

Server

System board D970

Technical Manual



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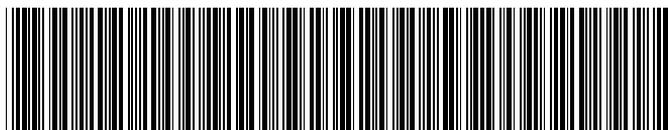
System board D970



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System board D970

Technical Manual

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November 1998 edition

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Introduction

This description applies for the system board D970 with PCI bus (Peripheral Component Interconnect).

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 from the PC.

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

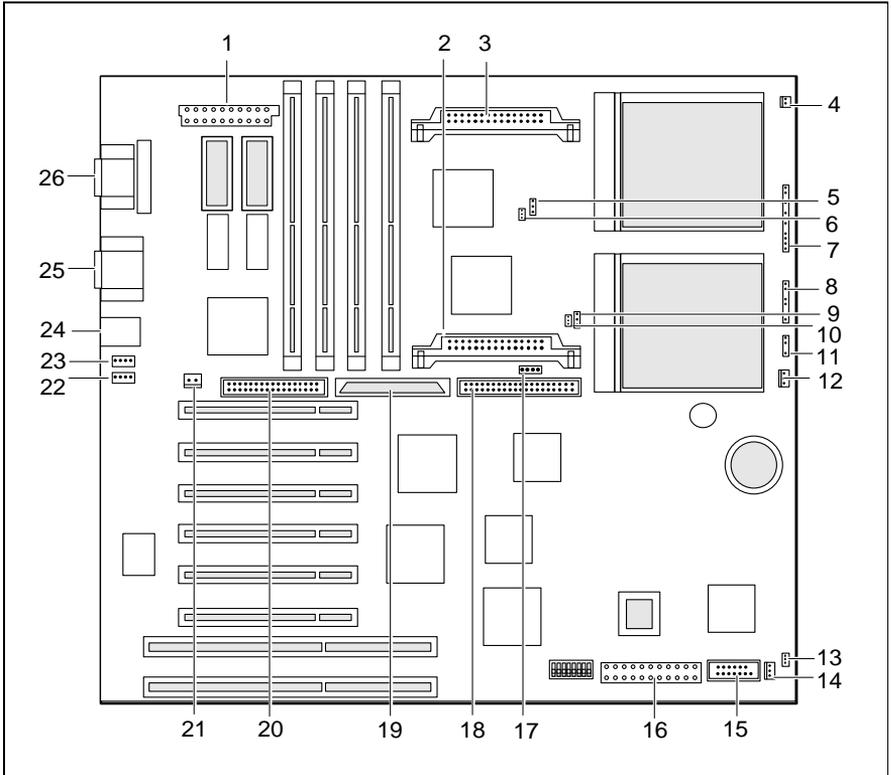
Texts in italics indicate commands or menu item.

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

Features

- Dual processor system (second processor optional)
- Processor: Pentium Pro, 166 MHz and 200 MHz with integrated 16 Kbytes first-level cache and 256 or 512 Kbytes second-level cache
- Voltage regulator which sets itself automatically to the required voltage range (2.1 V to 3.5 V)
- Prepared for Pentium Pro OverDrive-Processor (OverDrive - ready)
- Intel 82440FX chipset with ISA bridge
- 72-bit data bus (64-bit data and 8-bit parity)
- 32 Mbyte to 1 Gbyte main memory for buffered DIM modules, EDC protected (4 banks)
- 4 Mbit Flash BIOS
- 6 PCI slots, 2 ISA slots (1 slot shared)
- Monitor controller connected to PCI bus, graphics processor Cirrus Logic CL-GD5436, 1 Mbyte DRAM video memory, upgrade to 2 Mbytes possible
- Siemens-ASIC for Server Management
- Ultra-Wide SCSI controller AIC 7880P
- IDE hard disk controller connected to PCI bus for two IDE drives
- Real-time clock/calendar with integrated battery backup
- Floppy disk controller (up to 2.88 Mbytes format)
- Connector for loudspeaker, two fans, remote-On/Off, wide SCSI drive, floppy disk drive, IDE disk drive, control panel and service, temperature sensor
- Video connector
- Parallel interface (ECP- and EPP-compatible)
- Two serial ports (compatible 16550, 16-Byte-FIFO)
- PS/2 mouse port, PS/2 keyboard port
- CAN bus port for control of external drive cabinets (CAN = Controller Area Network)
- Security functions in BIOS
- Server management support

Interfaces and connectors



- | | |
|---|---|
| <ul style="list-style-type: none"> 1 = Power supply 5V and $\pm 12V$ for PRIMERGY 300 series 2 = Voltage converter for processor 1 3 = Voltage converter for processor 2 4 = ON/OFF switch 5 = Temperature sensor for processor 2 6 = Fan for processor 2 (optional) 7 = Control panel 1 8 = Control panel 1 9 = Fan for processor 1 (optional) 10 = Temperature sensor for processor 1 11 = Loudspeaker 12 = Fan 1 13 = Temperature sensor environment 14 = Fan 2 | <ul style="list-style-type: none"> 15 = Signaling/auxiliary voltage for PRIMERGY 500/700 series 16 = Power supply for 500/700PRIMERGY series +5 V, 3.3 V and $\pm 12V$ 17 = SCSI indicator 18 = IDE drives 19 = Ultra wide SCSI drives 20 = Floppy disk drives 21 = Connector for modem on 22 = CAN bus controller 2 23 = CAN bus controller 1 24 = Keyboard and mouse 25 = Serial interface 1 and 2 26 = Parallel port and monitor port |
|---|---|

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.

Screen resolution	Refresh rate (Hz)	Horizontal-rate (kHz) **	Max. number of colors
640x350	70	31,5	16
640x480	60	31,5	16777216
640x480	75	37,5	16777216
640x480	85	43,4	16777216
640x480	100	50,6	16777216
720x400	70	31,5	16
720x400	84	38	16
800x600	60	38	65536
800x600	72	48	65536
800x600	75	47	65536
800x600	85	53,7	65536
800x600	100	63	65536
1024x768	60	48,4	256
1024x768	75	60	256
1024x768	85	68,7	256 *
1024x768	87 interlaced	36	256
1024x768	100	81	256 *
1280x1024	87 interlaced	49	16

* no 16 color mode

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

Interrupt table

	assigned IRQ
System clock	IRQ0
Keyboard	IRQ1
not available	IRQ2
Serial port COM 2	IRQ3
Serial interface COM1	IRQ4
free	IRQ5
Floppy disk drive controller	IRQ6
Parallel interface LPT1	IRQ7
Real-time clock (RTC)	IRQ8
free	IRQ9
free	IRQ10
free	IRQ11
Mouse controller	IRQ12
Numeric processor	IRQ13
IDE controller/free	IRQ14
free	IRQ15

"Assigned IRQ" = interrupts assigned as shipped



Note that an interrupt cannot be used by two ISA boards or onboard controllers at the same time.

The monitor controller of the system board does not require interrupt IRQ9. If you are using a different monitor controller, it may need interrupt IRQ9.

Important Notes



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

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

Incorrect replacement of the lithium battery may lead to a risk of explosion. It is therefore essential to observe the instructions in the section [„Extensions on the system board“](#) - [„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



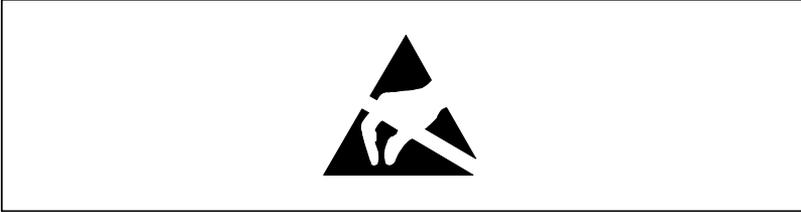
Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

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

Important Notes

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

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



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

Settings in BIOS Setup

In *BIOS Setup* you can set the system functions and the hardware configuration of the system. In addition, the BIOS Setup displays technical information on the system configuration.

When it is supplied, the system is set to factory default settings. You can change these settings in *BIOS Setup*. Any changes you make take effect as soon as you save the settings and quit the *BIOS Setup*.

The Operating Manual describes how to call the *BIOS Setup* and change menu entries.

You can select the following settings in the *BIOS Setup*:

Main - system functions

Advanced - advanced system configuration

Security - security features

Server - Server management features

Exit - save and quit



The various menus are described below with all setting options. Since the setting options depend on your system hardware configuration, some of them may not be offered in the *BIOS Setup*.

Main menu

In the *Main* menu you can set up the following:

- Time (in the field marked *System Time*)
- Date (in the field marked *System Date*)
- Floppy disk drive (in the field marked *Diskette A* or *Diskette B*)
- Hard disk drive (in the submenus of *Hard Disk*)
- System boot (in the submenus of *Boot Options*)
- Display device (in the field marked *Video Display*)

PhoenixBIOS Setup		Exit	
Main	Advanced	Security	Server
System Time:	[07:42:19]	Item Specific Help	
System Date:	[01/08/1997]		
Diskette A:	[1.4M]		
Diskette B:	[None]		
▶ Hard Disk 1:	None		
▶ Hard Disk 2:	None		
▶ Boot Options			
Video Display:	[EGA/VGA]		
Base Memory:	640K		
Extended Memory:	63M		
F1 Help	↑↓ Select Item	-/+ Change Values	F9 Setup Defaults
ESC Exit	←→ Select Menu	Enter Select ▶ Sub-Menu	F7 Previous Values

Example for *Main* menu

System Time / System Date

The *System Time* field and the *System Date* field show the time and date respectively according to the system. The time is shown in the format hh:mm:ss (hours:minutes:seconds) and the date is shown in the format mm/dd/yyyy (month/day/year). You can move the cursor between the *System Time* and *System Date* fields (e.g. from hours to minutes) using the tabulator key.



If the settings in the *System Time* and *System Date* fields are frequently wrong when you power up the computer, the lithium battery is dead. Change the battery as described in „[Extensions on the system board](#)“ - „[Replacing the lithium battery](#)“).

Diskette A / Diskette B

These two fields are used to specify the type of floppy disk drive installed.
360K, 720K, 1.2M, 1.4M, 2.8M

The entry depends on the floppy disk drive installed.
(Default entry Diskette A : 1.4M).

(Default entry Diskette A : 1.4M). 1.4M).

None A floppy disk drive is not installed.
(Default entry for Diskette B:).

Hard Disk x

call the submenu to make corresponding settings of the IDE hard disk drive.



You should change the default settings only if you are connecting an additional IDE drive.

The following description of the setting options for *Hard Disk 1* also applies to *Hard Disk 2*. The default settings depend on the installed drive.

Main		PhoenixBIOS Setup	
Hard Disk 1:		850 Mbyte	Item Specific Help
Autotype Hard Disk:		[Press Enter]	
Type:	[User]		
Cylinders:	[1647]		
Heads:	[16]		
Sectors/Track:	[63]		
Write Precomp:	None		
Transfer Mode:	[Standard]		
LBA Translation:	[Disabled]		
PIO Mode:	[Standard]		
32 Bit I/O:	[Enabled]		
F1 Help	↑ Select Item	-/+ Change Values	F9 Setup Defaults
ESC Exit	←→ Select Menu	Enter Select	▶ Sub-Menu F7 Previous Values

Example for the submenu *Hard Disk 1*



You may use the *Autotype Hard Disk* function only with IDE hard disk drives, that are:

- new, unpartitioned and unrecorded.
- partitioned using the *Autotype Hard Disk* function.
- will be portioned using the *Autotype Hard Disk* function.

If other parameters were used to partition the IDE hard disk and you want to retain the partitioning, you may not use *Autotype Hard Disk*.

If you have set the hard disk parameters with *Autotype Hard Disk*, you can only reduce the values.

If you have installed a new unrecorded IDE hard disk drive, you should mark the *Autotype Hard Disk* field and press Enter. This has the effect of setting the optimum values for the IDE hard disk drive. You can change these values if you set the *Type* field to *User*.

Type - Hard Disk Type

This field is used to specify the type of hard disk drive.

- None* You cannot change the hard disk parameters (*Cylinders, Heads, Sector/Track* and *Write Precomp*). An IDE drive has not been installed.
- 1 to 39* The hard disk parameters (*Cylinders, Heads, etc.*) are preset.
- Auto* If the hard disk supports this mode, the setup menu reads the hard disk parameters from the disk itself. You do not need to select the parameters yourself.
- User* You can enter the hard disk parameters (*Cylinders, Heads etc.*) yourself.
- If you have set the hard disk parameters with *Autotype Hard Disk*, you can only reduce the values.

Examples of user-defined entries (IDE drives):

Hard disk parameter	hard disk capacity		
	850 Mbyte	1 Gbytes	1.6 Gbytes
Cylinders	1647	2097	3148
Heads	16	16	16
Sectors	63	63	63
Write Precomp	None	None	None

Cylinders, Heads, Sectors/Track, Write Precomp - hard disk parameter

These hard disk parameters are set in accordance with the IDE hard disk drive. If you want to change the hard disk parameters manually, set the *Type* field to *User*.

Transfer Mode

This field specifies the transfer mode for the IDE hard disk drive.

Standard One block is transferred for each interrupt (default entry).
2 Sectors, 4 Sectors, 6 Sectors, 8 Sectors, 16 Sectors

The set number of blocks (sectors) is transferred for each interrupt.

LBA Translation - Addressing

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 the full capacity of the IDE hard disk.

The default entry depends on the installed IDE hard disk drive. Change the default entries only if you are installing another hard disk drive.



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.

Enabled 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. This allows the disk's full capacity to be used.

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

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

PIO Mode - Transfer rate

The PIO (Programmed Input Output) Mode defines the transfer rate of the IDE hard disk drive.

