented through software loops. This applies in particular to older programs which were written for 8 MHz processors.

SCO-UNIX on devices with pentium or OverDrive processor

If you upgrade the system board by adding a processor mentioned above, please note the following:
If you use the processor mentioned above, the Adaptec-SCSI controller cannot be addressed under SCO-UNIX 3.2.4 and ODT 2.0.
To solve this problem, you can order **from SCO** a set of **SLS (Support Level Supplement) floppies** (consisting of 3 floppy disks) under the number **uod361**, free of charge, or contact one of our IT Service Shops.

The problem no longer exists in the new releases of SCO-UNIX 3.2.4.2 and ODT 2.1.
There will be no support for older versions (SCO-UNIX versions lower than 3.2.4 and ODT versions lower than 2.0).

Settings

You can make settings in the setup menu or using the switch block on the system board. The system board D842 has additional jumpers.

Setup menu

The setup menu displays settings and technical information on the PC's configuration. The Operating Manual describes how to call the setup menu and change menu entries. Pressing the function key F1 provides help information on each entry field.

The setup menu consists of the following screen pages:
System Configuration
System Security Options
Additional System Options
PCI Device Configuration
Additional Hard Disk Options
Power Management Configuration

System Configuration page

```
                         CMOS Setup
                     System Configuration
--------------------------------------------------------------------

Time (hh:mm:ss)   08:38:27             Date (mm/dd/yy)   08/13/1993

Diskette A:       1.4M
Diskette B:       NONE

                           Cyl   Hd   Pre   LZ   Sec   Mbyte
Hard Disk 1:      NONE
Hard Disk 2:      NONE
Hard Disk 3:      NONE
Hard Disk 4:      NONE

Base Memory:      640K                 Video Display:    EGA/VGA
Extended Memory:  15360K               Speed Select:     HIGH


Error Halt:       HALT ON ALL ERRORS


--------------------------------------------------------------------

<F1> Help        <F8> System info   <F10> Store CMOS  <Esc> Exit  Page
<...> Edit field <↑↓←→> Next field  <PgUp> Next page  <Ctrl> ...  01
```

Example of the *System Configuration* page

Time
Date

> The *Time* field and the *Date* field show the time and date respectively according to the PC. The time is shown in the format *hh:mm:ss* (hours:minutes:seconds) and the date is shown in the format *mm/dd/yy* (month/day/year).
>
> ⚠️ If the settings in the *Time* and *Date* fields are frequently wrong when you power up the computer, the lithium battery is dead. Change the battery as described in "Add-on modules - Replacing the lithium battery").

Diskette A
Diskette B

> These two fields are used to specify the type of floppy disk drive installed. The possible settings are: *360K*, *1.2M*, *720K*, *1.4M*, *2.8M or NONE*.
>
> Default entry for *Diskette A*:
>   3 1/2-inch floppy drive   *1.4M*
>   5 1/4-inch floppy drive   *1.2M*
> Default entry for *Diskette B*:   *NONE*

Hard Disk 1
Hard Disk 2
Hard Disk 3
Hard Disk 4

These fields are used to indicate the types of hard disks installed. The entries here may possibly not match the information printed on the hard disk drive by the manufacturer.

The maximum transfer rate of two IDE drives connected to the same connector is determined by the slower of the two. Fast hard disks should therefore be connected to the first IDE connector and identified as *Hard Disk 1* or *Hard Disk 2*; slower hard disks should be connected to the second IDE connector and identified as *Hard Disk 3* or *Hard Disk 4*.

Possible settings: *1* through *43*, *AUTO* or *NONE*.

| **i** | Do not alter the default settings unless you mount a different hard disk drive. If the wrong hard disk type is entered, the operating system cannot be loaded. |

Special entries for the hard disk type:
Entry for SCSI hard disks: *NONE*
Entry for ESDI hard disks: *1*

1 through *39*

The hard disk parameters (cylinders, heads, etc.) for types 1 through 39 are preset.

40 through *43*

The hard disk parameters (cylinders, heads, etc.) for types 40 through 43 are user-defined and are entered at the keyboard.

Examples of user-defined entries (IDE drives)

Size	Cyl	Hd	Pre*	Lz*	Sec	Mbyte
120 Mbyte:	762	8	NONE	762	39	121
170 Mbyte:	904	8	NONE	904	46	170
210 Mbyte:	683	16	NONE	683	38	212
340 Mbyte:	904	16	NONE	904	46	340
540 Mbyte:	1048	16	NONE	1048	63	542
1 Gbyte:	2079	16	NONE	2079	63	1080

* These values are preset and cannot be modified.

| **i** | In LBA mode different values may be displayed here. |

AUTO

If the hard disk supports this mode, the setup menu reads the hard disk parameters from the disk itself and sets them automatically. You do not need to select the parameters yourself.

NONE

The computer either has no hard disk or is fitted with a SCSI hard disk.

Default entry for *Hard Disk 1*:
depends on the type of hard disk installed
Default entry for *Hard Disk 2*, *3*, *4*: *NONE*

Base Memory

This field indicates the size of the available base memory below 1 Mbyte.

512K

A module needs the memory between 512 and 640 Kbyte.

640K

The memory is used by the system board.

Default entry: *640K*

Extended Memory

This field indicates the size of the memory above 1 Mbyte. You can reduce the size of extended memory if necessary.

Video Display

This field is used to specify the type of monitor connected.
Possible entries are: *EGA/VGA*, *COLOR 40*, *COLOR 80*, *MONO*.

Default entry: *EGA/VGA*

Speed Select

This field is used to specify the system speed set at system startup. You might, for example, need to select a slower speed for certain software programs that use programmed time loops.

HIGH

Full system speed

LOW

Reduced system speed.

Default entry: *HIGH*

Error Halt

This field is used to specify which errors the self-test should not report. The default setting should only be changed if required by special applications.

HALT ON ALL ERRORS

The self-test reports all errors it encounters.

NO KEYBOARD ERROR HALT

The self-test ignores keyboard errors.

NO DISK ERROR HALT

The self-test ignores floppy disk and hard disk errors.

NO KEYBOARD OR DISK HALT

The self-test ignores keyboard, floppy disk and hard disk errors.

NO HALT ON ANY ERRORS

The self-test ignores all errors.

Default entry: *HALT ON ALL ERRORS*

The System Security Options page

```
                         CMOS Setup
                    System Security Options
-------------------------------------------------------------------------------

Time (hh:mm:ss)   08:38:27               Date (mm/dd/yy)   08/13/1993


System Load:        STANDARD
Security Features:  DISABLED

Serial 1:           COM1 (3F8h)     Diskette Write:    ENABLED
Serial 2:           COM2 (2F8h)     Diskette Ctrlr:    ENABLED

Parallel:           LPT1 (378h)     Setup Prompt:      ENABLED
Par Mode:           PRINTER         Quick Load:        DISABLED
                                    Virus Warning:     DISABLED
Mouse Ctrlr         ENABLED
Flash Write:        ENABLED




-------------------------------------------------------------------------------

<F1> Help        <F8> System info    <F10> Store CMOS  <Esc> Exit   Page
<+ -> Select item <↑↓←→> Next field   <PgUp> Next page  <Ctrl> ...   02
```

Example of the *System Security Options* page

Time / Date

The *Time* field shows the current time and the *Date* field shows the current

date according to the PC.

System Load

This field allows you to disable booting from floppy disk or swap the drive letters assigned to the floppy disk drives.

STANDARD

The operating system can be loaded from floppy disk or hard disk.

NONSTANDARD

System start-up is controlled by the operating system (terminal emulation).

DISKETTE LOCK

The operating system can only be loaded from hard disk.

DISKETTE SWAP

Drives A and B are switched.

Default entry: *STANDARD*

Security Features

This field allows you to define a password to prevent access to the data in your PC.

DISABLED

No passwords are in effect.

SYSTEM AND SETUP LOCK

The setup menu and the operating system are protected by passwords.

SETUP LOCK

The setup menu is protected by a password.

KEYBOARD AND SETUP LOCK

The setup menu is protected and the keyboard and the mouse are locked by passwords.

CHANGE PASSWORD

This option is only displayed if a password has already been defined. It enables you to alter the password.

Default entry: *DISABLED*

Serial 1

The address and the interrupt used to access serial interface 1 are selected here.

COM1 (3F8h)

Serial interface 1 is set to the address 3F8h and IRQ4 (edge-triggered).

COM3 (3E8h)

Serial interface 1 is set to the address 3E8h and IRQ4 (edge-triggered).

DISABLED

Serial interface 1 is disabled.

Default entry: *COM1 (3F8h)*

Serial 2

The address and the interrupt used to access serial interface 2 are selected here.

COM2 (2F8h)

Serial interface 2 is set to the address 2F8h and IRQ3 (edge-triggered).

COM4 (2E8h)

Serial interface 2 is set to the address 2E8h and IRQ3 (edge-triggered).

DISABLED

Serial interface 2 is disabled.

Default entry: *COM2 (2F8h)*

Parallel

The address and the interrupt used to access the parallel interface are selected here.

LPT1 (378h)

The parallel interface is set to the address 378h and IRQ7.

LPT2 (278h)

The parallel interface is set to the address 278h and IRQ5.

LPT3 (3BCh)

The parallel interface is set to the address 3BCh and IRQ7.

DISABLED

The parallel interface is disabled.

Default entry: *LPT1 (378h)*

Par Mode

This field is used to specify whether the parallel interface is to be used as a bidirectional input/output port or just as an output port.

In addition, LPT1 and LPT2 can be configured for *ECP, EPP*, and *ECP and EPP* transfer modes, which allow transfer rates of 2 and 2.4 Mbyte/s. These modes will only work with peripheral devices which also support them.

PRINTER

The port functions as an output port only.

BIDIRECTION

Data can be transferred in both directions across the port.

EPP

Enhanced Parallel Port transfer mode.

ECP

Enhanced Capability Port transfer mode.

ECP AND EPP

Enhanced Capability and Enhanced Parallel Port transfer mode.

Default entry: *PRINTER*

Mouse Ctrlr

This field is used to enable and disable the built-in mouse controller on the system board.

ENABLED

The mouse controller is enabled (IRQ12 used).

DISABLED

The mouse controller is disabled (IRQ12 free).

Default entry: *ENABLED*

Flash Write

This field is used to write-protect the flash BIOS.

ENABLED

The flash BIOS can be written or deleted, provided switch 3 on the system board is set to OPEN.

DISABLED

The flash BIOS cannot be written. The BIOS cannot be flash-upgraded from floppy disk.

Default entry: *ENABLED*

Diskette Write

This field is used to enable and disable floppy disk write-protection.

ENABLED

Floppy disks can be read, written or deleted, provided switch 4 on the system board is set to OPEN.

DISABLED

Floppy disks can only be read.

Default entry: *ENABLED*

Diskette Ctrlr

This field is used to enable and disable the built-in floppy disk controller on the system board.

ENABLED

The floppy disk controller is enabled.

DISABLED

The floppy disk controller is disabled.

Default entry: *ENABLED*

Setup Prompt

This field specifies whether the *F2 FOR SETUP* prompt is displayed when the PC is started.

ENABLED

The *F2 FOR SETUP* prompt is displayed when the system is started.

DISABLED

The prompt is not displayed.

Default entry: *ENABLED*

Quick Load

This field allows you to shorten the duration of the self-test and speed up system start-up. If you choose the quick self-test option, only a minimum memory test is carried out.

ENABLED

The quick self-test is enabled.

DISABLED

The normal self-test is carried out.

Default entry: *DISABLED*

Virus Warning

This field enables and disables a check of the boot sector on the bootable hard disk for changes since the last system start-up. If changes are detected and the cause is unknown, you should run an appropriate virus checker to check for a virus.

ENABLED

If the boot sector has been modified since the system last booted (e.g,. a new operating system version has been installed or the hard disk has been infected by a virus), an on-screen warning appears.

```
    !!! HARD DISK WARNING !!!
   Boot sector has been modified.
Confirm the new boot sector in SETUP,
    and run a virus scan program.
```

This warning is re-displayed each time you restart the system until you acknowledge the message with CONFIRM or you disable the function by setting this field to DISABLED.

CONFIRM

By selecting this option, you indicate to the system that the modification to the boot sector was intentional (e.g., you have installed a new operating system version).

DISABLED

Boot sectors are not checked.

Default entry: *DISABLED*

Additional System Options page

```
                        CMOS Setup
                  Additional System Options
--------------------------------------------------------------------------

Time (hh:mm:ss)   08:38:27              Date (mm/dd/yy)   08/13/1993


System BIOS:            128K
Shadow BIOS ROM:        SYSTEM AND VIDEO BIOS
                        C800   CC00   D000   D400   D800   DC00
Shadow Adaptor ROM:     NO     NO     NO     NO     NO     NO

Cache:                  INTERN AND EXTERN
Cache Mode:             WRITE BACK
Cache BIOS ROM:         VIDEO BIOS ONLY
                        C800   CC00   D000   D400   D800   DC00
Cache Adaptor ROM:      NO     NO     NO     NO     NO     NO




--------------------------------------------------------------------------

<F1> Help        <F8> System info   <F10> Store CMOS  <Esc> Exit   Page
<+ -> Select item <↑↓←→> Next field   <PgUp> Next page  <Ctrl> ...    03
```

Example of the *Additional System Options* page

Time / Date

>The *Time* field shows the current time and the *Date* field shows the current date according to the PC.

System BIOS

>In this field you can make available a ROM address area of 32 Kbytes for requests via the ISA/PCI bus (e.g., SCSI BIOS).

>*96K*

>>A 96-Kbyte area (E8000H - FFFFFH) is reserved for the system BIOS. A 32-Kbyte area (E0000H - E7FFFH) is available for requests via the ISA/PCI bus.

>*128K*

>>A 128-Kbyte area (E0000H - FFFFFH) is reserved for the system BIOS.

>Default entry: *128K*

Shadow BIOS ROM

>This field allows you to copy the video BIOS to fast RAM in addition to the system BIOS at system start-up. Copying the BIOS to RAM increases CPU performance.

>*SYSTEM AND VIDEO BIOS*

>>The system BIOS and the video BIOS are both copied to RAM area C0000H - C7FFFH (video BIOS) and F0000H - FFFFFH (system BIOS).

>*SYSTEM BIOS ONLY*

>>Only the system BIOS is copied to RAM area E8000H - FFFFFH.

>Default entry: *SYSTEM AND VIDEO BIOS*

Shadow Adaptor ROM

>This field allows you to copy 16-Kbyte adaptor ROMs to RAM. If ROM code executes from RAM it increases your PC's performance. The ROM of PCI adaptors is always copied to RAM, regardless of the setting in this field.

>*NO*

>>The relevant ROM area is not copied to RAM.

>*YES*

>>The relevant ROM area is copied to RAM.

>Default entry: *NO*

Cache

>This field is used to specify which cache memory the CPU should use. Cache memory greatly increases performance. If the system runs too fast for certain older software, you can slow it down by disabling the cache (DISABLED).

>*INTERN ONLY*

>>Only the internal cache is enabled.

>*INTERN AND EXTERN*

>>The internal cache and the external cache are enabled.

>*DISABLED*

>>Both the internal cache and the external cache are disabled. All cache-related settings are then without effect.

>Default entry: *INTERN AND EXTERN*

Cache Mode
>Condition: *Cache* must be enabled.

>*Cache Mode* sets the mode in which the CPU uses the cache; write operations to the cache are carried out either in write-back mode or write-through mode. In write-back mode the CPU writes information to the cache and the information is only written to main memory if necessary. Memory and cache contents are not identical. In write-through mode the processor writes the information to the cache and to main memory. The contents of memory and cache are identical.

>*WRITE BACK*
>>The cache works in write-back mode.

>*WRITE THROUGH*
>>The cache works in write-through mode.

>Default entry: *WRITE BACK*

Cache BIOS ROM
>Condition: *Cache* must be enabled.

>*Cache BIOS ROM* lets you specify BIOS ROM areas that should also be mapped to the cache in addition to main memory.

>*SYSTEM BIOS ONLY*
>>The system BIOS is mapped to the cache.

>*VIDEO BIOS ONLY*
>>The video BIOS is mapped to the cache.

>*SYSTEM AND VIDEO BIOS*
>>The system BIOS and the video BIOS are mapped to the cache.

>*DISABLED*
>>BIOS ROM areas are not mapped to the cache.

>Default entry: *SYSTEM AND VIDEO BIOS*

Cache Adaptor ROM
>Condition: *Cache* must be enabled.

>*Cache Adaptor ROM* allows you to specify whether the relevant 16-Kbyte ROM area should be mapped to the cache. Mapping the ROM area to RAM increases system performance.

>*NO*
>>The relevant ROM area is not mapped to the cache.

>*YES*
>>The relevant ROM area is mapped to the cache.

>Default entry: *NO*

PCI Device Configuration page

```
                        CMOS Setup
                   PCI Device Configuration
-----------------------------------------------------------------------

Time (hh:mm:ss)  08:38:27              Date (mm/dd/yy)  08/13/1993

Memory Base Address:    44000000h   Color Palette Snoop:    DISABLED
I/O Base Address:       D000h       Parity Checking:        ENABLED


                        INTA#      INTB#      INTC#      INTD#
PCI Interrupt Mapping:  AUTO       AUTO       AUTO       AUTO




-----------------------------------------------------------------------

<F1> Help       <F8> System info    <F10> Store CMOS <Esc> Exit  Page
<...> Select item <↑↓←→> Next field  <PgUp> Next page <Ctrl> ...   04
```

Example of the *PCI Device Configuration* page

Time / Date
>The *Time* field shows the current time and the *Date* field shows the current date according to the PC.

Memory Base Address
>This field shows the base address used to map memory areas of PCI boards.

I/O Base Address
This field shows the base address for PCI adapter input/output operations.

Color Palette Snoop
This field is used to specify whether setting of the color palette is to be available on the ISA bus.

ENABLED
Setting of the color palette is available simultaneously on the PCI bus and the ISA bus. This setting can be of relevance when operating video or multimedia boards on the ISA bus.

DISABLED
Setting of the color palette is only available on the PCI bus.

Default entry: *DISABLED*

Parity Checking
Here you specify whether the PCI bus is to be parity-checked.

ENABLED
A parity check is performed on the PCI bus.

DISABLED
No parity check is performed on the PCI bus.