Standard 0,8 Mbyte/s to 2 Mbytes/s (default entry)

Fast PIO 1 2 Mbytes/s to 4 Mbytes/s

Fast PIO 2 4 Mbytes/s to 5 Mbytes/s

Fast PIO 3 5 Mbytes/s to 10 Mbytes/s

Fast PIO 4 10 Mbytes/s to 16 Mbytes/s

32 Bit I/O - Bus width for data transfer

This field specifies the width of data transmission between the processor and the IDE controller.

Enabled The data transfer is 32 bits in width at the PCI bus (default entry)..
 This enhances performance.

Disabled The data transfer is 16 bits in width.

Boot Options

calls the submenu in which you can select the settings for system startup.

Main		PhoenixBIOS Setup	
Boot Options		Item Specific Help	
POST Error Halt: [No Halt On Any Errors] Quick Boot: [Disabled]			
Boot Sequence: 1. Diskette 2. Hard Disk			
F1 Help	↑↓ Select Item	-/+ Change Values	F9 Setup Defaults
ESC Exit	←→ Select Menu	Enter Select	▶ Sub-Menu F7 Previous Values

Example for submenu *Boot Options*

POST Error Halt - Aborting system startup

defines whether the system startup is to be aborted and the system halted when an error is detected.

Halt On All Errors

If the self-test detects an error, system startup is aborted after the self-test, and the system is halted.

No Halt On Any Errors

The system startup is not aborted. The error is ignored as far as possible. The error is ignored as far as possible. (Default entry.)

Quick Boot

can reduce the extent of the self-test and thus accelerate the system startup.

Enabled When the system is switched on, the quick self-test is carried out, in which the floppy disk drives are not checked.

Disabled The entire system configuration is checked when the system is switched on. (Default entry.)

Boot Sequence

defines the sequence in which the system BIOS searches the drives for system files to start the operating system. If you wish to change this sequence, place the cursor on the entry for the drive you to which wish to move forward (key) or back (key).

Default entry:

1. *Diskette*
2. *Hard Disk*



If you wish the operating system to be started from a CD-ROM drive that is operated on a SCSI controller, this setting must be made in the SCSI controller's setup routine.

Video Display

This field is used to specify the type of monitor connected.

EGA/VGA, Color 80, Monochrome

Default entry: *EGA/VGA*

Base Memory

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

Extended Memory

indicates the size of the memory above 1 Mbyte.

Advanced menu - Making advanced system settings



Change the default settings only for special applications. Incorrect settings can cause malfunctions.

You can make the following system settings in the *Advanced* menu:

- Internal cache and second-level cache (in the *Cache Memory* submenu)
- Copy BIOS sections to the RAM (in the *Shadow Memory* submenu)
- Interfaces and controllers (in the *Peripheral Configuration* submenu)
- PCI functionality (in the *PCI Configuration* submenu)
- Additional system settings (in the *Advanced System Configuration* submenu)
- Multiprocessor table (in the *Use Multiprocessor Specification* field)
- Plug&Play functionality (in the *Plug and Play O/S* field)
- Configuration data (in the *Reset Configuration Data* field)
- Hard disk access (in the *Large Disk Access Mode* field)

PhoenixBIOS Setup	
Main	Advanced Security Server Exit
<p style="text-align: center;">Warning!</p> <p>Setting items on this menu to incorrect values may cause your system to malfunction.</p> <ul style="list-style-type: none"> ▶ Cache Memory ▶ Shadow Memory ▶ Peripheral Configuration ▶ PCI Configuration ▶ Advanced System Configuration <p>Use Multiprocessor Specification: [1.1]</p> <p>Plug & Play O/S: [No]</p> <p>Reset Configuration Data: [No]</p> <p>Large Disk Access Mode: [DOS]</p>	<p>Item Specific Help</p> <hr/>
<p>F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults</p> <p>ESC Exit ←→ Select Menu Enter Select ▶ Sub-Menu F7 Previous Values</p>	

Example for the *Advanced* menu

Cache Memory

calls the submenu in which you can make the settings for the first-level and second-level cache.

PhoenixBIOS Setup	
Advanced	
Cache Memory	Item Specific Help
Cache: [Enabled] Cache System BIOS Area: [Write Protect] Cache Video BIOS Area: [Write Protect] Cache DRAM Memory Area [Write Back] Cache Memory Regions: C800 - CBFF: [Disabled] CC00 - CFFF: [Disabled] D000 - D3FF: [Disabled] D400 - D7FF: [Disabled] D800 - DBFF: [Disabled] DC00 - DFFF: [Disabled]	
F1 Help ↑ Select Item -/+ Change Values F9 Setup Defaults ESC Exit ←→ Select Menu Enter Select ► Sub-Menu F7 Previous Values	

Example for submenu *Cache Memory*

Cache - cache utilization

This field switches the cache on and off. The cache is a buffer to which parts of the main memory and BIOS can be temporarily copied. The system performance is higher when the cache is switched on.

You must disable the cache:

- if the access time is too short for older applications
- if you are installing *OS/2 Warp*.

Enabled Cache is enabled (default entry).

Disabled Cache is disabled. All cache-related settings are then without effect.

Cache System BIOS Area / Cache Video BIOS Area

Requirement: The *Cache* field must be set to *Enabled*.

Cache System BIOS Area and *Cache Video BIOS Area* lets you specify the BIOS that should be mapped to the cache. Mapping the BIOS to the cache increases system performance.

Write Protect The specified BIOS is mapped to the cache (default entry).

Disabled The specified BIOS is not mapped to the cache.

Cache DRAM Memory Area - Transmission mode / Main memory in the cache

Requirement: The *Cache* field must be set to *Enabled*.

Cache DRAM Memory Area specifies the write access to the cache in the main memory area.

In write-back mode the processor writes information to the cache and the information is only written to the main memory if necessary. The information is only written to the main memory if necessary. Main memory and cache contents are not identical. In write-back mode the system performance is higher than in write-through mode.

In write-through-mode the processor writes information to the cache and to the main memory. Main memory and cache contents are identical.

Write Back The cache works in write-back mode (default entry).

Write Through The cache works in write-through mode.

Disabled The cache is not used for the main memory area.

Cache Memory Regions

Requirement: The *Cache* field must be set to *Enabled*.

Cache Memory Regions lets you specify the BIOS ROM areas that should be mapped to the cache. Mapping the BIOS ROM areas to the cache increases system performance.

Enabled The relevant ROM area is mapped to the cache.

Disabled The relevant ROM area is not mapped to the cache (default entry).

Shadow Memory

calls the submenu in which you can specify which parts of the ROM (Read Only Memory) are to be copied to the faster RAM (Random Access Memory) at system startup.

PhoenixBIOS Setup	
Advanced	
Shadow Memory	Item Specific Help
System Shadow: Enabled Video Shadow: [Enabled]	
Shadow Memory Regions: C800 - CBFF: [Disabled] CC00 - CFFF: [Disabled] D000 - D3FF: [Disabled] D400 - D7FF: [Disabled] D800 - DBFF: [Disabled] DC00 - DFFF: [Disabled]	
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults ESC Exit ←→ Select Menu Enter Select ► Sub-Menu F7 Previous Values	

Example for submenu *Shadow Memory*

System Shadow

This field is always *Enabled*, because the System BIOS is automatically copied to the faster RAM.

Video Shadow

This field allows you to copy the video BIOS to fast RAM. Copying the video BIOS to fast RAM increases system performance.

Enabled The video BIOS is copied to fast RAM (default entry).

Disabled The video BIOS is not copied to fast RAM. This setting is not effective unless an external monitor controller is used.

Shadow Memory Regions - ROM areas

Shadow Memory Regions allows you to copy ROM areas to fast RAM. Copying ROM areas to fast RAM increases system performance.

Enabled The ROM area is copied to fast RAM.

Disabled The ROM area of ISA adapters is not copied (default entry).

Peripheral Configuration

Peripheral Configuration calls the submenu to make the settings for the ports and controllers.

PhoenixBIOS Setup	
Advanced	
Peripheral Configuration	Item Specific Help
Serial 1: [Auto] Serial 2: [Auto] Parallel: [Auto] Parallel Mode: [Printer] Diskette Controller: [Enabled] Hard Disk Controller: [Enabled] Mouse Controller: [Enabled]	
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults ESC Exit ←→ Select Menu Enter Select ▶ Sub-Menu F7 Previous Values	

Example for submenu *Peripheral Configuration*

Serial 1 / Serial 2 - Serial interfaces

This field selects the address and the interrupt used to access the relevant serial interface.

3F8h, IRQ4, 2F8h, IRQ3, 3E8h, IRQ4, 2E8h, IRQ3,

The serial port is set to the shown address and interrupt.

Auto The serial interface is automatically set to the next available combination (address, interrupt) (Default entry).

Disabled The serial interface is disabled.

Parallel - parallel interface

This field selects the address and the interrupt used to access the parallel interface.

378h, IRQ7, 278h, IRQ5, 3BCh, IRQ7

The parallel port is set to the shown address and interrupt.

Auto The parallel interface is automatically set to the next available combination (address, interrupt) (Default entry).

Disabled The parallel interface is disabled.

Parallel Mode

This field is used to specify whether the parallel interface is to be used as a bi-directional input/output port or just as an output port. *ECP* and *EPP* transfer modes allow faster transfer rates of 2 and 2.4 Mbytes/s. These modes will only work with peripheral devices which support them. In addition, at *EPP* the field Parallel must be set to 378h or 278h.

Printer The port functions as an output port only (default entry).

Bidirection Data can be transferred in both directions across the port.

EPP Fast transfer mode (up to 2 Mbytes/s), can output and receive data. The mode requires a peripheral device which supports the *EPP* (Enhanced Parallel Port) transfer mode.

ECP Fast transfer mode (up to 2,4 Mbytes/s), can output and receive data. The mode requires a peripheral device which supports the *ECP* (Enhanced Capability Port) transfer mode.

Diskette Controller

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 - IRQ 6 is used. (default entry).

Disabled The floppy disk controller is disabled - IRQ 6 is free.

Hard Disk Controller

This field allows you to enable and disable the on-board IDE hard disk controller. The associated interrupt (IRQ 14) will only be available if no IDE hard disk drive is physically connected.

- Enabled* The IDE hard disk controller is enabled (default entry).
Disabled The IDE hard disk drive controller is disabled.

Mouse Controller

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

- Enabled* The mouse controller is enabled (default entry)- IRQ 12 is used. .
Disabled The mouse controller is disabled - IRQ 12 is free.

PCI Configuration

PCI Configuration calls the submenu in which you can make the settings for PCI devices.

Advanced		PhoenixBIOS Setup	
PCI Configuration		Item Specific Help	
PCI Parity Checking:	[Enabled]		
SCSI Controller:	[Enabled]		
SCSI IRQ Line:	[Auto]		
PCI IRQ Line 1:	[Auto]		
PCI IRQ Line 2:	[Auto]		
PCI IRQ Line 3:	[Auto]		
PCI IRQ Line 4:	[Auto]		
PCI IRQ Line 5:	[Auto]		
PCI IRQ Line 6:	[Auto]		
PCI IRQ Line 7:	[Auto]		
PCI IRQ Line 8:	[Auto]		
Interrupt Routing:	[Auto]		
F1 Help	↓ Select Item	-/+ Change Values	F9 Setup Defaults
ESC Exit	←→ Select Menu	Enter Select	▶ Sub-Menu F7 Previous Values

Example for submenu *PCI Configuration*

PCI Parity Checking

determines whether a parity check is carried out on PCI data bus. If you use PCI modules which do not behave in accordance with PCI bus guidelines, you can deactivate PCI parity checking.

Enabled Each time the PCI data bus is accessed, a parity check is performed. If a corrupted bit is detected, an error message is issued (default entry).

Disabled PCI bus parity checking is disabled.

SCSI controller

Enables/disables the SCSI controller (Small Computer System Interface) on the system board. The ISA interrupt assigned under *SCSI IRQ Line* is still occupied if the SCSI controller is disabled. This allows the SCSI controller to be enabled automatically if required. If you want to use the ISA interrupt for other purposes, you must disable it in the *SCSI IRQ Line* field.

Enabled The SCSI controller is enabled. *SCSI IRQ Line* must not be *Disabled* (default entry).

Disabled The SCSI controller is disabled.

SCSI IRQ Line - Assignment of ISA interrupt to the SCSI controller

Defines which ISA interrupt is used for the SCSI controller on the system board.

Auto The SCSI PCI interrupt is automatically assigned an ISA interrupt according to the Plug&Play Guidelines. (Default entry.)

Disabled No ISA interrupt is assigned to the SCSI PCI interrupt.

3, 4, 5, 6, 7, 9, 10, 11, 12, 14, 15

The selected ISA interrupt is assigned to the SCSI PCI interrupt. You may not select an ISA interrupt that is used by a component on the system board (e.g. controller) or an ISA board.

PCI IRQ line x - Assignment of the PCI interrupts

Defines which ISA interrupts are used for the separate PCI slots.

Multifunctional PCI boards or boards with an integrated PCI-to-PCI bridge can use several PCI interrupts (INTA#, INTB#, INTC#, INTD#). Monofunctional PCI boards (default) only use one PCI interrupt (INTA#) per PCI slot.

For monofunctional PCI boards the PCI interrupts INTA#, INTB#, INTC# and INTD# are assigned as follows:

With monofunctional PCI boards, the following *PCI IRQ Line* is assigned for INTA# of each PCI slot:

PCI slot	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	Slot 7
<i>PCI IRQ Line</i> for INTA#	1	2	3	5	6	7

With multifunctional PCI boards, the following *PCI IRQ Line* is assigned for INTA# to INTD# of each PCI slot:

PCI slot	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	Slot 7
<i>PCI IRQ Line</i> for INTA#	1	2	3	5	6	7
<i>PCI IRQ Line</i> for INTB#	2	3	4	6	7	8
<i>PCI IRQ Line</i> for INTC#	3	4	1	7	8	5
<i>PCI IRQ Line</i> for INTD#	4	1	2	8	5	6

The same interrupt can be assigned simultaneously to several PCI boards. You should avoid this condition due to reduced performance.