Default entry: *ENABLED*

PCI Interrupt Mapping
Here you specify which PCI interrupt is to be mapped to which ISA interrupt. With multifunctional PCI adaptor boards you may use all PCI interrupts. If you need ISA interrupts you must set the unused PCI interrupts to *NONE*. The onboard controllers connected to PCI bus do not use any PCI interrupt. The PCI interrupts INTA# and INTB# are normally assigned as follows: PCI slot 1 = INTA#, PCI slot 2 = INTB#

Possible entries: *NONE*, *AUTO*, *3, 4, 5, 6, 7, 9, 10, 11, 12, 14, 15*

Default entry: INTA#   *AUTO*
                    INTB#   *AUTO*
                    INTC#   *AUTO*
                    INTD#   *AUTO*

Additional Hard Disk Options page

```
                        CMOS Setup
                Additional Hard Disk Options
-----------------------------------------------------------------------

Time (hh:mm:ss)  08:38:27              Date (mm/dd/yy)   08/13/1993


Hard Disk Ctrlr:  ENABLED

                  Transfer Mode     LBA Translation     Power Down
Hard Disk 1:      STANDARD          DISABLED            DISABLED
Hard Disk 2:      STANDARD          DISABLED            DISABLED
Hard Disk 3:      STANDARD          DISABLED            DISABLED
Hard Disk 4:      STANDARD          DISABLED            DISABLED




-----------------------------------------------------------------------

<F1> Help        <F8> System info   <F10> Store CMOS  <Esc> Exit  Page
<+ -> Select item <↑↓←→> Next field  <PgUp> Next page  <Ctrl> ...   05
```

Example of the *Additional Hard Disk Options* page

Time / Date
The *Time* field shows the current time and the *Date* field shows the current date according to the PC.

Hard Disk Ctrlr
This fields allows you to enable and disable the built-in IDE hard disk controller. The associated interrupt will only be available if no hard disk is physically connected.

ENABLED
The IDE hard disk controller is enabled.

DISABLED
The IDE hard disk controller is disabled.

Default entry: *ENABLED*

Hard Disk 1: Transfer Mode
Hard Disk 2: Transfer Mode
Hard Disk 3: Transfer Mode
Hard Disk 4: Transfer Mode

Here you specify the transfer rate for the IDE hard disks.

STANDARD

The system transfers 512 bytes per interrupt

AUTO SELECT

If fast hard disks are installed, the highest possible transfer rate is
selected. If the hard disk supports this mode, the setup menu prompts for
the maximum number of blocks to be transferred per interrupt. The
maximum is 32 blocks of 512 bytes each. In addition, the hard disk's PIO
modes 0 through 4 (Processor Input Output modes) are used.

8K BLOCK XFER

Eight Kbytes are transferred per interrupt.

Default entry: *STANDARD*

Hard Disk 1: LBA Translation
Hard Disk 2: LBA Translation
Hard Disk 3: LBA Translation
Hard Disk 4: LBA Translation

This field enables and disables the LBA (Logical Block Addressing) mode.
LBA mode allows you to install and use hard disks with a capacity of more
than 528 Mbytes. If a hard disk supports LBA mode, you can use its full
capacity.

⚠ You may only use IDE drives in the LBA mode selected when they
were set up. In other words, if you set up a hard disk with LBA mode
DISABLED, you may only operate the hard disk with LBA mode
DISABLED.

DISABLED

The BIOS uses the hard disk parameters and supports a maximum
capacity of 528 Mbytes.

AUTO SELECT

If the hard disk supports LBA and it has a capacity of more than 528
Mbytes, the BIOS translates the hard disk parameters, allowing the disk's
full capacity to be used.

If the hard disk does not support LBA, its parameters are not translated.

Default entry: depends on the hard disk type installed

Hard Disk 1: Power Down
Hard Disk 2: Power Down
Hard Disk 3: Power Down
Hard Disk 4: Power Down

Here you specify the period of hard disk inactivity after which the hard disk's
motor is power down. The next hard disk read or write operation powers up
the hard disk again automatically.
The hard disk requires roughly 15 seconds to run up.
Possible entries: *DISABLED*, *5 min*, *10 min*, *15 min*

Default entry: *DISABLED* (the hard disk does not power down)

Power Management Configuration page

```
                         CMOS Setup
                 Power Management Configuration
-----------------------------------------------------------------------

Time (hh:mm:ss)  08:38:27            Date (mm/dd/yy)   08/13/1993


Standby Timeout:  DISABLED         Wakeup Timer: 00:00:00


      Standby Function             Wakeup Event
Video:          ENABLED             System Tic:    DISABLED
Hard Disk:      ENABLED             Mouse:         ENABLED
CPU Speed:      LOW                 IRQ09:         DISABLED
Hard Disk 4:    STANDARD            IRQ10:         DISABLED
                                    IRQ11:         DISABLED




-----------------------------------------------------------------------

<F1> Help       <F8> System info   <F10> Store CMOS  <Esc> Exit   Page
<+ -> Select item <↑↓←→> Next field   <PgUp> Next page  <Ctrl> ...   06
```

Example of the *Power Management Configuration* page

Time / Date
> The *Time* field shows the current time and the *Date* field shows the current date according to the PC.

Standby Timeout
> Here you specify the period of inactivity after which the system switches to standby mode.
> Possible entries: *DISABLED*, *1 min*, *2 min*, *5 min*, *10 min*, *15 min*, *30 min*, *60 min*
>
> Default entry: *DISABLED* (the system does not switch to standby mode)

Wakeup Timer
> Here you specify the time at which the system returns to its normal operating mode from standby mode.
>
> Default entry: *00:00:00* (the function is disabled)

Standby Function

Video
> This field allows you to enable and disable the video controller's standby function. You should only enable this function if both video controller and display support the power-saving function.

> *DISABLED*
> > The monitor remain switched on.
>
> *ENABLED*
> > The monitor is switched off.
>
> Default entry: *ENABLED*

Hard Disk
> Here you enable and disable the hard disk controller's standby mode.
>
> *DISABLED*
> > The hard disk controller remains on.
>
> *ENABLED*
> > The hard disk controller shuts itself down.
>
> Default entry: *ENABLED*

CPU Speed
> System board D841:
> This field is always set to *HIGH*.
>
> System board D842:
> This field allows you to specify the CPU speed in standby mode.
>
> *HIGH*
> > The CPU runs at the highest clock speed.
>
> *REDUCED*
> > The CPU runs at a reduced clock speed.
>
> *LOW*
> > The CPU runs at the lowest clock speed.
>
> *STOPPED*
> > The CPU stops. This mode saves the most power. However, any programs running are also placed in standby mode.
>
> Default entry: *HIGH*

Wakeup Event

This field defines the source of the wakeup event that switches the system back into its normal operating mode from standby mode.

> **i** Certain wakeup events only return the system board to its normal operating mode, but not the display.

System Tic

> You should only use this option in connection with special applications. The System Tic-Modus generates an interrupt every 55 ms and would normally cause the system to return instantly to its normal operating mode.

> *DISABLED*
>> The System Tic is ignored.

> *ENABLED*
>> The System Tic switches the system board back to its normal operating mode.

> Default entry: *DISABLED*

Mouse

> Condition:
> The mouse must be connected to the PS/2 mouse port.

> *DISABLED*
>> Mouse movement is ignored.

> *ENABLED*
>> Moving the mouse switches the system back into its normal operating mode.

> Default entry: *ENABLED*

IRQ09
IRQ10
IRQ11

> All hardware interrupts not included here always switch the system board back to its normal operating mode. The hardware interrupts IRQ1 (keyboard), IRQ3 and IRQ4 also reactivate the display.

> *DISABLED*
>> The relevant hardware interrupt is ignored.

> *ENABLED*
>> The relevant hardware interrupt switches the system board back to its normal operating mode.

> Default entry: *DISABLED*

Switch block and jumper
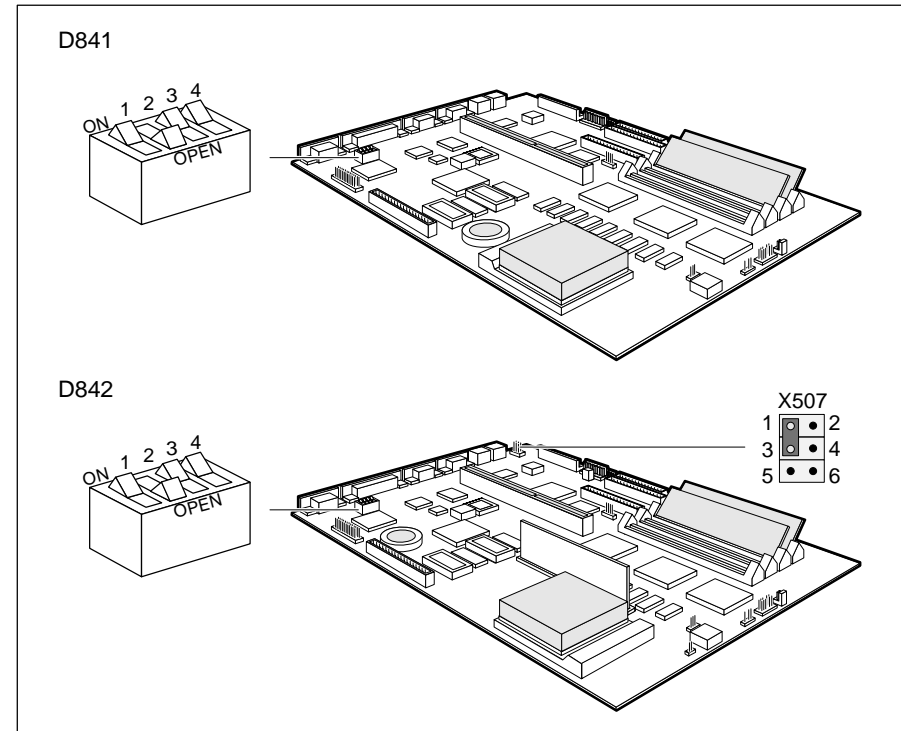
Switch 1 = BIOS recovery
Switch 2 = Service
Switch 3 = BIOS update
Switch 4 = Floppy disk write-protection

X507 = Jumper for keyboard and pointing device

Switch 2 must always be set to OPEN.

BIOS recovery

Switch 1 enables recovery of the old BIOS after an attempt to update it has failed. To restore the old BIOS you need a recovery disk (call customer service).

If BIOS recovery is possible, the BIOS executes from floppy drive A: and restores the flash BIOS.

BIOS recovery = switch 1 set to ON
Normal operation = switch 1 set to open

Default setting:
    Switch 1 set to open = normal operation

BIOS update

| i | If you wish to update your system BIOS, please consult customer service. |

Switch 3 enables and disables BIOS updating. In addition, when updating the BIOS you must ensure that *Flash Write* is set to *ENABLED* in the *System Security Options* setup menu.

BIOS updating disabled = switch 3 set to ON
BIOS updating enabled = switch 3 set to OPEN

Default setting:
    Switch 3 set to OPEN = BIOS updating enabled

Write protection for floppy disk drive

Switch 4 is used to define whether floppy disks can be written or deleted in the floppy disk drive. To write and delete floppy disks, the field *Diskette Write* must be set to *ENABLED* in the *System Security Options* setup menu.

Read only floppy disks = switch 4 is set to ON
Read, write and delete floppy disks = switch 4 is set to OPEN

Default setting:
    Switch 4 is set to OPEN = read, write and delete floppy disks enabled

Keyboard and pointing device

The setting of jumper X507 on the system board D842 depends on which keyboard or pointing device you want to use.

Keyboard (with/without power switch) and mouse = jumper is set to 1-3 and 4-6
Keyboard (without power switch, with integrated trackball) =
    jumper is set to 3-5 and 2-4
Keyboard (without power switch, with integrated trackball) and mouse =
    jumper is set to 1-3

Default setting:
    depends on the type of keyboard and pointing device used

External cache

The system board is equipped with 256 Kbytes of external cache. To ensure optimum benefit from the external cache, make the following settings in the setup menu:

– *Speed Select:*   *HIGH*
– *Shadow BIOS ROM:*   *SYSTEM AND VIDEO BIOS*
– *Cache:*   *INTERN AND EXTERN*
– *Cache BIOS ROM:*   *SYSTEM AND VIDEO BIOS*

Add-on modules
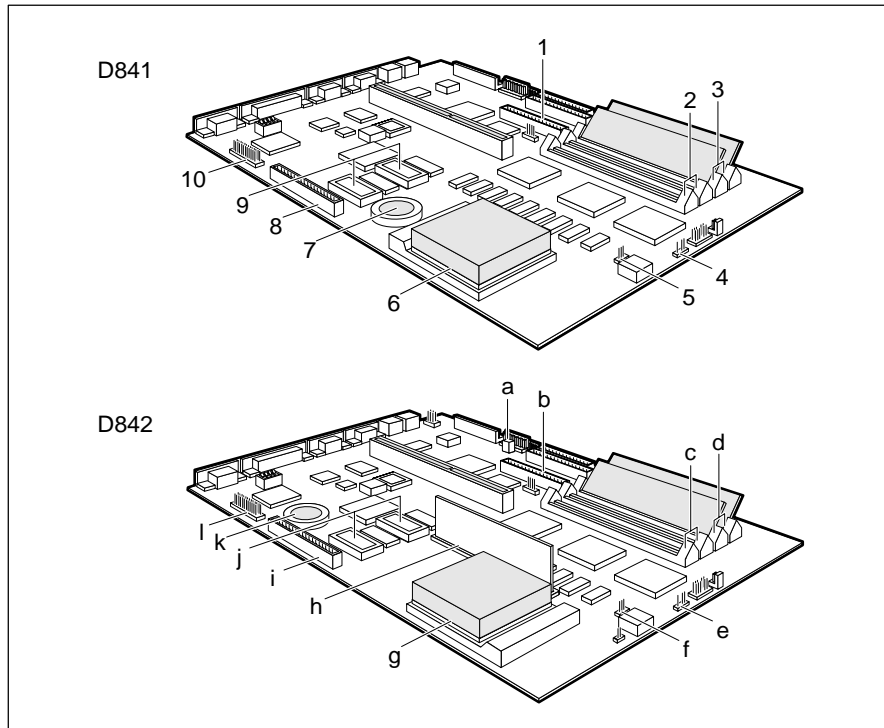
1 = Connector 2 for IDE drives 3 and 4
2 = Location bank 1 for main memory
3 = Location bank 0 for main memory
4 = Connector for external loudspeaker
5 = Connector for processor fan
6 = Socket for processor
7 = Lithium battery
8 = connector Imageport
9 = Socket for video memory
10 = Connector for external
     monitor controller
     (VESA VGA pass through)

a = Connector remote power-on
b = Connector 2 for IDE drives 3 and 4
c = Location bank 1 for main memory
d = Location bank 0 for main memory
e = Connector for external loudspeaker
f = Connector for processor fan
g = Socket for processor
h = Location voltage converter
i = Connector Imageport
j = Socket for video memory
k = Lithium battery
l = Connector for external
    monitor controller
    (VESA VGA pass through)

Upgrading the processor
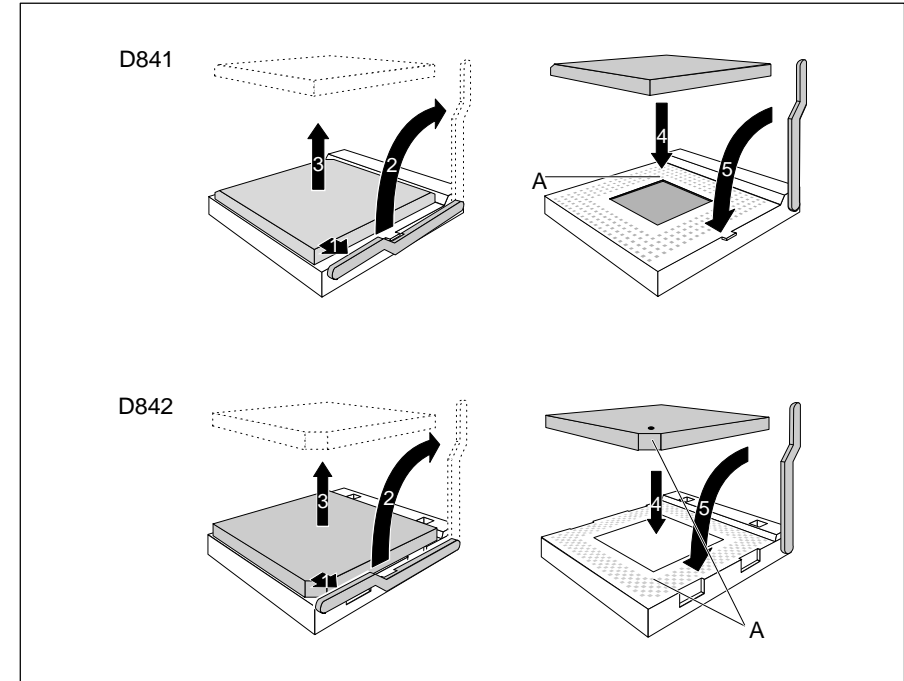
▶ Push the lever in the direction of the arrow (1) and lift it as far as it will go (2).

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

▶ Insert the new processor in the socket so that the mark on the upper side of the processor matches the mark (A) on the socket (4).

⚠ The mark on the processor may be covered by a 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 (5).

ℹ If the power consumption of the new processor is different from that of the old processor, you must also exchange the voltage converter on the system board D842.

Replacing the voltage converter
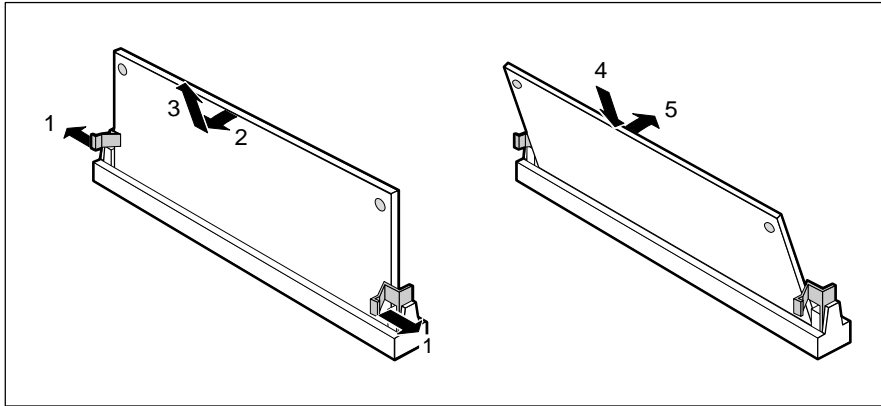
▶ Carefully push the retaining clips at each end of the voltage converter outwards (1).

▶ Tilt the voltage converter in the direction of the arrow (2) and pull it at an angle out of the location (3).

▶ Insert the voltage converter at an angle into the location (4).
   Ensure that the key notch on the voltage converter is correctly aligned with the retaining pins.

▶ Tilt the voltage converter in the direction of the arrow (5) until it snaps into place.

Upgrading main memory

Four locations (bank 0 and bank 1) are available on the system board for installing memory modules. The board supports a maximum of 128 Mbytes. You may use memory modules of 4, 8, 16 or 32 Mbyte.

⚠ You may only use fast memory modules (access time = 70ns or less).

You must always add memory modules in pairs. In other words, you fit the first pair to Bank 0 and Bank 1, and the second pair to Bank 2 and Bank 3. Pairs of memory modules must have the same capacity and the same access time.