If you use a setting other than Auto, the Plug&Play functionality of the system BIOS for the corresponding PCI boards is deactivated.

Auto The PCI interrupts are assigned automatically in accordance with the Plug&Play guidelines (default entry).

Disabled No ISA interrupt is assigned to the PCI interrupt.
3, 4, 5, 6, 7, 9, 10, 11, 12, 14, 15

The PCI interrupt is switched to the selected ISA interrupt. You may not select an ISA interrupt that is used by a component on the system board (e.g. controller) or an ISA board.



With the *Auto* setting, you can use the *ICU (ISA Configuration Utility)* utility to check how the interrupts are assigned.

Interrupt Routing - PCI interrupt assignment mode

Defines how the interrupts are handled under a multiprocessor operating system.

Auto

If the system board detects a modern multiprocessor operating system (e.g. Windows NT 3.51 or 4.xx), a change is made from compatible interrupt handling (PCI interrupt is switched to ISA interrupt) to the faster interrupt handling mode (PCI interrupt is switched directly to the multiprocessor interrupt controller). If no multiprocessor operating system is detected, compatible interrupt handling is retained.

Enabled

The compatible interrupt handling is retained under the multiprocessor operating system. Use this setting if you experience problems when starting a multiprocessor operating system (default entry).

Advanced System Configuration

calls the submenu in which you can make additional settings.

PhoenixBIOS Setup Advanced	
Advanced System Configuration	Item Specific Help
ISA Memory Gap: [Disabled]	
F1 Help ↵ Select Item -/+ Change Values F9 Setup Defaults ESC Exit ←→ Select Menu Enter Select ► Sub-Menu F7 Previous Values	

Example for submenu *Advanced System Configuration*

ISA Memory Gap

inserts a contiguous ISA memory area of 1 Mbyte into the main memory area of 15 to 16 Mbytes.

at 00F0000h The ISA memory area is inserted.

Disabled The ISA memory area is not inserted (default).

Use Multiprocessor Specification

Defines which version of the multiprocessor table is generated by the system BIOS. The multiprocessor table is needed by multiprocessor operating systems to recognize the multiprocessor characteristics of the system.

- 1.4 The multiprocessor table is generated according to the MultiProcessor Specification Version 1.4. You should use this setting only if the operating system has problems with the multiprocessor configuration.
- 1.1 The multiprocessor table is generated according to the MultiProcessor Specification Version 1.1 (default entry).

Plug & Play O/S - Plug&Play functionality

defines the Plug&Play functionality. Plug&Play means that inserted modules are automatically recognized and installed if they support Plug&Play.

- Yes* The operating system (e. g. Windows 95) takes over some of the Plug&Play functions. You should select this setting only if the operating system supports Plug&Play.
- No* The BIOS takes over the complete Plug&Play functionality (default setting).

Reset Configuration Data

specifies whether or not the configuration data are reset and reinitialized when the system is started.

- Yes* After the system is started, the configuration data is reset, and the entry in this field is set to *NO*. The new configuration data is determined by means of the Plug&Play functionality. The mounted modules and drives are then initialized with this data. Non-Plug&Play components must be entered manually.(e. g. Windows 95, ICU).
- No* After the system is started, the Plug&Play functionality ascertains the current configuration data and uses this data to initialize the installed boards and drives. The configuration data of non-Plug&Play components are not reset (default entry).

Large Disk Access Mode

specifies the type of hard disk access for large IDE hard disks (more than 1024 cylinders, 16 heads).

- DOS* If the operating system uses MS-DOS-compatible hard disk accesses (default setting).
- Other* If the operating system uses hard disk accesses which are not MS-DOS-compatible (e.g. Novell, SCO Unix).

Menu Security - Setting up the security features

You can set up the following security features in the *Security* menu:

- Protecting BIOS Setup (in the field marked *Set Setup Password*)
- Protecting BIOS of add-on modules (in the field marked *Setup Password Lock*)
- Protecting system boots (in the field marked *Set System Password*)
- Locking input devices (in the field marked *System Password Mode*)
- Prevention of system boots from floppy disk (in the field marked *System Load*)
- Displaying Setup message (in the *Setup Prompt* field)
- Virus Warning (in the field marked *Virus Warning*)
- Prevention of write operations to floppy disk (in the field marked *Diskette Write*)
- Write protection of System BIOS (in the field marked *Flash Write*)
- On/Off functionality (in the submenu *Power On/Off*)

PhoenixBIOS Setup		
Main	Advanced	Security Server Exit
Setup Password	Not Installed	Item Specific Help
System Password	Not Installed	
Set Setup Password:	[Press Enter]	
Setup Password Lock:	[Standard]	
Set System Password:	[Press Enter]	
System Password Mode:	[System]	
System Load:	[Standard]	
Setup Prompt:	[Enabled]	
Virus Warning:	[Disabled]	
Diskette Write:	[Enabled]	
Flash Write:	[Enabled]	
▶ Power On/Off		
F1 Help	↑ Select Item	-/+ Change Values
ESC Exit	←→ Select Menu	Enter Select ▶ Sub-Menu
		F9 Setup Defaults
		F7 Previous Values

Example for *Security* menu

Setup Password / System Password

These fields indicate whether the appropriate password is installed or not.

Set Setup Password

This field enables you to install the setup password. The setup password prevents unauthorized callup of the *BIOS setup*.

Mark the field and press the Enter key. You can then enter and confirm the setup password (see also the Operating Manual).

Setup Password Lock

Requirement: The setup password is installed.

This field specifies the effect of the Setup Password.

Standard The setup password prevents unauthorized callup of the *BIOS setup* (Default entry).

Extended The Setup Password prevents unauthorized calls of the *BIOS Setup* and locks the keyboard when the PC is initialized. This prevents unauthorized access to settings for installed boards with a BIOS of their own.

The BIOS of the module can be accessed only if the setup password is entered during initialization of the module. You must conclude password entry with the enter key. No request for a password is issued on the screen.

Set System Password

Requirement: The setup password is installed.

This field enables you to install the system password. The system password prevents unauthorized access to your system.

Mark the field and press the Enter key. You can then enter and confirm the system password (see also the Operating Manual).

System Password Mode - Effect of the system password

Requirement: Setup and system password are installed.

This field specifies the effect of the system password.

- System* When the system is started, the system password enables the operating system to be booted (default setting).
- Keyboard* When the system is started, the operating system is booted and the keyboard and mouse are locked. The system password unlocks the keyboard and mouse.



No request for a password is issued on the screen.

System Load

This field specifies the drive from which the operating system can be loaded.

- Standard* The operating system can be loaded from floppy disk or hard disk (default entry).
- Diskette Lock* The operating system can only be loaded from hard disk.

Setup Prompt- Setup message

specifies whether the setup message Press F2 to enter SETUP is displayed when the system is rebooted.

- Enabled* The setup message Press F2 to enter SETUP is displayed when the system is started (default entry).
- Disabled* The setup message is not displayed.

Virus Warning

This field checks the boot sectors of the hard disk drive to see if any changes have been made since the previous system startup. If they have been changed and the reason for this is unknown, a program for finding computer viruses should be loaded.

- Enabled* If the boot sector has been changed since the previous system startup (e.g. new operating system or virus attack), a warning is displayed. The warning stays on the screen until you acknowledge the changes with Confirm or deactivate the function (Disabled).
- Confirm* This entry confirms a required change in a boot sector (e.g. new operating system).
- Disabled* The boot sectors are not checked (default entry).

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 of the switch block is set to *OPEN* (default entry).
- Disabled* Floppy disks can only be read.

Flash Write

This field can assign write protection to the System BIOS.

- Enabled* The System BIOS can be written or deleted. Requirement: Switch 3 of the switch block is set to *OPEN* (see chapter "[Settings on the system board](#)"). BIOS update from floppy disk is possible (default entry).
- Disabled* The System BIOS can neither be written to nor deleted. BIOS update from floppy disk is not possible

Power On/Off

calls the submenu in which you can specify how the system can be powered on and off. These settings cause the system to be switched on and off in the same way as using the on/off button on the system unit. The on/off button is always operable and cannot be disabled.

PhoenixBIOS Setup		
Security		
Power On/Off		Item Specific Help
Power Off Source		
Software:	[Enabled]	
Keyboard:	[Disabled]	
Power On Source		
Remote:	[Enabled]	
Keyboard:	[Enabled]	
Timer:	[Enabled]	
F1 Help	↓ Select Item	-/+ Change Values
ESC Exit	↔ Select Menu	Enter Select ▶ Sub-Menu
		F9 Setup Defaults
		F7 Previous Values

Example for submenu *Power On/Off*



If you have assigned a system password in *System Mode*, the boot procedure is suspended during remote power on of the system (using *Remote Power On* or *Timer On*) as the system waits for entry of the system password. For this reason you should not assign a system password in *System Mode* if you want to use remote power on.

Power Off Source: Software

specifies whether the system can be switched off with a program (*DeskOff*, *SWOFF*) or an operating system (*Windows 95*, *Windows NT with Siemens HAL*).

Enabled The system can be switched off with the *SWOFF* program (default entry).

Disabled The system cannot be switched off with a program.

Power Off Source: Keyboard

specifies whether the system can be switched off using a special on/off button on the keyboard.

Enabled The system can be switched off using a special on/off button on the keyboard.

Disabled The system cannot be switched off using a special on/off button on the keyboard (default).

Power On Source: Remote

specifies whether the system can be switched on by an incoming message (e. g. modem). The signal can be supplied externally via serial interface 1 or internally via the modem on connector.

Enabled The system can be switched on from an incoming message (default entry).

Disabled The system cannot be switched on from an incoming message.

Power On Source: Keyboard

specifies whether the system can be switched on using a special on/off button on the keyboard.

Enabled The system can be switched on using a special on/off button on the keyboard (default entry).

Disabled The system cannot be switched on using a special on/off button on the keyboard.

Power On Source: Timer

specifies whether the system can be timed to switch on at a particular time or after a particular period of time.

The switch-on time cannot be specified in BIOS Setup. You require a suitable program for setting this switch-on time.

Enabled The system can be switched on under timer control (default entry).

Disabled The system cannot be switched on under timer control.



Rebooting after a critical system error (*ASR&R Boot Delay* field in the *Server* menu) is not affected by this setting.

Menu Server - Set Server Management

You can set the following functions in the *Server* menu:

- Server management mode (in the field marked *Server Management*)
- Boot timeout of the operating system (in the field marked *O/S Boot Timeout*)
- Boot delay (in the field marked *ASR&R Boot Delay*)
- Number of attempts to boot the operating system (in the field marked *Boot Retry Counter*)
- Diagnostic system (in the field marked *Diagnostic System*)
- Time monitoring (in the field marked *Hardware Watchdog*)
- Temperature monitoring (in the field marked *Temp. Monitoring*)
- Processor status (in the submenu *CPU Status*)
- Main memory status (in the submenu of *Memory Status*)
- Error transmission (in the submenu marked *Pager Configuration*)
- VT100 functionality (in the submenu marked *VT100 Configuration*)
- Communication with storage extensions (in the submenu *Storage Extensions*)

PhoenixBIOS Setup			
Main	Advanced	Security	Server Exit
Server Management:		[Enabled]	Item Specific Help
O/S Boot Timeout:		[Disabled]	
ASR&R Boot Delay:		[3 min]	
Boot Retry Counter:		[3]	
Diagnostic System:		[Disabled]	
Hardware Watchdog:		[Enabled]	
Temperature Monitoring:		[Disabled]	
<ul style="list-style-type: none"> ▶ CPU Status ▶ Memory Status ▶ Pager Configuration ▶ VT100 Configuration ▶ Storage Extensions 			
F1 Help	↑↓ Select Item	-/+ Change Values	F9 Setup Defaults
ESC Exit	←→ Select Menu	Enter Select	▶ Sub-Menu F7 Previous Values

Example for *Server* menu

Server management

specifies the operating mode of the server management BIOS.

Enabled Activates the server management functionality of the system BIOS. Furthermore this setting is required to enable a server management process of the operating system to communicate with the system BIOS (default entry).

Disabled The server management functionality is deactivated.

O/S Boot Timeout

Requirement: Operating system with server management agent (e.g. Novell NetWare or Windows NT, program: ServerMan) and *Enabled* must be entered in the *Server Management* field.

O/S Boot Timeout specifies whether a system reboot is performed when the operating system is not able to establish a connection with the server management BIOS within a defined period after system booting. The server management BIOS assumes that there is a boot error and initiates a reboot.



If the operating system does not have a server management process, you must select the setting *Disabled* so that the server management BIOS does not erroneously initiate a reboot. The server management process (agent) is installed using the *ServerMan* program.

2 min, 5 min, 15 min, 30 min, 60 min, 120 min, 240 min

After the displayed timeout period has expired, the system is rebooted if no connection with a server management process has been established.

Disabled No time monitoring takes place (default entry).

ASR&R Boot Delay

Requirement: *Enabled* must be set in the *Server Management* field.

Specifies the boot delay after shutdown due to a fault (e.g. excessively high temperature). The system is rebooted after the set wait period has expired (default entry: *3 min*).

Further possible values are: *1 min, 2 min, 5 min, 7 min, 10 min, 15 min* and *20 min*

Boot Retry Counter

Requirement: *Enabled* must be set in the *Server Management* field.

Specifies the maximum number of attempts to boot the operating system. After the time set in *O/S Boot Timeout* has expired, each failed retry is followed by a system reboot. Other critical system errors also result in system reboot and in counter decrementing. After the last retry the system is definitively shut down or a diagnostic system started (if still possible and *Enabled*).

0 to 7 Number of possible retries (default entry: *3*).

Diagnostic System

Requirement: *Enabled* must be set in the *Server Management* field.

Specifies what is to happen after the number of system reboots defined in *Boot Retry Counter*.