Installing memory modules
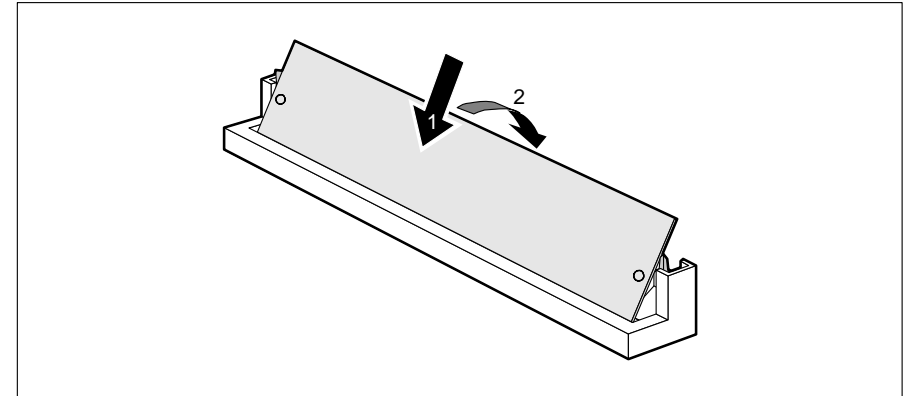
▶ Insert the memory module at angle into the appropriate location (1).
   Ensure that the key notch and the two holes are correctly aligned with the retaining pins.

▶ Tilt the module down until it snaps into place (2).

Removing a memory module
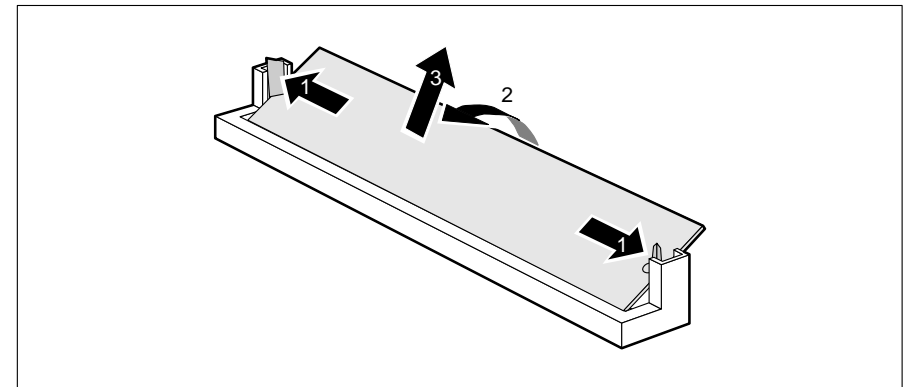
▶ Carefully push the retaining clips at each end of the module outwards (1).

▶ Tilt the module upwards (2) and pull it at an angle out of the location (3).

Upgrading the video memory

If your PC is supplied with a video memory configuration of 1 Mbyte, you may enlarge the video memory up to 2 Mbytes.

⚠ Information on which DRAM components (DRAM 256K*16 16ns) you can use is available from your sales office or the customer service.

Note the location of the DRAM chip when you plug in DRAM chip!
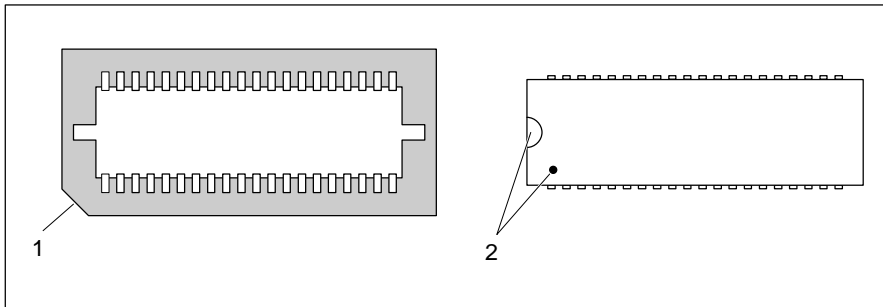
▶ Insert the DRAM component in such a way that the mark on the upper side of the DRAM component matches the position of the mark on the socket.

ⓘ In order to be able to use the screen resolution, refresh rate and number of colors available for a 2-Mbyte video memory, you must set the appropriate screen display (e.g. using *WDSETUP* under MS-Windows or *REFRATE* under Windows 95).

Replacing the lithium battery

⚠ Please note the information provided in the chapter "Important notes" in this manual.

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. Your vendor or dealer or their authorized representatives will take used batteries back free of charge so that they can be recycled or disposed of in the proper manner.
Make sure that you insert the battery the right way round. The plus pole must be on the top.
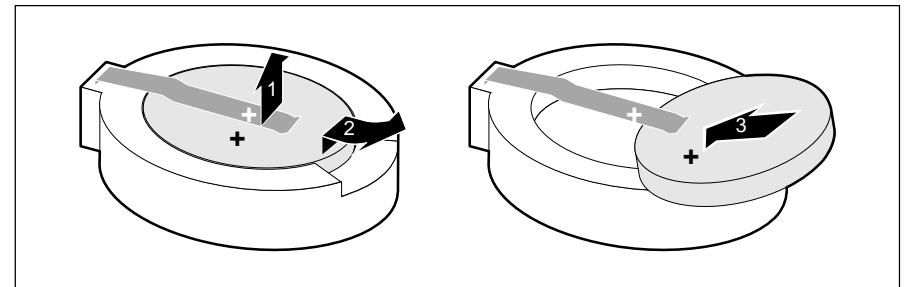
▶ Lift the contact (1) a few millimeters and remove the battery from its socket (2).

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

Interface pinouts and interrupts

Connector for 5 V power supply
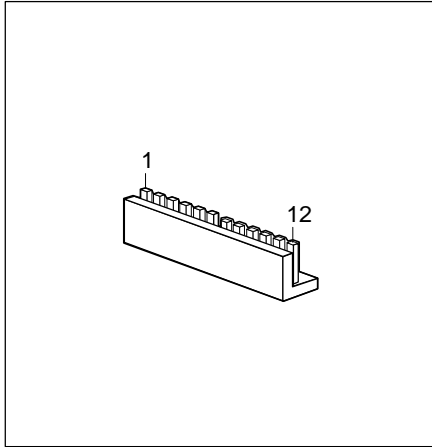
Pin	Meaning
1	Power good
2	+5 V
3	+12 V
4	-12 V
5	0 V
6	0 V
7	0 V
8	0 V
9	-5 V
10	+ 5 V
11	+ 5 V
12	+ 5 V

Connector for 3.3 V power supply
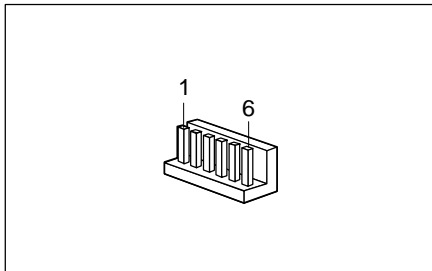
Pin	Meaning
1	0 V
2	0 V
3	0 V
4	+ 3.3 V
5	+ 3.3 V
6	+ 3.3 V

Connector for soft-off power supply
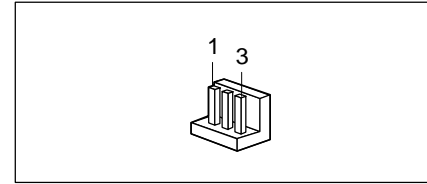
Pin	Meaning
1	+5 V (auxiliary voltage)
2	Power Supply ON
3	0 V

Connector for soft-off power switch
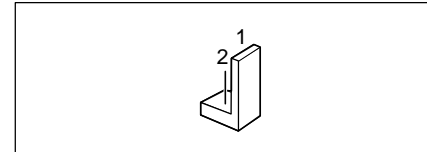
Pin	Meaning
1	+5 V (auxiliary voltage)
2	Power switch input

Connector for external loudspeaker
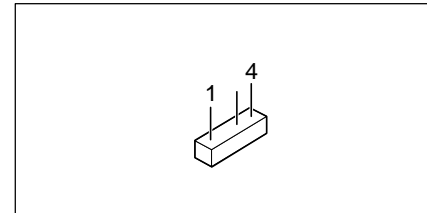
Pin	Meaning
1	loudspeaker
2	coded
3	0 V
4	+5 V

Connector for remote power-on
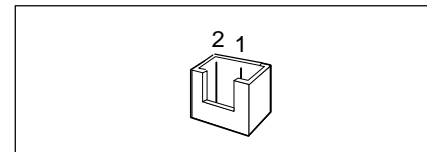
Pin	Meaning
1	0 V
2	Remote power-on

Connector for LED indicators

The entries in parentheses apply for the system board D842.
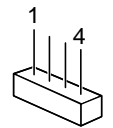
D841

D842

Pin	Signal name
1	System unit ON
2 (3)	not used
	(enable power supply)
3 (5)	coded
4 (7)	not used
	(auxiliary voltage)
5 (9)	Reset switch
6 (11)	+5 V
7 (2)	0 V
8 (4)	0 V (not used)
9 (6)	coded
10 (8)	0 V (not used)
11 (10)	0 V
12	Hard disk drive LED

Connector for SCSI HD LED indicators

Pin	Meaning
1	not used
2	SCSI Hard Disk LED
3	SCSI Hard Disk LED
4	not used

Connector for external monitor controller (VESA VGA pass-through)
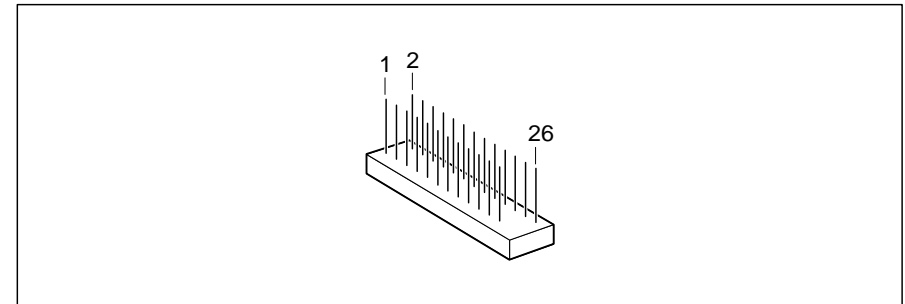
Pin	Meaning	Pin	Meaning
1	0 V	14	Data 6
2	Data 0	15	0 V
3	0 V	16	Data 7
4	Data 1	17	0 V
5	0 V	18	Clock
6	Data 2	19	0 V
7	not used	20	Blanking
8	Data 3	21	0 V
9	not used	22	Horizontal Sync.
10	Data 4	23	not used
11	not used	24	Vertical Sync.
12	Data 5	25	keyed
13	not used	26	0 V

Connector for Imageport

Pin	Meaning
1	+5 V
2	+5 V
3	0 V
4	0 V
5	+12 V
6	0 V
7	Write Request
8	0 V
9	Image Data Mask0
10	free
11	Image Data 0
12	0 V
13	Image Data 1
14	Image Frame Sync
15	Image Data 2
16	Image Line Sync
17	Image Data 3
18	0 V
19	Image Data 4
20	Image Data Ready
21	Image Data 5
22	0 V
23	Image Data 6
24	Odd Image Data
25	Image Data 7

Pin	Meaning
26	free
27	Host Data 0
28	0 V
29	Host Data 1
30	Ext. Command
31	Image Write Strobe
32	0 V
33	Reset
34	0 V
35	Host Data 2
36	Host Data 3
37	Host Data 4
38	Host Data 5
39	Host Data 6
40	Host Data 7
41	free
42	free
43	free
44	free
45	free
46	free
47	free
48	free
49	0 V
50	0 V

Connector for monitor

Pin	Meaning
1	Red
2	Green
3	Blue
4	Display ID bit 2
5	Ground
6	Red ground
7	Green ground
8	Blue ground

Pin	Meaning
9	keyed (no pin)
10	Sync. ground
11	Monitor ID bit 0
12	Monitor ID bit 1
13	Horizontal synchronization
14	Vertical synchronization
15	Monitor ID bit 3

Parallel interface
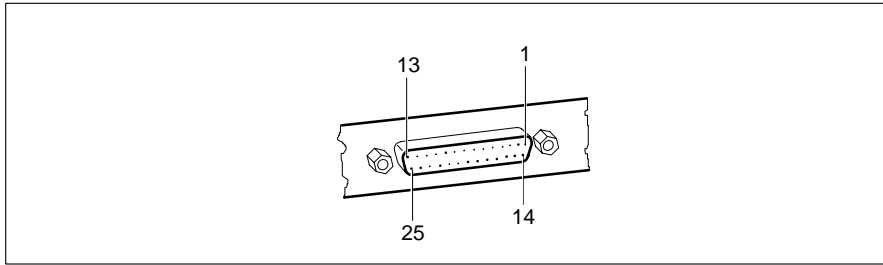
The parallel interface supports three transfer modes: SPP, EPP and ECP. SPP mode (standard parallel port) is the mode traditionally used to drive a printer. The EPP (Enhanced Parallel Port) and ECP (Extended Capabilities Port) modes are transfer modes that allow transfer rates of 2 and 2.4Mbytes/s. These modes will only work in connection with peripheral devices which specifically support them. The new transfer modes are used among other things for connecting to SCSI or IDE peripherals. The pinouts are different in all three modes.

Pinout in SPP mode

Pin	Signal name	Description
1	STROBE	Data message
2-9	Data Lines 0-7	Data lines 0-7
10	ACKNOWLEDGE	Data acknowledgement
11	BUSY	Not ready to receive
12	PE	End of paper
13	SELECT	Device selection
14	AUTO	Automatic new line
15	ERROR	Device error
16	INIT	Reset/initialize
17	SELECT IN	Printer selection
18-25	GROUND	Ground

Pinout in EPP mode

Pin	Signal	Signal direction
1	Write	Output
2-9	Data Lines 0-7	Input/output
10	Intr	Input
11	Wait	Input
12	not used	---
13	not used	Input
14	DStrb	Output
15	not used	---
16	not used	---
17	AStrb	Output
18-25	Ground	

Pinout in ECP mode

Pin	Signal	Signal direction
1	HostClk	Output
2-9	Data Lines 0-7	Input/output
10	PeriphClk	Input
11	PeriphAck	Input
12	AckReverse	Input
13	Xflag	Input
14	HostAck	Output
15	PeriphRequest	Input
16	ReverseRequest	Output
17	ECP-Mode	Output
18-25	Ground	

Serial interface
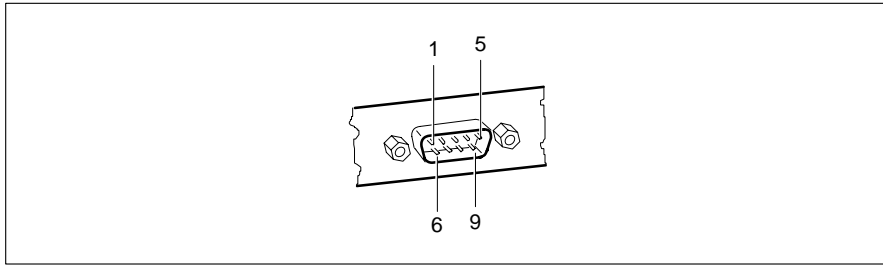
Pin	Signal	Meaning
1	DCD	Data Carrier Detect
2	RxD	Receive Data
3	TxD	Transmit Data
4	DTR	Data Terminal Ready
5	Signal Ground	Ground
6	DSR	Data Set Ready
7	RTS	Request to Send
8	CTS	Clear to Send
9	Ri	Ring Indicator

PS/2 mouse port
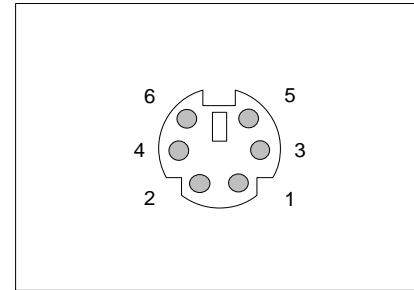
Pin	Signal
1	Mouse data
2	not used
3	0 V
4	+5 V
5	Mouse clock
6	not used

PS/2 keyboard port

The entries in parentheses are effective if the jumper X507 is inserted on 2-4 and 3-5 on the system board D842.
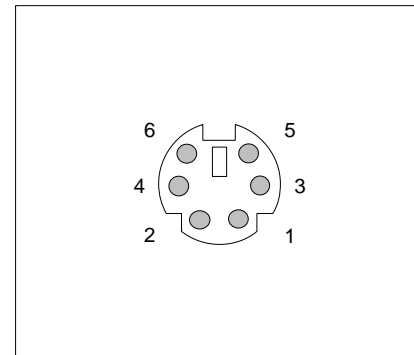
Pin	Signal
1	Keyboard data
2	not used (Mouse data)
3	0 V
4	+5 V
5	Keyboard clock
6	not used or power on switch (Mouse clock)

Interrupt Request Levels and DMA channels

Interrupt Request Levels and DMA channels are listed below.

Interrupt Request Levels

IRQ0   = timer 0
IRQ1   = keyboard
IRQ2   = IRQ9
IRQ3   = serial interface 2 (COM2/COM4)
IRQ4   = serial interface 1 (COM1/COM3)
IRQ5   = free or parallel interface (LPT2)
IRQ6   = floppy disk controller
IRQ7   = parallel interface (LPT1/LPT3)
IRQ8   = real-time clock interrupt
IRQ9   = free, or VGA controller
IRQ10 = free
IRQ11 = free
IRQ12 = mouse
IRQ13 = math coprocessor
IRQ14 = IDE disk controller (first connector)
IRQ15 = IDE disk controller (second connector)

DMA channels

DMA0   = free
DMA1   = free
DMA2   = floppy disk controller
DMA3   = free/ECP mode
DMA4   = DMA channel cascading
DMA5   = free
DMA6   = free
DMA7   = free