Enabled The test and diagnostic system is started from the first IDE hard disk drive.

Disabled The test and diagnostic system is not started although an IDE hard disk drive with the test and diagnostic system is installed on the system (default entry)

Disk Not installed An IDE hard disk drive with the test and diagnostic system is not installed on the system.

Hardware Watchdog

Requirement: *Enabled* must be set in the *Server Management* field.

Specifies whether the system performs a reboot if the server management BIOS cannot reset a hardware counter at defined time intervals (system hangs).

Enabled System reboot is performed after the time interval has passed (default entry).

Disabled No system reboot is performed after the time interval has passed.

Temperature Monitoring

Requirement: *Enabled* must be set in the *Server Management* field.

Specifies whether the system is switched off if the ambient temperature or the temperature of a processor exceeds the critical value. This protects against damage to the system or data. If the operating has an active server management process, this takes over the temperature monitoring function and executes a shutdown if critical temperatures occur.

Depending on the *Boot Retry Counter*, the system switches itself on again after the period specified under *ASR&R Boot Delay*. In this period the system should have cooled down again.

Enabled The system switches itself off if the temperature exceeds the critical value.

Disabled The system does not switch itself off if the temperature exceeds the critical value (default entry).

CPU Status - Processor status

Requirement: two processors must be installed.
 determines whether or not the processor can be used. Faulty memory modules are no longer used when the system is rebooted provided at least one errorfree bank is available.

Server		Phoenix BIOS Setup	
CPU Status		Item Specific Help	
CPU 0 Status:	[Enabled]		
CPU 1 Status:	[Enabled]		
F1 Help	↑↓ Select Item	-/+ Change Values	F9 Setup Defaults
ESC Exit	←→ Select Menu	Enter Select	▶ Sub-Menu F7 Previous Values

Example for the submenu *CPU Status*

CPU 0 Status / CPU 1 Status

- Enabled* The processor can be used by the operating system (default entry).
- Disabled* The processor cannot be used by the operating system.



All status displays always appear (*CPU 0 Status, CPU 1 Status, CPU 2 Status, CPU 3 Status*) even if only one processor is installed.

Memory Status

calls the submenu in which memory modules can be marked as faulty. Faulty memory modules are no longer used when the system is rebooted provided at least one errorfree bank is available. The memory capacity is reduced accordingly. After the defective memory modules have been replaced, you must reset the relevant entries to *Enabled*.

Server		PhoenixBIOS Setup	
Memory Status		Item Specific Help	
Memory Bank 0:	[Enabled]		
Memory Bank 1:	[Enabled]		
Memory Bank 2:	[Enabled]		
Memory Bank 3:	[Enabled]		
F1 Help ↑ Select Item -/+ Change Values F9 Setup Defaults ESC Exit ← Select Menu Enter Select ► Sub-Menu F7 Previous Values			

Example for the submenu *Memory Status*

Memory Bank n - Status of the Memory Module

shows the current status of the memory module.

Enabled If the bank is equipped, the memory module is used by the system (default entry).

Failed The memory module is not used by the system. If you have replaced a defective memory module, you must reset the entry to *Enabled*.

Pager Configuration

calls the submenu in which you can make the settings for remote transmission of errors by means of a pager. The server management BIOS can send a message via an attached modem (external: serial 1, serial 2; internal: modem board) to a pager if a system error occurs. Further settings for remote error transmission must be made by a server management process (e. g. *ServerMan*) of the operating system or using *SCU*. The telephone number of the pager server, the subscriber number and the modem initialization sequences can also be entered there.

PhoenixBIOS Setup Server	
Pager Configuration	Item Specific Help
Pager: [Disabled] Pager Interface Addr.: 3E8h Server Number: [0] Baud Rate: 2400 Com. Setting: 8/1, No Parity	
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults ESC Exit ←→ Select Menu Enter Select ► Sub-Menu F7 Previous Values	

Example for the submenu *Pager Configuration*

Pager

enables or disables the pager.

Enabled

In the event of an error a message (server number) is sent to a pager. A modem must be attached that can be accessed at the address set in the field *Pager Interface Addr.*.

Disabled

In the event of an error no message is sent to a pager (default entry).



The modem must be set so that it can be accessed via the pager interface address (see documentation on the modem). On external modem attached via *Serial 1* or *Serial 2*, the pager interface address must correspond to the setting for *Serial 1* or *Serial 2* on the screen page *Advanced*.

Pager Interface Addr. - Pager address

Requirement: *Enabled* must be set in the field *Pager*.

Defines the I/O address used to communicate with the modem via a serial interface.

3F8h, 2F8h, 3E8, 2E8h

The specified I/O address is used for communication with the

modem. The serial port at which the modem is attached must be set to the same address (default entry:) *3E8h*).

Server Number

Requirement: *Enabled* must be set in the field *Pager*.

Specifies the number used to uniquely identify the server in a pager message.
0 to 65535 Identification number of the server (default entry: *0*)

Baud Rate

Requirement: *Enabled* must be set in the field *Pager*.

Indicates the baud rate of the serial port at which the modem for remote error transmission is attached.

2400 Error transmission is performed at 2400 baud. This value is predefined and cannot be changed.

Com. Setting - port setting

Requirement: *Enabled* must be set in the field *Pager*.

Indicates the data format used for error transmission.

8/1, No Parity Error transmission is performed with 8 data bits, 1 stop bit and without a parity check. The values are predefined and cannot be changed.

VT100 Configuration

calls the submenu in which you make the settings for operating a VT100-compatible terminal on the system. The terminal can be connected to the server system via a direct serial connection (cable) or a dialup connection (modem). Screen outputs are directed in parallel to the terminal and the system monitor. Keyboard input at the terminal is likewise sent to the system and treated like input at the attached server keyboard. The BIOS setup of the system, for example, can be called up and modified at the terminal.

With a modem connection, further settings must be made for VT100 functionality either via an operating system server management process or with the *SCU*. The telephone number of the pager server, the subscriber number and the modem initialization sequences can also be entered there.



It is not possible to enter a system password in *Keyboard Mode* at the VT100 terminal.

PhoenixBIOS Setup Server	
VT100 Configuration	Item Specific Help
VT100: [Disabled] VT100 Mode: [Standard] VT100 Interface Addr.: 3F8h VT100 Interface IRQ: IRQ 4 Connection: Direct Baud Rate: 9600 Com. Setting: 8/1, No Parity	
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults ESC Exit ←→ Select Menu Enter Select ► Sub-Menu F7 Previous Values	

Example for submenu *VT100 Configuration*

VT100 - VT 100 operating mode

enables or disables VT100 operating mode.

Enabled VT100 operating mode is enabled.

Disabled VT100 operating mode is disabled (default entry).

VT100 Mode

Requirement: *Enabled* must be set in the field *VT100*.

Defines whether communication with the terminal is stopped before the operating system is started. Communication with the terminal is not possible once the operating system has been started, until a suitable operating system driver sets the communication up again.

Standard The system BIOS stops communication with the terminal before the operating system is started. The area in main memory used for communicating with the terminal is then fully available to the operating system again (default entry).

Enhanced Communication with the terminal is not stopped before the operating system is started. Use this setting if you want to start the operating system via a selection menu from the terminal. After the operating system has been selected and started, it generally stops communication with the terminal. The area in main memory used for communication with the terminal may, however, no longer be available to the operating system.

VT100 Interface Addr. - VT100-address

Requirement: *Enabled* must be set in the field *VT100*.

Defines the I/O address for communication with the terminal.

3F8h, 2F8h, 3E8h, 2E8h

The specified I/O address is used for communication with the terminal. The serial port at which the terminal or modem is connected must be set to the same address (default entry: *3F8h*).

VT100 IRQ

Requirement: *Enabled* must be set in the field *VT100*.

Defines the interrupt for communication with the terminal.

IRQ3, IRQ4, IRQ5, IRQ6, IRQ7

The specified IRQ is used for communication with the terminal. The serial port at which the terminal or modem is connected must be set to the same IRQ (default entry: *IRQ4*).

Connection - Connection type

Requirement: *Enabled* must be set in the field *VT100*.

Specifies the connection type for communication with the terminal.

Direct There is a direct cable connection between the system and the terminal (default entry).

Modem The system and terminal are interconnected via a modem dialup connection when the system is booted.

Baud Rate

Requirement: *Enabled* must be set in the field *VT100*.

Specifies the baud rate for communication with the terminal.

1200, 2400, 4800, 9600, 19200

 Data communication with the terminal is performed at the rate set (default entry: *9600*).

Com. Setting - port setting

Requirement: *Enabled* must be set in the field *VT100*.

Indicates the data format used for terminal emulation.

8/1, No Parity The connection is established with 8 data bits, 1 stop bit and without a parity check. The values are predefined and cannot be changed.

Storage Extension



The following submenu does not apply for the PCD-SE storage extension!

Storage Extensions calls the submenu in which you can make the settings for group configuration and for the communication bus. A number of servers and storage extensions (SEs) can be combined into a group (functional unit, family). Within this group each unit (server/SE) is given its own device ID via which it can be addressed for purposes of communication over the communication bus (CAN bus). These devices can be combined into a maximum of ten groups. A group may comprise a maximum of five servers and 16 SEs.

Phoenix BIOS Setup Server	
Storage Extensions	Item Specific Help
SE Communication: [Enabled] Group number: [0] Local Server ID: [1] Number of connected SE [0] Server Type: [Primary]	
F1 Help ↑ Select Item -/+ Change Values F9 Setup Defaults ESC Exit ← Select Menu Enter Select ► Sub-Menu F7 Previous Values	

Example for submenu *Storage Extensions*

SE Communication

Requirement: *Enabled* must be set in the field *Server Management*.

Permits communication between server and SE via the communication bus (CAN-BUS). If *SE Communication* is *Enabled*, a check is made at system start whether all SEs are present. For this purpose, the number of SEs attached to the server is specified in *Number of connected SE*. In addition, when the server is switched on, all SEs within the group are enabled via the communication bus.

Enabled Communication via the communication bus is enabled.

Disabled Communication with the SE via the communication bus is not possible (default entry). The SEs are not enabled with the server.

Group number

Specifies the group number for SE and server. Communication between SEs and servers is possible only within a group.

0 to 9 Group number (default entry = 0).



The group number of the SE is set using the rotary switches on the control board in the SE (see SE Operating Manual).

Local Server ID

Specifies the device ID of the server within the group. Within a group each device must have its own device ID.

0 to 99 Device ID of the server (default entry 1).

If possible, use only a device ID from 0 to 9 for the server. With this setting you will get better performance.

Number of connected SE

Specifies the number of SEs connected at the server. At system start a check is made whether all SEs of the group are present.

0 to 16 Number of SEs (default entry 0).

Server Type

To achieve a high level of system availability, it is possible to incorporate the server in a Servershield configuration. In a Servershield configuration a second (secondary) server assumes the role of the first (primary) server if this fails. *Server Type* specifies whether the server is the primary or secondary server within a Servershield configuration. If the server is not integrated into a Servershield configuration, the default entry must be *Primary*.

Primary The server is the primary server (default entry).

Secondary The server is the secondary server in a Servershield configuration.
The server replaces the primary server if this fails.

Exit menu

In the *Exit* menu, you can save your settings and exit BIOS Setup.

Phoenix BIOS Setup			
Main	Advanced	Security	Server Exit
Save Changes & Exit Discard Changes & Exit Get Default Values Load Previous Values Save Changes		Item Specific Help <hr/>	
F1 Help	↑↓ Select Item	-/+ Change Values	F9 Setup Defaults
ESC Exit	←→ Select Menu	Enter Select ► Sub-Menu	F7 Previous Values

Example for menu *Exit*

Save Changes & Exit

saves the settings you have made and exits BIOS Setup.

Discard Changes & Exit

exits BIOS Setup without saving the new settings.

Get Default Values

reverts all settings to the default values.

Load Previous Values

sets the values which were in effect when BIOS Setup was called.

Save Changes

saves the settings you have made without exiting the BIOS Setup.

Settings in SCSI Setup

SCSI is the abbreviation for **S**mall **C**omputer **S**ystem **I**nterface.

The onboard ultra-wide SCSI controller (host adapter) is the interface between the internal bus (PCI bus) and devices with SCSI interfaces (SCSI devices).

The onboard ultra-wide SCSI controller is a PCI chip which uses Bus Master technology. This allows your SCSI controller to independently manage data transfer between your SCSI peripherals and the computer system memory, without requiring the involvement of your computer system CPU (Central Processing Unit).

All the information you require to install the SCSI Utility Software (e. g. drivers for MS-DOS, Windows 3.x) is contained in the User Guide for the SCSI Utility Software EZ-SCSI.

Details of how you install and operate your SCSI device may be found in the associated Manual.

Setting SCSI addresses (IDs)

Each device which is connected to the ultra-wide SCSI controller must be set to a separate SCSI address (ID 0 through ID 15).

The ultra-wide SCSI controller has ID 7. ID 7 has the highest priority, SCSI-ID 0 has the lowest. The priority of the remaining IDs, in descending order, is 15 to 8.

► Ensure that each SCSI device is assigned it's own address.

Details how you set the SCSI address of your SCSI devices may be found in the associated manual.

Connecting SCSI devices

SCSI devices and controllers are connected together via a common cable (SCSI bus).

The termination (terminating resistors) must be enabled (or installed) on the last device connected to the SCSI cable. The termination must be disabled (or removed) from all other SCSI devices.

How you activate or deactivate the termination of the SCSI devices, see description of your SCSI devices.

- ▶ Be sure the ends of the SCSI bus are correctly terminated.
- ▶ Connect the SCSI devices to the SCSI connector on the system board by means of the SCSI cable.

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Only single-ended SCSI devices may be linked to the ultra-wide SCSI controller. Most SCSI devices meet this requirement. If you are in any doubt, contact your sales office or customer service.

How you install internal devices in the system unit and connect them to the power supply is described in the Operating Manual or Technical Manual for your Server under the heading "System unit" ("Installing a disk drive").

Further information is provided in the descriptions of your SCSI devices.

The following hints are only for the connectors at the onboard ultra-wide SCSI controller.

Connectors and cables

The connector of the ultra-wide SCSI controller is 68pin.

The connector of 8-bit SCSI devices is 50pin; the connector of 16-bit SCSI devices is 68pin.

If you want to connect 8-bit SCSI devices to the ultra-wide SCSI controller you need an adapter (from 68pin to 50pin).

If you want to operate an 8-bit SCSI device as the last device on a SCSI line you need an adapter (from 68pin to 50pin) with high-byte termination.

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Only use good quality SCSI lines, otherwise you may have transmission problems.

SCSI-Setup

The BIOS of the ultra-wide SCSI controller includes a menu-driven *SCSI Setup*. This program allows you to change almost all of the option settings of the SCSI controller and the connected SCSI devices.

When you boot the system a SCSI-BIOS message listing the SCSI devices connected is displayed.



If an SCSI-BIOS error message appears or problems arise with SCSI devices, please refer to the chapter entitled "[Eliminating errors on the SCSI controller](#)" and „[SCSI BIOS messages](#)“.

You may find further information in the documentation of your SCSI device.

If you are unable to trace or rectify the error, please contact your dealer or our service.

Starting the SCSI Setup

You must enable the ultra-wide SCSI controller in the system BIOS to be able to call the *SCSI-Setup*. Call the *BIOS-Setup* and set the *SCSI Controller* field in the *PCI Configuration* menu to *enabled*.

- ▶ Start your PC and press key combination `Ctrl+Alt+S` and `Enter`, when the following message appears:

Press <Ctrl> <A> for SCSI Select (TM) Utility!

The first menu of the *SCSI setup*, *Configure/View Host Adapter Settings* and *SCSI Disk Utilities* is displayed.

Working with the keyboard

Use the following keys when running the program:

`↑ ↓` to make selections



to accept a selection



to call the previous menu and to terminate the *SCSI setup*.



to reset to the default settings



to toggle display between color and monochrome mode

Also note the status line at the bottom of the screen.

Terminating the SCSI setup

Depending on the current menu level, you can display the previous menu by pressing the **[Esc]** key. If you have made changes in the current menu you will be prompted to store them.

- ▶ Keep pressing **[Esc]** until you arrive at the first menu (Configure/View Host Adapter Settings).
- ▶ Press the **[Esc]** button in the first menu and then follow the instructions on the screen to terminate the *SCSI-Setup*.

Default Settings in the SCSI setup

SCSI Bus Interface Definitions	Default setting
Host Adapter SCSI ID	7
SCSI Parity Checking	Enabled
Host Adapter SCSI Termination	LowON/HighON
Additional Options	Default setting
Boot Device Options	
Boot Target ID	0
Boot LUN Number*	0
SCSI device configuration (for each SCSI device)	
SCSI device ID	1 to 15
Initiate Sync Negotiation	Yes
Maximum Sync Transfer Rate	20 Mbyte/s
Enable Disconnection	Yes
Initiate Wide Negotiation	Yes
Send Start Unit Command**	No
Include in BIOS Scan	Yes
Advanced Configuration Options	Default setting
Reset SCSI Bus at IC Initialization	Enabled
Host Adapter BIOS	Enabled
Support Removable Disks Under BIOS as Fixed Disks**	Boot only
Extended BIOS Translation for DOS Drives >1 GByte**	Enabled
Display CTRL + A Message During BIOS Initialization**	Enabled
Multiple LUN Support**	Disabled
BIOS Support for Bootable CD-ROM**	Enabled
BIOS Support for Int 13 Extensions**	Enabled
Support for Ultra SCSI Speed	Disabled

* Setting is valid only if *Multiple LUN Support* is *enabled*.

** Settings are valid only if SCSI controller BIOS is *Enabled*.

SCSI Bus Interface Definitions

Host Adapter SCSI ID

All SCSI devices on one SCSI bus, including the Ultra-Wide SCSI controller, must be set to separate SCSI IDs.

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15

The ultra-wide SCSI controller is set to the displayed SCSI address (default entry: 7).

SCSI Parity Checking

The ultra-wide SCSI controller uses parity bits on the SCSI bus to verify the data from your SCSI devices. Parity checking may not be supported on older SCSI devices. You must disable the option in this case.

Enabled Parity checking is enabled (default setting).

Disabled Parity checking is disabled.



If parity checking is disabled, this applies to all SCSI devices on the SCSI bus.

Host Adapter SCSI Termination

If the ultra-wide SCSI controller is the last device on the SCSI cable, its terminator must be enabled. If the ultra-wide SCSI controller is not the last device on the SCSI cable, its terminator must be disabled.

LowON/HighON

The termination is enabled (default entry).

LowOFF/HighOFF

The termination is disabled.

LowOFF/HighON

Not supported.

Additional Options

Boot Device Options

Boot Target ID

The ultra-wide SCSI controller can start the operating system from a drive with any SCSI address (ID). The SCSI ID selected here must correspond to the ID configured on the boot device.

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15

The ultra-wide SCSI controller boots from the drive with the displayed SCSI ID (default entry: 0).

Boot LUN Number

If your boot device has multiple LUNs (Logical Unit Numbers) and *Multiple LUN Support* is *Enabled*, this option allows you to specify which LUN to boot from on your boot device.

0, 1, 2, 3, 4, 5, 6, 7

The ultra-wide SCSI controller boots with the displayed LUN (default entry: 0).

SCSI Device Configuration

Initiate Sync Negotiation

Devices on the SCSI bus (including the SCSI controller) communicate intelligently with each other. Before data is transferred across the bus, the sending (initiating) and receiving (target) devices negotiate and agree on how long each piece of data will be, and how many pieces will be sent at a time - that is, they agree on how fast to talk.

If you have operating problems with older SCSI devices, you should disable *Initiate Sync Negotiation*. You may have to make settings on your SCSI devices (see the SCSI device documentation).

When *Sync Negotiation* is disabled, the Ultra-Wide SCSI controller will automatically go into synchronous mode if it receives a request from one of your SCSI devices. It can, however, also exchange data with slow SCSI devices.

Yes Cache is enabled (default entry).

No The function is disabled.



Synchronous data transfer is required for fast and ultra SCSI operation.

Initiate Wide Negotiation

This option determines whether the SCSI controller attempts 16-bit data transfer (Wide SCSI) instead of 8-bit data transfer.

Only disable *Initiate Wide Negotiation* if you do not use any wide SCSI devices or if 8 bit SCSI devices have problems during operation. You may have to make settings on your SCSI devices. (refer to the documentation supplied with your SCSI device).

Fast SCSI devices, including the ultra-wide SCSI controller, are capable of transferring data to and from the SCSI bus at speeds ranging up to 40 Mbyte/s.

Yes Cache is enabled (default entry).

No The function is disabled.

Maximum Sync Transfer Rate

Fast SCSI devices (ultra-wide), including the ultra-wide SCSI controller, are capable of transferring data to and from the SCSI bus at speeds ranging up to 40 Mbyte/s at synchronous data transfer. If you have entered *Enabled* in the *Support for Ultra SCSI Speed* menu item, the transfer rate of 40 Mbyte/s is entered automatically.

Enable Disconnection

SCSI devices can release the SCSI bus during command execution with this function. A typical example of this is a tape device that has no need to access the SCSI bus during rewinding and can be "disconnected" from the SCSI bus for this period.

You can disable the function if you have only connected one SCSI device. In this case, disconnection improves performance slightly.

Yes Cache is enabled (default entry).
No The function is disabled.

Send Start Unit Command

If the function is enabled, SCSI devices which support it are only started when they receive the "Start-Unit" command from the SCSI BIOS. This allows the SCSI devices to be activated consecutively. This is used if your system power supply is too weak to start several drives simultaneously or for preventing switchon current peaks.

You may have to make settings on your SCSI devices to enable support for this function (see the documentation for the SCSI devices).

Yes The function is enabled.
No VT100 operating mode is disabled (default entry).

Include BIOS Scan

The SCSI device can be used as the boot drive if this function is enabled. The SCSI device is accessed by the SCSI BIOS and is assigned a drive identifier. A message is output to the screen.

Yes The SCSI device can be the boot drive and is assigned a drive identifier (default entry).

No The SCSI device is not accessed by the SCSI BIOS.



This function should be set to *No* for drives which you know will never be used as the boot drive (e.g. DAT drives). This saves time during system startup.

Advanced Configuration Options**RESET SCSI Bus at IC**

The SCSI bus is reset if you activate this menu item.

Enabled The SCSI bus will be reset (default entry).

Disabled The SCSI bus will not be reset.

Host Adapter BIOS



If the SCSI BIOS is disabled, the system cannot be booted from any of the SCSI devices connected to the SCSI bus.

The SCSI BIOS can be disabled if the SCSI devices can only be operated with additionally loaded drivers. This saves 16 Kbytes of system memory as well as time during system startup.

If you disable the SCSI BIOS, you can still call the *SCSI-Setup* with the **CTRL-A** keys during system startup and modify settings.

Enabled The SCSI-BIOS is enabled (default setting).

Disabled The SCSI BIOS is disabled.



Note that you will have to install additional drivers for your devices if the SCSI BIOS is disabled.

Support Removable Disks under BIOS as Fixed Disks

This option allows you to use removable-media drives, such as MO drives, without installing additional drivers.

Boot Only Only the removable-media drive designated as the boot device is treated as a hard disk (default setting).

All Disks All removable-media drives supported by the BIOS are treated as hard disk drives.

Disabled No removable-media drives are treated as hard disk drives. In this situation, software drivers are needed because the drives are not controlled by the BIOS.



If a removable-media device is controlled by the SCSI controller BIOS, do not remove the media while the drive is on.

Extended BIOS Translation for DOS Drives > 1GByte

Enabling this option allows drives of up to 8 Gbyte capacity (2 Gbyte/partition) to be supported under MS-DOS 5.0 or higher. The SCSI BIOS must be enabled. In earlier days, it was only possible to use drives with a capacity of up to 1 Gbyte under MS-DOS 5.0.

Enabled Drives up to 8 Gbytes can be used under MS-DOS 5.0 (default entry).

Disabled Drives up to 1 Gbyte can be used under MS-DOS 5.0.



Back up the data on your large capacity drive before enabling the option. After enabling this option, the drive must be re-partitioned and high-level formatted with the DOS *FDISK* and *FORMAT* programs.

Display <CTRL> + <A> Message During BIOS Initialization

This option determines whether the

Press <Ctrl> <A> for SCSISelect (TM) Utility!
message appears on your screen during system bootup.

If this setting is disabled, you can still invoke the SCSI configuration program by pressing + at system bootup.

Enabled The message is displayed during startup (default entry).

Disabled The message is not displayed during startup.

Multiple LUN Support

This option determines whether booting from a SCSI device that has multiple LUNs (Logical Unit Numbers) is supported.

Enabled The SCSI device will be used as the startup drive.

Disabled The SCSI device will not be used as the startup drive (default entry).

BIOS Support for Bootable CD-ROM

This option determines for booting from a CD-ROM drive. The CD-ROM must emulate a floppy disk or hard disk drive.

Enabled It is possible to boot from the CD-ROM (default entry).

Disabled It is not possible to boot from the CD-ROM.

BIOS Support for Int 13 Extensions

This option determines whether the SCSI BIOS supports disks with more than 1024 cylinders. The default setting is *Enabled*.

Enabled Hard disk drives with more than 1024 cylinders are supported (default entry).

Disabled Hard disk drives with more than 1024 cylinders are not supported.

Support for Ultra SCSI Speed

This option determines whether the SCSI controller BIOS supports the fast transfer rate 40 Mbyte/s at 16-bit data transfer.

Enabled 40 Mbyte/s transfer rate is supported.

Disabled The function is disabled (default entry).



Change the default setting if you have connected ultra-wide SCSI devices to the SCSI controller.

SCSI Disk Utilities

When you select the *SCSI Disk Utilities* menu item, you are shown a list of all the devices connected to the SCSI bus. You are also offered two menus for hard disk drives: *Verify* and *Format Disk*.

Verify

With *Verify* you can have a selected hard disk drive checked. All defects that are detected will be entered in the existing error list for the hard disk.

Format Disk

With *Format Disk* a selected hard disk is formatted in low-level format. Normally hard disks are already formatted in low-level format. You should use this menu item only if you want to erase the hard disk completely and regenerate the error list.

Eliminating errors on the SCSI controller

Most problems with the onboard ultra-wide SCSI controller occur when SCSI devices are prepared (e.g. termination) and connected to the SCSI bus. Check the following points if you have problems with the ultra-wide SCSI controller or the connected SCSI devices:

- Are all SCSI devices supplied with power?
- Are the SCSI and power cables connected correctly on the SCSI device?
- Is the SCSI cable connected correctly to the system board?
- Has each SCSI device and the onboard SCSI controller been set to a different SCSI ID?
- Are the SCSI devices and the onboard SCSI controller correctly terminated?
- Is the SCSI controller activated in the system BIOS (*BIOS-Setup*)?
- Is parity checking either enabled or disabled on all SCSI devices on the SCSI bus?

SCSI BIOS messages

The following messages can appear during system startup if you have enabled the SCSI BIOS:

Device connected, but not ready

The SCSI device connected to the ultra-wide SCSI controller does not react to commands from the SCSI controller. Set *Send Start Unit Command* to *Yes* in the *SCSI-Setup* for the SCSI device concerned. If the message still appears, check the settings required for the SCSI device in its documentation.