Error messages

This chapter contains error messages generated by the system board.

```
Access Denied - System Halted
```
> You have entered an illegal password three times. Restart the PC.
>
> Vous avez entré trois fois un mot de passe erroné. Faites redémarrer le PC.
>
> Ha introducido tres veces una contraseña incorrecta. Arranque nuevamente el PC.
>
> Avete indicato una parola chiave errata per tre volte. Avviate nuovamente il PC.
>
> Lösenordet har skrivits felaktigt tre gånger. Starta on datorn.
>
> U hebt driemaal een ongeldig wachtwoord ingevoerd. Herstart de PC.

```
Access Denied - Press Any Key to Continue
```
> You have entered an illegal password three times. Press any key. The PC reboots.
>
> Vous avez entré trois fois un mot de passe erroné. Actionnez une touche quelconque. Le PC redémarre.
>
> Ha introducido tres veces una contraseña incorrecta. Pulse una tecla. El PC arranca nuevamente.
>
> Avete indicato la parola chiave errata per tre volte. Digitate un tasto qualsiasi. Il PC si riavvia.
>
> Lösenordet har skrivits felaktigt tre gånger. Tryck valfri tangent. Datorn omstartas.
>
> U hebt driemaal een ongeldig wachtwoord ingevoerd. Druk op een willekeurige toets. Hierna herstart de PC

```
Diskette drive failure
Diskette drive 0 failure
Diskette drive 1 failure
```
> Check the entry defining the drive type in the *Diskette* field in the setup menu. Check the floppy disk drive's connecting cables.
>
> Contrôlez le type du lecteur de disquette dans la zone *DISKETTE* du menu setup ainsi que ses raccordements physiques.
>
> Verifique en el menú setup el tipo de unidad en el campo *DISKETTE* y las conexiones de la unidad de disquetes.
>
> Verificate nel menu di setup nel campo *Diskette* il tipo del drive ed i collegamenti del floppy disk drive.
>
> Kontrollera i Setup-menyns inmatningsfält Diskett diskettstationstypen och anslutningarna till diskettstationen.
>
> Kontroleer de diskette-eenheid die is opgegeven in het veld *Diskette* van het Setup-menu en tevens de aansluitingen voor de diskette-eenheid.

```
Fixed disk configuration error
Fixed disk controller failure
Fixed disk 0 failure
Fixed disk 1 failure
```
> Check the entries defining the hard disk type in the *Hard Disk Ctrlr*, *Hard Disk 1*, *Hard Disk 2*, *Hard Disk 3*, *Hard Disk 4* in the setup menu. Check the drive's connecting cables and jumper and switch settings.
>
> Contrôlez le type du disque dur dans les zones *Hard Disk 1*, *Hard Disk 2*, *Hard Disk 3* et *Hard Disk 4* du menu setup ainsi que ses raccordements physiques et ses cavaliers.
>
> Verifique en el menú setup los registros en los campos *HARD DISK 1*, *HARD DISK 2*, *Hard Disk 3* y *Hard Disk 4* para el tipo de disco duro, así como las conexiones y los puentes enchufables en la unidad de disco duro.
>
> Verificate nel menu di setup nel campo *Hard Disk Ctrlr, Hard Disk 1*, *Hard Disk 2*, *Hard Disk 3* e *Hard Disk 4* gli inserimenti relativi al tipo di disco rigido ed i collegamenti ed i ponticelli del disco rigido.
>
> Kontrollera i Setup-menyn allt som skrivits in i inmatningsfälten *Hard Disk Ctrlr*, *Hard Disk 1*, *Hard Disk 2*, *Hard Disk 3*, *Hard Disk 4* för den hårddisktypen samt anslutningarna och insticksbryggorna på hårddiskstationen.
>
> Kontroleer het type harde-schijfeenheid dat is opgegeven in de velden *(Hard Disk Ctrlr*, *Hard Disk 1*, *2*, *3*, *4)* van het Setup-menu en tevens de verbindingen en de brugstekkers op de harde-schijfeenheid.

Incorrect Password

   You have entered an illegal password. Enter the password again and press
   the Enter key.

   Vous avez fait une erreur dans le mot de passe. Entrez à nouveau le mot de
   passe et actionnez la touche d'entrée.

   Ha introducido una contraseña incorrecta. Introduzca nuevamente la
   contraseña y pulse la tecla de entrada

   Avete indicato una parola chiave errata. Indicate nuovamente la parola
   chiave e digitate il tasto Invio.

   Du har angivit ett felaktigt lösenord. Skriv in det en gång till och tryck Enter.

   U hebt een ongeldig wachtwoord ingevoerd. Voer opnieuw het wachtwoord
   in en druk op de Enter-toets.

Invalid configuration information

   Check all the entries in the setup menu. If this error occurs each time you
   power up the PC, contact your sales office or customer service.

   Vérifiez tous les paramètres du menu setup. Si ce message apparaît chaque
   fois que vous remettez votre PC sous tension, adressez-vous au S.A.V.

   Verifique todos los registros en el menú setup del sistema. Si cada vez que
   usted conecta su sistema se produce este error, diríjase al Servicio Técnico.

   Verificate tutti i valori nel menu di setup. Se questo messaggio si manifesta
   dopo ogni accensione, rivolgeteVi al Vostro servizio di assistenza tecnica.

   Kontrollera i Setup-menyn allt som skrivits in. Visas detta felmeddelande
   varje gång Du knäpper på, kontakta kundservice.

   Kontroleer alle opdrachten in het Setup-menu. Als deze fout zich voordoet
   telkens u de PC aanschakelt, neemt u best kontakt op met uw
   onderhoudsdienst.

I/O Expansion board NMI
I/O Expansion board NMI, Slot x

   Restart your PC. If the error persists, contact your sales office or customer
   service

   Faites redémarrer votre PC. Si ce message apparaît à plusieurs reprises,
   contactez le S.A.V.

   Arranque nuevamente el PC. En caso que este error se produzca
   repetidamente, informe al Servicio Técnico.

   Avviate nuovamente il PC. Se l'errore si ripete, informate il Vostro servizio di
   assistenza tecnica.

   Starta om datorn. Visas detta felmeddelande upprepade gånger, v g kontakta
   kundservice.

   Herstart uw PC. Als de fout zich weer zou voordoen, neemt u best kontakt op
   met uw onderhoudsdienst.

   !!! HARD DISK WARNING !!!
   Boot sector has been modified.
Confirm the new boot sector in SETUP,
   and run a virus scan program.

   The boot sector of your bootable hard disk drive has been modified since the
   last boot-up (e.g., a new operating system has been installed of the system
   has been infected by a virus). If the change to the boot sector was intentional
   (e.g., you have installed a new operating system), then acknowledge the
   Virus Warning function in the *System Security Options* page of the setup menu
   by selecting *CONFIRM*.

   If you are not sure what modified the boot sector, you should check your
   computer for virus infection with the aid of an appropriate virus scanner
   program.

   Le secteur d'initialisation du lecteur prêt à démarrer a été modifié depuis le
   dernier démarrage du système (nouveau système d'exploitation ou infection
   par virus, par exemple). Si vous souhaitez modifier le secteur d'initialisation
   ou si la modification est connue, validez avec *CONFIRM* la fonction Virus
   Warning du menu setup *System Security Options*.

   Si l'origine des modifications du secteur d'initialisation est inconnue, il
   convient de lancer un programme spécifique de détection des virus
   informatiques.

El sector de inicialización de la unidad de disquetes arrancable ha sido modificado desde el último arranque de sistema (p. ej. debido a la instalación de un nuevo sistema operativo o la "infección" por un virus). Si conoce y aprueba la modificación del sector de arranque, p. ej. tras la instalación de un nuevo sistema operativo, confirme con *CONFIRM* la función *Virus Warning* de la opción *Security Options* en el menú de setup (configuración).

Si desconoce la causa de las modificaciones en el sector de inicialización, proceda a ejecutar un programa adecuado para combatir el virus informático.

Il settore di lancio (boot) del drive pronto per l'avvio è cambiato dall'ultimo avvio di sistema (p.es. nuovo sistema operativo oppure presenza di virus). Se il cambiamento del settore di lancio è voluto oppure conosciuto, come nel caso di installazione di un nuovo sistema operativo, confermate nel menu di setup *System Security Options* la funzione *Virus Warning* con *CONFIRM*.

Se la causa del cambiamento del settore di lancio e sconosciuta, è necessario avviare un programma per la ricerca di virus.

Den startbara diskettstationens bootsektor har förändrats sedan den senaste systemstarten (t ex nytt operativsystem eller en virus). Bekräfta funktionen *Virus Warning* i Setup-menyn *System Security Options* med *CONFIRM* om bootsektorns förändring är önskad eller känd, som t ex efter installation av ett nytt operativsystem.

Om orsaken till bootsektorns förändring är okänd, måste ett lämpligt program för datorvirussökning startas.

De bootsector van het opstartbare magneetbandloopwerk is sedert de laatste opstarting van het systeem veranderd (bv. nieuw besturingssysteem of virusaanval). Is de verandering van de bootsector gewenst of bekend, b.v. na de installatie van een nieuw besturingssysteem, dan bevestigt u in het setup-menu System Security Options de functie Virus Warning (waarschuwing tegen virussen) met CONFIRM (bevestigen).

Is de oorzaak van de veranderingen van de bootsector onbekend, dan moet een speciaal daarvoor bestemd programma opgestart worden om de computervirus te ontdekken.

```
Keyboard is locked - unlock
```
Unlock the PC and restart the system.

Débloquez le PC et faites redémarrer le système.

Desbloquee el teclado y arranque nuevamente el PC.

Sbloccate il PC e riavviate il sistema operativo.

Aktivera PCn och starta systemet på nytt.

Deblokkeer de PC en start het systeem opnieuw op.

```
Keyboard failure
Keyboard stuck key failure
```
Check whether a key is sticking and whether the keyboard is connected correctly.

Vérifiez que les touches fonctionnent bien et que le clavier est raccordé correctement.

Verifique si alguna tecla quedó enclavada y si el teclado está conectado correctamente.

Verificate se un tasto rimane incastrato.
Verificate se la tastiera è collegata in modo corretto.

Kontrollera om det är någon tangent som förblir orörlig.
Kontrollera att tangentbordet är anslutet helt korrekt.

Kontroleer of er een toets geklemd zit en of het toetsenbord op de juiste wijze is aangesloten.

Memory parity error at ...
Unresolved memory parity error

> Restart your PC. If the system reports this error each time you switch it on, contact your sales office or customer service.
>
> Faites redémarrer votre PC. Si ce message apparaît chaque fois que vous remettez votre PC sous tension, adressez-vous au S.A.V.
>
> Arranque nuevamente el PC. Si cada vez que usted conecta su sistema se produce este error, diríjase al Servicio Técnico.
>
> Avviate nuovamente il PC. Se l'errore si ripete, informate il Vostro servizio di assistenza tecnica.
>
> Starta om datorn. Visas detta felmeddelande varje gång Du knäpper på, kontakta kundservice.
>
> Herstart uw PC. Als de fout zich weer zou voordoen, neemt u best kontakt op met uw onderhoudsdienst.