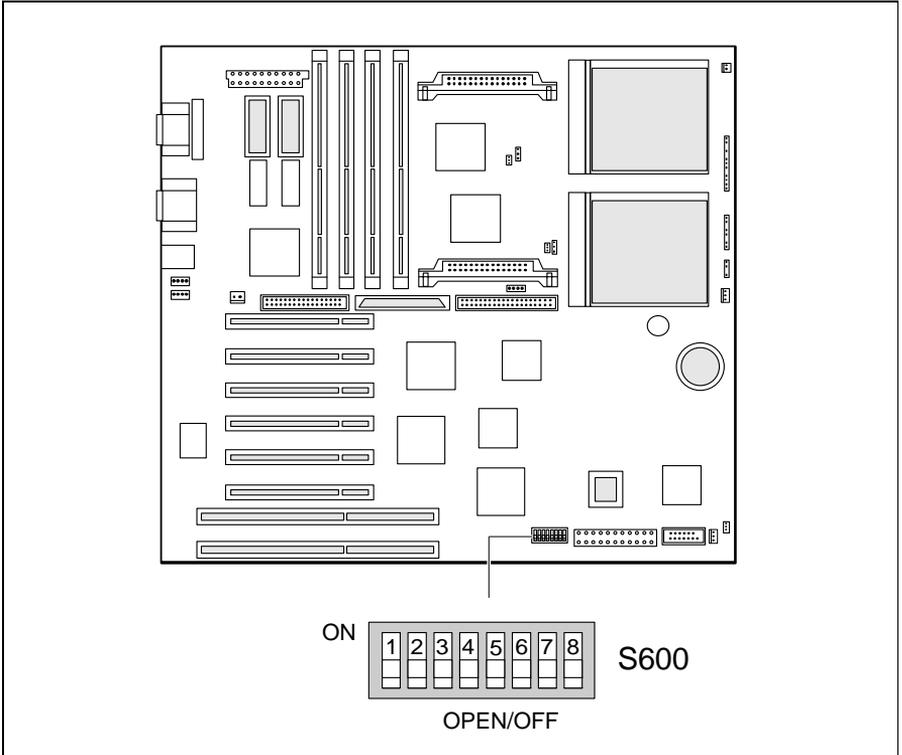
Start unit request failed

The SCSI BIOS could not issue a start unit command to the SCSI device. Call the *SCSI-Setup* and set *Send Start Unit* to *No* for the SCSI device concerned.

Time-out failure during ...

A timeout has occurred. Check the SCSI bus termination. Remove the SCSI cable from the ultra-wide SCSI controller and restart the system. If system startup is successful, check the SCSI cable. One of the SCSI devices may be defective. Check the SCSI devices.

Settings on the system board



Switch 1 = System BIOS recovery
Switch 2 = must be set to *open*
Switch 3 = Write-protection for system BIOS

Switch 4 = write protection for floppy disk drive
Switch 5, 6, 7, 8 = clock speed

Recovering System BIOS - switch 1

Switch 1 enables recovery of the old system BIOS after an attempt to update has failed. To restore the old BIOS you need a Flash BIOS Diskette (call customer service). The existing BIOS settings are meaningless for restoring the system BIOS (e.g. the *Security* menu in the *Flash Write* field).

OPEN The System BIOS is started with the system BIOS from the system module (default setting).

ON The system is started from the Flash BIOS Diskette in drive A. A recovery of the system BIOS is executed.



If switch 1 is set to *ON*, switch 3 must be set to *OPEN (OFF)*.

Write protection for System BIOS - switch 3

Switch 3 enables and disables system BIOS updating. Before an update of the system BIOS can be carried out, write protection for the system BIOS must also be disabled in the *BIOS Setup* (in the *Security menu*, the *Flash Write* field must be set to *Enabled*). If you wish to update your system BIOS, please consult our customer service.

OPEN System BIOS can be overwritten (default setting).

ON System BIOS is write protected.

Write protection for floppy disk drive - switch 4

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 write protection in *BIOS setup* must be disabled (in menu *Security*, the field *Diskette Write* must be set to *Enabled*).

OPEN Read, write and delete floppy disks is possible (default setting).
ON The floppy disk drive is write protected.

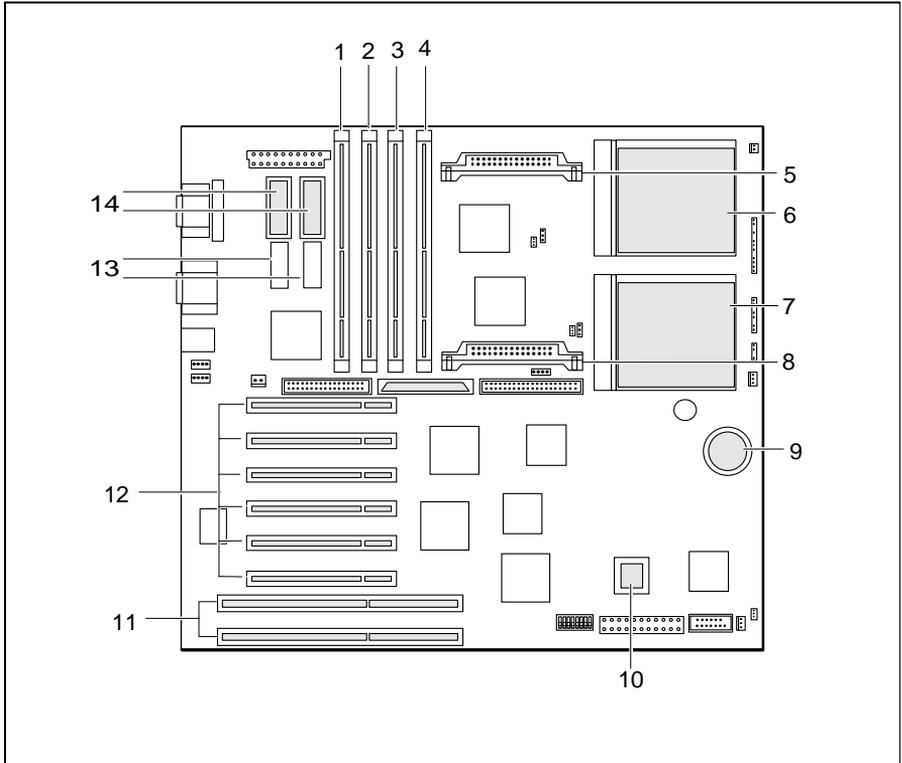
Clock speed - switch 5, 6, 7 and 8



The switch may only be set as specified in the table below for the particular processors used.

processor	switch 5	switch 6	switch 7	switch 8
166 MHz	open	open	on	on
200 MHz	open	on	open	on

Extensions on the system board



- | | |
|---|---|
| 1 = Main memory bank 3 | 8 = Voltage converter for processor 1 |
| 2 = Main memory bank 2 | 9 = Lithium battery |
| 3 = Main memory bank 1 | 10 = Flash BIOS |
| 4 = Main memory bank 0 | 11 = ISA slots - from below: 1 and 2 |
| 5 = Voltage converter for processor 2 | 12 = PCI slots - from below: 2, 3, 4, 5, 6, 7 |
| 6 = Second processor (optional) | 13 = Video memory 1 Mbyte |
| 7 = First processor/OverDrive processor | 14 = Video memory 1 Mbyte (optional) |

Upgrading main memory

Four locations (bank 0 to bank 3) are available on the system board for memory modules. You may use memory modules of 32, 64, 128 or 256 Mbytes. You may only use fast memory modules (access time = 60 ns or less) Equipping must be performed starting with bank 0 and continuing through to bank 3.

Installing memory modules

- ▶ Flip the levers to the right and left of the location outwards.
- ▶ Push the memory module into the relevant location until it snaps in place. The lateral levers will then flip back up.

Removing a memory module

- ▶ Flip the levers to the right and left of the location outwards.
- ▶ Pull the memory module out of its location.

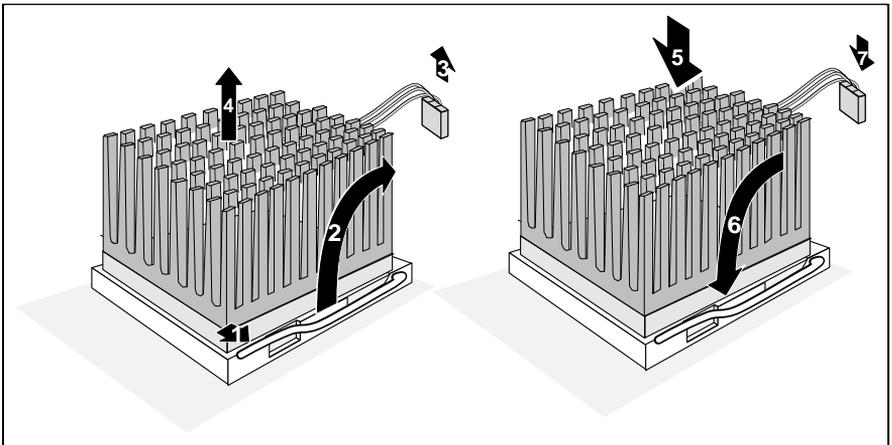
Replacing the processor

The system board can be upgraded with a faster standard processor, with a second processor or with an OverDrive processor.



The second processor must have the same clock rate as the first. A suitable multiprocessor operating system must be used if dual operation is required. On the processor modules you may use only processors of the same type.

The second processor is installed in the free socket provided (socket type 8). The OverDrive processor is installed in the socket for the first processor after removing the old processor (socket type 8). The old processor must be removed for this. The OverDrive processor cannot be operated with a second processor (dual mode). A second processor must therefore be removed before using the OverDrive processor.



- ▶ Push the lever in the direction of the arrow (1) and lift it as far as it will go (2).
- ▶ Pull the connector of the processor's temperature sensor (3) and lift the processor out of the slot (4).
- ▶ Insert the new processor in the slot. Because of the arrangement of the rows of pins on the bottom of the processor, the processor is inserted correctly when it clicks into the socket softly (5).



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 (6).
- ▶ Reinsert the connector of the processor's temperature sensor (7) into the correct socket on the processor module.
- ▶ Set the switches 5, 6, 7 and 8 depending on the processor which is installed.

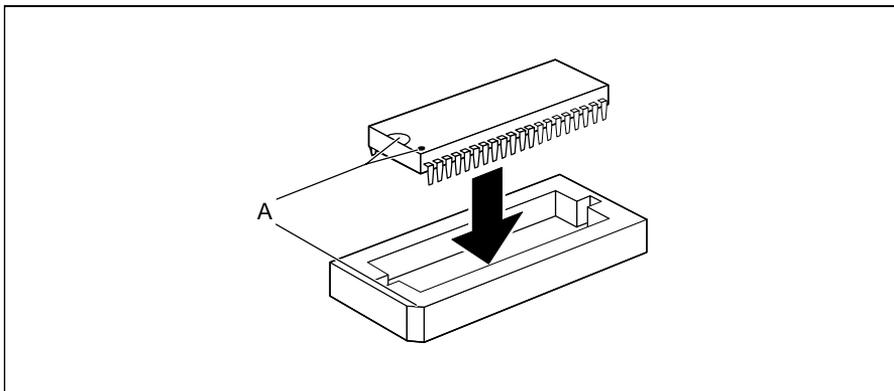
Upgrading the video memory

If your system board 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 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 in the socket for video memory that the mark on the upper side of the DRAM component (A) matches the position of the mark on the socket.

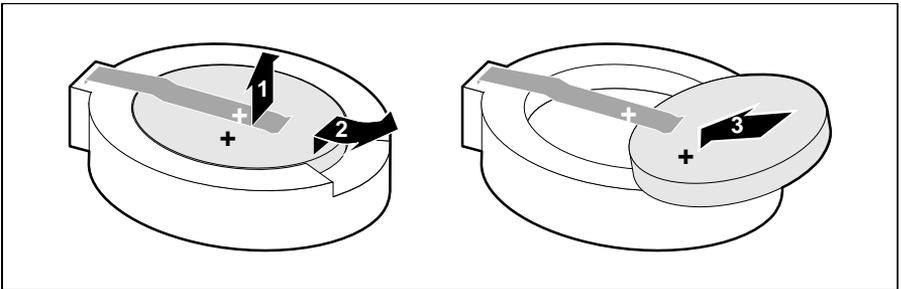
Replacing the lithium battery



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. 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).
- ▶ Set the time and/or date in the BIOS Setup.

Error messages

This chapter contains error messages generated by the system board.

nn Stuck Key

Release the key on the keyboard (nn is the hexadecimal code for the key).

BIOS Update for installed CPU failed

Microcode loading to the processor has failed. The system BIOS probably does not contain the correct microcode for the processor (e.g. after exchanging the processor). Switch the device off and on again. If the message is still displayed, please contact your sales office or customer service.

Diskette drive A error

Diskette drive B error

Check the entry for the floppy disk drive in the *Main* menu and the entry for the floppy disk controller in the *Advanced - Peripheral Configuration* menu of the *BIOS Setup*. Check the connections to the diskette drive.

Extended RAM Failed at offset: nnnn

Failing Bits: nnnn

System RAM Failed at offset: nnnn

Switch the PC off and on again. If the message is still displayed, please contact your sales office or customer service.

Failure Fixed Disk 0

Failure Fixed Disk 1

Fixed Disk Controller Failure

Check the entry for the hard disk drive in the *Main* menu and the entry for the IDE drive controller in the *Advanced - Peripheral Configuration* menu of the *BIOS Setup*. Check the hard disk drive's connections and jumpers.

Incorrect Drive A - run SETUP

Incorrect Drive B - run SETUP

Correct the entry for the diskette drive in the *Main* menu of the *BIOS Setup*.

Keyboard controller error

Connect another keyboard. If the message is still displayed, please contact your sales office or customer service.

Keyboard error

Check that the keyboard is connected properly.

Memory Configuration has changed - Run Setup

The amount of main memory has changed since the last system startup (e.g. memory modules have been added). Call the *BIOS-Setup*. The main memory

Error messages

size, minus 1 Mbyte must be entered in the *Extended Memory* field of the *Main* menu. If the value is not correct, check the entries in the *Memory Status* submenu. Also check that the memory modules are correctly inserted and if any are defective. The new memory size is recognized as being correct upon exit from the *BIOS-Setup*.