Memory failure at *xxxx* read *xxxxx* expecting *xxxxx*

> Restart your PC. If the system reports this error each time you switch it on, contact your sales office or customer service.
>
> Faites redémarrer votre PC. Si ce message apparaît chaque fois que vous remettez votre PC sous tension, adressez-vous au S.A.V.
>
> Arranque nuevamente el PC. Si cada vez que usted conecta su sistema se produce este error, diríjase al Servicio Técnico.
>
> Avviate nuovamente il PC. Se l'errore si ripete, informate il Vostro servizio di assistenza tecnica.
>
> Starta om datorn. Visas detta felmeddelande varje gång Du knäpper på, kontakta kundservice.
>
> Herstart uw PC. Als de fout zich weer zou voordoen, neemt u best kontakt op met uw onderhoudsdienst.

Not a boot diskette -
No boot device available -
No boot sector on hard disk -
Diskette read failure -
Hard disk read failure -

> Insert the operating system floppy disk in the floppy disk drive and press Enter.
> Check the entries for the floppy disk and hard disk types in the setup menu.
>
> Insérez la disquette contenant le système d'exploitation dans le lecteur de disquette et appuyez sur la touche d'entrée.
> Contrôlez les paramètres concernant les types de disquette et de disque dur dans le menu setup.
>
> Coloque el disquete de sistema operativo en la unidad y pulse la tecla de entrada. Verifique los registros para el tipo de disquetes y para el disco duro en el menú setup.
>
> Inserite il dischetto di sistema operativo nel floppy disk drive e premete il tasto Invio.
> Verificate nel menu di setup gli inserimenti relativi al tipo del floppy disk drive e del disco rigido.
>
> Sätt in systemdisketten i diskettstationen och tryck Enter.
> Kontrollera i Setup-menyn allt som skrivits in för den diskett- och hårddisktypen.
>
> Steek de diskette met het besturingssysteem in de diskette-eenheid en druk op de Enter-toets. Kontroleer in het Setup-menu de opdrachten voor het type diskette-eenheid en harde-schijfeenheid.

No timer tick interrupt
Timer 2 failure
Shutdown failure
Gate A20 failure
Unexpected interrupt in protected mode

>Restart your PC. If the system reports this error each time you switch it on, contact your sales office or customer service.

>Faites redémarrer votre PC. Si ce message apparaît chaque fois que vous remettez votre PC sous tension, adressez-vous au S.A.V.

>Arranque nuevamente el PC. Si cada vez que usted conecta su sistema se produce este error, diríjase al Servicio Técnico.

>Avviate nuovamente il PC. Se l'errore si ripete, informate il Vostro servizio di assistenza tecnica.

>Starta om datorn. Visas detta felmeddelande varje gång Du knäpper på, kontakta kundservice.

>Herstart uw PC. Als de fout zich weer zou voordoen, neemt u best kontakt op met uw onderhoudsdienst.

Passwords entered do not match

>The password you entered in confirmation was different from the first password. Enter the password again and press the Enter key.

>La confirmation du mot de passe est incorrecte. Entrez à nouveau le mot de passe et actionnez la touche d'entrée.

>Ha confirmado incorrectamente la contraseña. Introduzca nuevamente la contraseña y pulse la tecla de entrada.

>Avete confermato la parola chiave in modo errato. Indicate nuovamente la parola chiave e digitate il tasto Invio.

>Du har bekräftat lösenordet fel. Skriv in lösenordet en gång till och tryck Enter.

>U hebt een ongeldig wachtwoord ingevoerd. Voer opnieuw het wachtwoord in en druk op de Enter-toets.

Pointing device failure

>Check whether the mouse is properly connected.

>Vérifiez si la souris est correctement connectée.

>Verifique si el ratón está conectado correctamente.

>Controllate che il mouse sia collegato correttamente.

>Kontrollera att musen är anslutet helt korrekt.

>Controleer of de muis correct aangesloten is.

Real time clock failure
Time-of-day not set - run SETUP program

>Access the setup menu and enter the correct time in the *Time* field. If the system reports this error each time you switch it on, contact your sales office or customer service.

>Appelez le menu setup et inscrivez l'heure exacte dans la zone *TIME*. Si ce message apparaît chaque fois que vous remettez votre PC sous tension, adressez-vous au S.A.V.

>Llame el menú setup y registre el valor correcto para la hora en el campo *Time*. Si cada vez que usted conecta su sistema se produce este error, diríjase al Servicio Técnico.

>Richiamate il menu di setup e indicate l'ora esatta nel campo *Time*. Se l'errore si ripete, informate il Vostro servizio di assistenza tecnica.

>Anropa Setup-menyn och skriv in rätt klockslag i inmatningsfältet *Time*. Visas detta felmeddelande varje gång Du knäpper på, kontakta kundservice.

>Roep het Setup-menu op en voer de juiste tijdnotatie in het veld *Time* in. Als deze fout zich voordoet telkens u de PC aanschakelt, neemt u best kontakt op met uw onderhoudsdienst.

Security Features Not Changed - Press Any Key to Continue
> You have failed three times in succession to correctly confirm the password. The password has not been set. Press any key. The PC will reboot.
>
> Vous avez confirmé le mot de passe trois fois de manière incorrrecte. Actionnez une touche quelconque.
>
> Ha confirmado tres veces incorrectamente la contraseña. Si pulsa una tecla, el PC ejerce sus operaciones normales. No se ha asignado ninguna contraseña.
>
> Avete confermato per tre volte la parola chiave in modo errato e per questo non è stata assegnata. Premete un tasto qualsiasi.
>
> Du har bekräftat lösenordet fel tre gånger som därför inte träder i kraft. Tryck valfri tangent. Starta on datorn.
>
> Het paswoord werd drie keer verkeerd ingegeven en werd daarom niet vrijgegeven. Druk op een toets. De PC start opnieuw.

Index

Mouse (Continued)
  Wakeup Event   29
Mouse Ctrlr   16
Multimedia adaptors   23

N
NO
  Cache Adaptor ROM   22
  Shadow Adaptor ROM   20
NO DISK ERROR HALT   13
NO HALT ON ALL ERRORS   13
NO HALT ON ANY ERRORS   13
NO KEYBOARD ERROR HALT   13
NO KEYBOARD OR DISK HALT   13
NONE
  Diskette   10
  Hard Disk   12
  PCI Interrupt Mapping   23
NONSTANDARD System Load   14
Notes on software   8

O
Operating system, loading   14

P
Pages in the setup menu   9
Parallel   15, 16
Parallel interface   2
Parallel interface
  configuring   15, 16
  ECP mode   46
  EPP mode   46
  pinout   45
  SPP mode   45
Parity Checking   23
Par Mode   16
Password   14
PC speed   12
PCI   1
  adaptor, base address   22
  PCI Device Configuration,
    setup menu   22
  interrupt   23

PCI adaptor ROM   20
PCI Interrupt Mapping   23
Pentium OverDrive processor   2
Performance   20, 21
Pinout
  3.3 V power supply   39
  5 V power supply   39
  external loudspeaker   40
  Imageport   43
  indicator   41
  keyboard port   48
  monitor connector   44
  mouse port   48
  parallel interface   45
  remote power-on   40
  SCSI HD LED indicators   41
  serial interface   47
  soft-off power supply   40
  VESA VGA pass-through   42
Pointing device setting   32
Ports   2, 3, 4
Power down, IDE hard disk   26
Power Management Configuration,
  setup menu   27
Power supply
  3.3 V connector   39
  5 V connector   39
Power switch connector,
  soft-off power supply   40
Power-save feature, IDE hard disk   26
Powering down the hard disk motor   26
PRINTER   16
Processor   2
  cache (internal cache)   20
  location   33
  upgrading   34
Programs with time loops   8
Prompt, F2 FOR SETUP   17
PS/2 mouse port   29

Q
Quick self-test   18
Quick Load   18

R
Recovering BIOS   31
REDUCED CPU Speed   28
Remote power-on   2
  connector   40
Removing memory module   36
Replacing voltage converter   35
ROM   21, 22
  ROM BIOS   20
  PCI adaptor   20

S
SCO-UNIX, Notes   8
Screen
  memory   2
  pages   9
  resolution   4
SCSI
  hard disk   11
  HD LED indicators, pinout   41
Second level cache   2, 20
Security features   13, 14
Self-test duration   18
Serial interface   2
  configuring   15
  pinout   47
Serial 1   15
Serial 2   15
Settings   9
  BIOS update   31
  jumper   30, 32
  keyboard   32
  mouse   32
  switches   30
Setup LOCK Security Features   14
Setup menu   9
  Additional Hard Disk Options   24
  Additional System Options   19
  pages   9
  Power Management
    Configuration   27
  System Configuration   10, 22
  System Security Options   13

Setup password   14
Setup memory   2
Setup Prompt   17
Shadow Adaptor ROM   20
Shadow BIOS ROM   20
Sockets   3, 4
Soft-off power supply, connector   40
Source of wakeup event   28
Speed system speed   12
Speed Select   12
SPP modes, parallel interface   45
STANDARD
  Hard Disk Transfer Mode   25
  System Load   14
Standard Parallel Port mode   45
Standby function
  CPU speed   28
  hard disk controller   28
  video   27
Standby mode
  enabling   27
  termination   29
Standby Timeout   27
STOPPED CPU Speed   28
Switch block   3, 4, 30
Symbols, meanings   1
System
  Information   9
  password   14
  Security Options, Setup Menu   13
  speed   12
  start-up, quick   18
  Tic standby mode, terminating   29
SYSTEM AND SETUP LOCK Security
  Features   14
SYSTEM AND VIDEO BIOS
  Cache BIOS ROM   21
  Shadow BIOS ROM   20
System BIOS   19
  location   19
  memory area   19
  size   19