Missing or invalid NVRAM token

Switch the PC off and on again. If the message is still displayed, please contact your sales office or customer service.

Monitor type does not match CMOS - Run SETUP

Correct the entry for the monitor type in the *Main* menu of the *BIOS Setup*.

Operating system not found

Check the entry for the hard disk drive in the *Main* menu and the entry for the IDE drive controller in the *Advanced - Peripheral Configuration* menu of the *BIOS Setup*.

Parity Check 1

Parity Check 2

Switch the PC off and on again. If the message is still displayed, please contact your sales office or customer service.

Previous boot incomplete - Default configuration used

By pressing function key **F2** you can check and correct the settings in *BIOS Setup*. By pressing function key **F1** the system starts with incomplete system configuration. If the message is still displayed, please contact your sales office or customer service.

Real time clock error

Call the *BIOS Setup* and enter the correct time in the *Main* menu. If the message is still displayed, please contact your sales office or customer service.

Server Management Configuration NVRAM Bad - defaults loaded

The server management configuration data in non-volatile memory is defective. The default settings will be loaded automatically. Check and correct the entries in the *Server* menu of the *BIOS-Setup*. Call the *Server Configuration Utility (SCU)* and correct all entries.

Storage Extension Group xy

Configuration error, x Storage Extensions(s) found, configured are y SE(s).

Device List: k1, k2 ...

The specified number of storage expansion units (SEs) in the *BIOS Setup* menu *Server - Storage Extensions - Number of connected SE* is incorrect. Check

how many SEs within the group are connected at the server and change the setting in BIOS Setup. Check whether you have assigned the same device ID twice.

xy = Group number

x = Number of storage extensions found on the communication bus

y = Number of SEs entered in *Number of connected SE*

k1, k2 ... = Device ID of the storage extensions found

System battery is dead - Replace and run SETUP

Replace the lithium battery on the system module and redo the settings in the BIOS Setup.

System cache error - Cache disabled

Switch the PC off and on again. If the message is still displayed, please contact your sales office or customer service.

System CMOS checksum bad - run SETUP

Call the *BIOS Setup* and correct the previously made entries or set the default entries.

System timer error

Switch the PC off and on again. If the message is still displayed, please contact your sales office or customer service.

Uncorrectable ECC DRAM error

Unknown PCI error

Switch the PC off and on again. If the message is still displayed, please contact your sales office or customer service.

Messages d'erreur

Ce chapitre vous donne les messages d'erreur générés par le BIOS du système.

`nn Stuck Key`

Libérez la touche du clavier (*nn* est le code hexadécimal de cette touche).

`Diskette drive A error`

`Diskette drive B error`

Vérifiez dans le menu *Main* du *BIOS setup* l'entrée correspondant au lecteur de disquettes et dans le menu *Advanced - Peripheral Configuration* du *BIOS setup* l'entrée correspondant au contrôleur du lecteur de disquettes. Vérifiez les connecteurs du lecteur de disquettes.

`Extended RAM Failed at offset: nnnn`

`Failing Bits: nnnn`

`System RAM Failed at offset: nnnn`

Redémarrez votre PC. Si le message réapparaît, adressez-vous à votre revendeur ou à notre S.A.V.

`Failure Fixed Disk 0`

`Failure Fixed Disk 1`

`Fixed Disk Controller Failure`

Vérifiez dans le menu *Main* du *BIOS setup* l'entrée correspondant au lecteur de disque dur et dans le menu *Advanced - Peripheral Configuration* du *BIOS setup* l'entrée correspondant au contrôleur du lecteur de disque dur IDE. Vérifiez les connecteurs du lecteur de disquettes.

`Incorrect Drive A - run Setup`

`Incorrect Drive B - run Setup`

Entrez dans le menu *Main* du *BIOS setup* et paramétrez correctement l'entrée correspondant au lecteur de disquettes.

`Keyboard controller error`

Connectez un autre clavier. Si le message réapparaît, adressez-vous à votre revendeur ou à notre S.A.V.

`Keyboard error`

Assurez-vous que le clavier est correctement connecté.

`Missing or invalid NVRAM token`

Redémarrez votre PC. Si le message réapparaît, adressez-vous à votre revendeur ou à notre S.A.V.

`Monitor type does not match CMOS - RUN SETUP`

Entrez dans le menu *Main* du *BIOS setup* et paramétrez correctement l'entrée correspondant au type d'écran.

`Operating system not found`

Vérifiez dans le menu *Main* du *BIOS setup* les entrées correspondant au lecteur de disque dur et au lecteur de disquettes.

Parity Check 1

Parity Check 2

Redémarrez votre PC. Si le message réapparaît, adressez-vous à votre revendeur ou à notre S.A.V.

Previous boot incomplete - Default configuration used

Appuyez la touche de fonction **F2** pour vérifier et corriger les valeurs dans

BIOS Setup. Si vous appuyez la touche de fonction **F1** le PC démarre en configuration incomplète. Si le message réapparaît, adressez-vous à votre revendeur ou à notre S.A.V.

Real time clock error

Appelez le *BIOS setup* et entrez l'heure exacte dans le menu *Main*. Si le message réapparaît, adressez-vous à votre revendeur ou à notre S.A.V.

Storage Extension Group xy

Configuration error, x Storage Extensions(s) found, configured are y SE(s).

Device List: k1, k2 ...

Le nombre d'unités d'extension mémoire (SE) indiqué dans le menu *Server - Storage Extensions - Number of connected SE* du *Setup du BIOS* est incorrect.

Vérifiez le nombre de SE qui, au sein du groupe, sont connectées au serveur et modifiez le réglage dans le *Setup du BIOS*. Vérifiez si vous n'avez pas attribué deux fois une identification d'unité.

xy = numéro de groupe

x = nombre d'unités d'extension mémoire (SE) détectées sur le bus de communication

y = nombre de SE indiqué sous *Number of connected SE*

k1, k2 ... = identification des unités d'extension mémoire

System battery is dead - Replace and run SETUP

Remplacez la batterie au lithium sur la carte système et procédez à de nouveaux réglages dans le *BIOS setup*.

System Cache Error - Cache disabled

Redémarrez votre PC. Si le message réapparaît, adressez-vous à votre revendeur ou à notre S.A.V.

System CMOS checksum bad - run SETUP

Appelez le *BIOS setup* et corrigez les réglages effectués en dernier lieu ou activez les réglages standard.

System timer error

Redémarrez votre PC. Si le message réapparaît, adressez-vous à votre revendeur ou à notre S.A.V.

Messages d'erreur

Uncorrectable ECC DRAM error

Unknown PCI error

Redémarrez votre PC. Si le message réapparaît, adressez-vous à votre revendeur ou à notre S.A.V.

Mensajes de error

Aquí se describen los mensajes de error que son generados por el BIOS-Setup.

`nn Stuck Key`

Desbloquee la tecla del teclado (*nn* es el código hexadecimal para la tecla).

`BIOS Update for installed CPU failed`

Ha fallado la carga del microcódigo del procesador. Posiblemente, el BIOS de sistema no contiene el microcódigo adecuado para el procesador (p.ej. tras cambiar el procesador). Desconecte el sistema y conéctelo de nuevo. Si siguiese presentándose este error, contacte con el distribuidor o el servicio de postventa.

`Diskette drive A error`

`Diskette drive B error`

En el menú *Main* del *BIOS-Setup* verifique el valor correspondiente a la unidad de disquete y en el menú *Advanced - Peripheral Configuration* el valor para el controlador de la unidad de disquete. Controle las conexiones de la unidad de disquete.

`Extended RAM Failed at offset: nnnn`

`Failing Bits: nnnn`

`System RAM Failed at offset: nnnn`

Arranque de nuevo el PC. Si sigue visualizándose este mensaje, diríjase a su distribuidor o a nuestro servicio de postventa.

`Fixed Disk 0 Failure`

`Fixed Disk 1 Failure`

`Fixed Disk Controller Failure`

En el menú *Main* del *BIOS-Setup* verifique los valores para la unidad de disco duro y en el menú *Advanced - Peripheral Configuration* el valor para el controlador de unidad IDE. Controle las conexiones y los puentes de la unidad de disco duro.

`Incorrect Drive A - run Setup`

`Incorrect Drive B - run Setup`

Defina correctamente el registro de la unidad de disquete en el menú principal del *BIOS-Setup*.

`Keyboard controller error`

Conecte otro teclado. Si sigue visualizándose este mensaje, diríjase a su distribuidor o a nuestro servicio de postventa.

`Keyboard error`

Compruebe si el teclado está conectado correctamente.

`Memory Configuration has changed - Run Setup`

La capacidad de la memoria ha cambiado desde el último arranque del sistema (p.ej. por añadir módulos de memoria). Active el *Setup de BIOS*. El

campo *Extended Memory* en el menú *Main* debe contener un valor inferior a 1 Mb para la capacidad de la memoria principal. Si el valor no fuera correcto, verifique los ajustes en el submenú *Memory Status*. Verifique también si los módulos de memoria están insertados correctamente o si están defectuosos. Al salir del *Setup de BIOS*, la nueva capacidad de memoria es reconocida como la correcta.

Missing or invalid NVRAM token

Arranque de nuevo el PC. Si sigue visualizándose este mensaje, diríjase a su distribuidor o a nuestro servicio de postventa.

Monitor type does not match CMOS - RUN SETUP

Defina correctamente en el menú principal del *BIOS-Setup* el registro para el tipo de pantalla..

Operating system not found

Compruebe en el menú principal del *BIOS-Setup* los registros de la unidad de disco duro y de la unidad de disquete.

Parity Check 1

Parity Check 2

Arranque de nuevo el PC. Si sigue visualizándose este mensaje, diríjase a su distribuidor o a nuestro servicio de postventa.

Previous boot incomplete - Default configuration used

Pulsando la tecla **F2** puede verificar y corregir los registros del BIOS-

Setup. Pulsando la tecla **F1**, el sistema arranca con la configuración

incompleta. Si sigue visualizándose este mensaje, diríjase a su distribuidor o a nuestro servicio de postventa.

Real time clock error

Active el *BIOS-Setup* y registre la hora correcta en el menú principal (*Main*). Si sigue visualizándose este mensaje, diríjase a su distribuidor o a nuestro servicio de postventa..

Server Management Configuration NVRAM Bad - defaults loaded

Los datos de configuración de la administración del servidor en la memoria no volátil no son correctos. Se cargan automáticamente los valores predeterminados. Verifique y corrija los valores en el menú *Extended Memory* del *Setup de BIOS*. Active *Server Configuration Utility (SCU)* y corrija todos los valores.

Storage Extension Group xy
Configuration error, x Storage Extensions(s) found,
configured are y SE(s).
Device List: k1, k2 ...

El número de unidades de expansión de memoria (SE) indicado en el menú *Server - Storage Extensions - Number of connected SE* del Setup de BIOS es incorrecto. Verifique el número de SE que están conectadas al servidor dentro del grupo y modifique el ajuste en el Setup de BIOS. Verifique si ha asignado dos veces una misma identificación de dispositivo.

xy = Número de grupo

x = Número de unidades de expansión de memoria encontradas en el bus de comunicación

y = Número de unidades de expansión de memoria (SE) registrado en *Number of connected SE*

k1, k2 ... = Identificación de dispositivo de las unidades de expansión de memoria

System battery is dead - Replace and run SETUP

Sustituya la pila de litio en el módulo de sistema y repita las operaciones de ajuste en el *BIOS-Setup*.

System Cache Error - Cache disabled

Arranque de nuevo el PC. Si sigue visualizándose este mensaje, diríjase a su distribuidor o a nuestro servicio de postventa.

System CMOS checksum bad - run SETUP

Active el *BIOS-Setup* y corrija los últimos registros hechos o ajuste los registros estándar.

System timer error

Arranque de nuevo el PC. Si sigue visualizándose este mensaje, diríjase a su distribuidor o a nuestro servicio de postventa.

Uncorrectable ECC DRAM error

Unknown PCI error

Arranque de nuevo el PC. Si sigue visualizándose este mensaje, diríjase a su distribuidor o a nuestro servicio de postventa.

Messaggi di errore

I messaggi di errore emessi dal system BIOS sono descritti qui in seguito.

`nn Stuck Key`

Liberate il tasto dalla tastiera (*nn* indica il codice esadecimale del tasto).

`BIOS Update for installed CPU failed`

Il caricamento del microcode nel processore è fallito. Probabilmente nel BIOS di sistema non è presente il microcode adatto (p.es. sostituzione del processore). Spegnete e riaccendete l'apparecchio. Se il messaggio ricompare rivolgetevi al Vostro rivenditore oppure al nostro servizio di assistenza.

`Diskette drive A error`

`Diskette drive B error`

Controllate nel *BIOS-Setup*, menu *Main*, il valore indicato per il drive dei dischetti e nel menu *Advanced - Peripheral Configuration* il valore per il controller del drive dei dischetti. Controllate i collegamenti del drive per dischetti.

`Extended RAM Failed at offset: nnnn`

`Failing Bits: nnnn`

`System RAM Failed at offset: nnnn`

Riavviate nuovamente il PC. Se il messaggio ricompare rivolgetevi al Vostro rivenditore o al nostro servizio di assistenza tecnica..

`Fixed Disk 0 Failure`

`Fixed Disk 1 Failure`

`Fixed Disk Controller Failure`

Controllate nel *BIOS-Setup*, menu *Main*, i valori per il drive del disco fisso e nel menu *Advanced - Peripheral Configuration* il valore per il controller del driver IDE. Controllate i collegamenti ed i ponticelli del drive del disco fisso.

`Incorrect Drive A - run Setup`

`Incorrect Drive B - run Setup`

Impostate nel *BIOS-Setup* del menu principale (*Main*) il valore corretto per il drive per dischetti.

`Keyboard controller error`

Collegate un'altra tastiera. Se il messaggio ricompare rivolgetevi al Vostro rivenditore o al nostro servizio di assistenza tecnica.

`Keyboard error`

Controllate che la tastiera sia collegata correttamente.

`Memory Configuration has changed - Run Setup`

L'espansione della memoria principale è cambiata dall'ultimo avvio del sistema (p.es. inserimento di moduli di memoria). Richiamate il *Setup BIOS*.

Nel campo *Extended Memory* del menu *Main* le dimensioni dell'espansione della memoria principale devono essere inferiori ad 1 Mbyte. Se il valore non è corretto verificate nel sottomenu *Memory Status*. Controllate inoltre se i moduli di memoria sono inseriti correttamente oppure se questi sono difettosi. Uscendo dal *Setup BIOS* le nuove dimensioni di memoria vengono riconosciute valide.

Missing or invalid NVRAM token

Riavviate nuovamente il PC. Se il messaggio ricompare rivolgetevi al Vostro rivenditore o al nostro servizio di assistenza tecnica.

Monitor type does not match CMOS - RUN SETUP

Impostate nel *BIOS-Setup* del menu principale (*Main*) il valore corretto per il tipo di monitor.

Operating system not found

Controllate nel *BIOS-Setup* del menu principale i valori indicati per il drive per il disco rigido e per il drive per dischetti.

Parity Check 1

Parity Check 2

Riavviate nuovamente il PC. Se il messaggio ricompare rivolgetevi al Vostro rivenditore o al nostro servizio di assistenza tecnica.

Previous boot incomplete - Default configuration used

Premendo il tasto funzione **F2** potete verificare e correggere le impostazioni nel *BIOS-Setup*. Premendo il tasto funzione **F1**, il PC viene avviato con la configurazione di sistema completa. Se il messaggio ricompare rivolgetevi al Vostro rivenditore o al nostro servizio di assistenza tecnica.

Real time clock error

Richiamate il *BIOS-Setup* ed inserite nel menu principale (*Main*) l'ora esatta. Se il messaggio ricompare rivolgetevi al Vostro rivenditore o al nostro servizio di assistenza tecnica.

Server Management Configuration NVRAM Bad - defaults loaded

I dati di configurazione della gestione del server nella memoria non volatile non sono corretti. Le impostazioni standard vengono caricate automaticamente. Controllate e correggete nel *Setup BIOS* i valori nel menu *Server*. Richiamate il *Server Configuration Utility (SCU)* e correggete tutti i valori.

Messaggi di errore

Storage Extension Group xy
Configuration error, x Storage Extensions(s) found,
configured are y SE(s).
Device List: k1, k2 ...

Il numero delle unità di espansione di memoria (SE) indicato nel menu di setup BIOS *Server - Storage Extensions - Number of connected SE* è errato. Controllate quante SE sono collegate al server all'interno del gruppo e modificate l'impostazione nel setup BIOS. Controllate se avete assegnato due volte un ID apparecchio.

xy = numero gruppi

x = numero delle unità di espansione di memoria trovate sul bus di comunicazione

y = numero delle SE indicate in *Number of connected SE*

k1, k2 ... = ID apparecchio delle unità di espansione di memoria individuate

System battery is dead - Replace and run SETUP

Sostituite la batteria al litio dell'unità di sistema ed inserite nuovamente i valori di impostazione nel *BIOS-Setup*.

System Cache Error - Cache disabled

Riavviate nuovamente il PC. Se il messaggio ricompare rivolgetevi al Vostro rivenditore o al nostro servizio di assistenza tecnica..

System CMOS checksum bad - run SETUP

Richiamate il *BIOS-Setup* e correggete gli ultimi valori impostati oppure indicati i valori standard.

System timer error

Riavviate nuovamente il PC. Se il messaggio ricompare rivolgetevi al Vostro rivenditore o al nostro servizio di assistenza tecnica.

Uncorrectable ECC DRAM error

Unknown PCI error

Riavviate nuovamente il PC. Se il messaggio ricompare rivolgetevi al Vostro rivenditore o al nostro servizio di assistenza tecnica.

Felmeddelanden

Nedan beskrivs de felmeddelanden som system-BIOS matar ut på systemkomponenten.

nn Stuck Key

Frigör den angivna tangenten (*nn* är tangentens hexadecimalkod).

Diskette drive A error

Diskette drive B error

Kontrollera inställningarna för diskettenheten i menyn *Main* i *BIOS-Setup*-menyn och inställningarna för diskettenhets-controllern i menyn *Advanced - Peripheral Configuration*. Kontrollera att diskettenheten är korrekt ansluten.

Extended RAM Failed at offset: nnnn

Failing Bits: nnnn

System RAM Failed at offset: nnnn

Starta upp PCn på nytt. Om meddelandet fortfarande visas bör du kontakta din återförsäljare eller vår kundservice.

Fixed Disk 0 Failure

Fixed Disk 1 Failure

Fixed Disk Controller Failure

Kontrollera inställningarna för hårddiskenheten i menyn *Main* i *BIOS-Setup*-menyn och inställningarna för IDE-drivenhets-controllern i menyn *Advanced - Peripheral Configuration*. Kontrollera hårddiskenhetens kontakter och kopplingspaneler.

Incorrect Drive A - run Setup

Incorrect Drive B - run Setup

Korriger inställningen för diskettenheten i menyn *Main* i *BIOS-Setup*-menyn.

Keyboard controller error

Anslut ett annat tangentbord. Om meddelandet fortfarande visas bör du kontakta din återförsäljare eller vår kundservice.

Keyboard error

Kontrollera att tangentbordet är korrekt anslutet.

Missing or invalid NVRAM token

Starta upp PCn på nytt. Om meddelandet fortfarande visas bör du kontakta din återförsäljare eller vår kundservice.

Monitor type does not match CMOS - RUN SETUP

Korriger inställningarna för bildskärmtypen i menyn *Main* i *BIOS-Setup*-menyn.

Operating system not found

Kontrollera inställningarna för hårddisken och diskettenheten i menyn *Main* i *BIOS-Setup*-menyn.

Parity Check 1

Parity Check 2

Starta upp PCn på nytt. Om meddelandet fortfarande visas bör du kontakta din återförsäljare eller vår kundservice.

Previous boot incomplete - Default configuration used

Om du trycker på funktionstangenten **F2**, kan du kontrollera och korrigera

inställningarna i *BIOS-Setup*. Om du trycker på funktionstangenten **F1** startas

PCn med den ofullständiga systemkonfigurationen. Om meddelandet fortfarande visas bör du kontakta din återförsäljare eller vår kundservice.

Real time clock error

Ropa upp *BIOS-Setup*-menyn och ställ in korrekt klockslag i menyn *Main*. Om meddelandet fortfarande visas bör du kontakta din återförsäljare eller vår kundservice..

Storage Extension Group xy

Configuration error, x Storage Extensions(s) found, configured are y SE(s).

Device List: k1, k2 ...

Det angivna antalet minnesutökningsenheter (SE) i *BIOS-Setup* menyn *Server - Storage Extensions - Number of connected SE* är felaktigt. Kontrollera hur många SE:s som är anslutna inom servergruppen och ändra inställningen i *BIOS-Setup*. Kontrollera om apparat-ID har specificerats två gånger.

xy = gruppnummer

x = antal påträffade SE:s (minnesutökningsenheter) på kommunikationsbussen

y = Antal angivna SE:s under *Number of connected SE*

k1, k2 ... = apparat-ID för påträffade minnsexpansionsenheter

System battery is dead - Replace and run SETUP

Byt ut litiumbatteriet på systemkomponenten och genomför inställningarna i *BIOS-Setup*-menyn på nytt.

System Cache Error - Cache disabled

Starta upp PCn på nytt. Om meddelandet fortfarande visas bör du kontakta din återförsäljare eller vår kundservice.

System CMOS checksum bad - run SETUP

Ropa upp *BIOS-Setup*-menyn. Korrigera de senast gjorda inställningarna eller ställ in standardvärdena igen.

System timer error

Starta upp PCn på nytt. Om meddelandet fortfarande visas bör du kontakta din återförsäljare eller vår kundservice.

Uncorrectable ECC DRAM error

Unknown PCI error

Starta upp PCn på nytt. Om meddelandet fortfarande visas bör du kontakta din återförsäljare eller vår kundservice.

Foutmeldingen

Vervolgens worden de foutmeldingen beschreven die het BIOS-systeem op de systeembouwgroep geeft.

nn Stuck Key

Laat de toets van het toetsenbord los (*nn* is de hexadecimale code voor de toets).

Diskette drive A error

Diskette drive B error

Controleer in de *BIOS-Setup*, in het menu *Main*, de instelling voor het disktestation en in het menu *Advanced - Peripheral Configuration* de instelling voor de disktestation-controller. Controleer de aansluitingen van het disktestation.

BIOS Update for installed CPU failed

Het laden van de microcode naar de processor is mislukt. Waarschijnlijk zit de bij de processor passende microcode niet in de systeem-BIOS (b.v. als de processor werd vervangen). Schakel het toestel uit en weer aan. Als de melding opnieuw verschijnt, dient u contact op te nemen met uw filiaal of onze klantendienst.

Extended RAM Failed at offset: nnnn

Failing Bits: nnnn

System RAM Failed at offset: nnnn

Start de PC opnieuw. Als de melding opnieuw verschijnt, neem dan a.u.b. contact op met uw dealer of met onze klantendienst..

Fixed Disk 0 Failure

Fixed Disk 1 Failure

Fixed Disk Controller Failure

Controleer in de *BIOS-Setup*, in het menu *Main*, de instellingen voor de harde schijf en in het menu *Advanced - Peripheral Configuration* de instelling voor de IDE-controller. Controleer de aansluitingen en de doorverbindingen van de harde schijf.

Incorrect Drive A - run Setup

Incorrect Drive B - run Setup

Stel in de setup van het BIOS, in het menu *Main*, het disktestation op de juiste wijze in.

Keyboard controller error

Sluit een ander toetsenbord aan. Als de melding opnieuw verschijnt, neem dan contact op met uw dealer of met onze klantendienst.

Keyboard error

Controleer of het toetsenbord goed is aangesloten.

Memory Configuration has changed - Run Setup

De omvang van het hoofdgeheugen is gewijzigd sinds de laatste systeemstart (b.v. toevoegen van geheugenmodules). Roep de *BIOS-Setup* op. In het menu *Main* moet in het veld *Extended Memory* de grootte van het hoofdgeheugen min 1 MB staan. Als deze waarde niet klopt, controleert u de waarden in het submenu *Memory Status*. Controleer ook of de geheugenmodules goed ingestoken zijn en of de geheugenmodules niet defect zijn. Als u de *BIOS-Setup* verlaat, wordt de nieuwe geheugengrootte als geldig herkend.

Missing or invalid NVRAM token

Start de PC opnieuw. Als de melding opnieuw verschijnt, neem dan a.u.b. contact op met uw dealer of met onze klantendienst.

Monitor type does not match CMOS - RUN SETUP

Stel in de setup van het *BIOS*, in het menu *Main*, het monitortype op de juiste wijze in.

Operating system not found

Controleer in de setup van het *BIOS*, in het menu *Main*, de instellingen van de harde schijf en het diskteststation..

Parity Check 1

Parity Check 2

Start de PC opnieuw. Als de melding opnieuw verschijnt, neem dan a.u.b. contact op met uw dealer of met onze klantendienst.

Previous boot incomplete - Default configuration used

Als u op de functietoets **F2** drukt, kunt u in de setup van het *BIOS* de instelling uittesten en verbeteren. Als u op de functietoets **F1** drukt, start de PC met de onvolledige systeemconfiguratie. Als de melding opnieuw verschijnt, neem dan a.u.b. contact op met uw dealer of met onze klantendienst.

Real time clock error

Roep de setup van het *BIOS* op en stel in het menu *Main* de juiste tijd in. Als de melding opnieuw verschijnt, neem dan a.u.b. contact op met uw dealer of met onze klantendienst.

Server Management Configuration NVRAM Bad - defaults loaded

De servermanagement configuratiegegevens in het niet vluchtige geheugen zijn defect. De standaardinstellingen worden automatisch geladen. Controleer en corrigeer in de *BIOS-Setup* de waarden in het menu *Server*. Roep de *Server Configuration Utility (SCU)* op en corrigeer alle waarden.

Storage Extension Group xy

Configuration error, x Storage Extensions(s) found,

configured are y SE(s).

Device List: k1, k2 ...

Het opgegeven aantal geheugenuitbreidingseenheden (SE) in het BIOS-Setup menu *Server - Storage Extensions - Number of connected SE* is verkeerd. Ga na hoeveel SE in de groep op de server aangesloten zijn en wijzig de instelling in de BIOS-Setup. Ga na of u een toestel-ID dubbel heeft toegekend.

xy = groepsnummer

x = aantal gevonden geheugenuitbreidingseenheden op de communicatiebus

y = aantal SE in *Number of connected SE*

k1, k2 ... = toestel-ID van de gevonden geheugenuitbreidingseenheden

System battery is dead - Replace and run SETUP

Vervang de lithiumbatterij op het motherboard en stel de BIOS opnieuw in.

System Cache Error - Cache disabled

Start de PC opnieuw. Als de melding opnieuw verschijnt, neem dan a.u.b. contact op met uw dealer of met onze klantendienst.

System CMOS checksum bad - run SETUP

Roep de setup van het *BIOS* op en corrigeer wat u voor het laatst heeft ingesteld of stel de defaultwaarden in.

System timer error

Start de PC opnieuw. Als de melding opnieuw verschijnt, neem dan a.u.b. contact op met uw dealer of met onze klantendienst.

Uncorrectable ECC DRAM error

Unknown PCI error

Start de PC opnieuw. Als de melding opnieuw verschijnt, neem dan a.u.b. contact op met uw dealer of met onze klantendienst.

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