Systembaugruppe D1000
Systemboard D1000

Technisches Handbuch
Technical Manual

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System board D1000

Technical Manual

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Ausgabe Mai 1997

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Introduction

This description applies for the System board D1000 with PCI bus (Peripheral Component Interconnect).

On the PCI bus this board contains an Adaptec 7880 ultra-wide SCSI controller and an EtherExpress PRO/100B LAN controller. The associated drivers are contained on the diskettes supplied with your device. Please take note of the hints in the Installation guide "Windows NT Setup".

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 server.

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

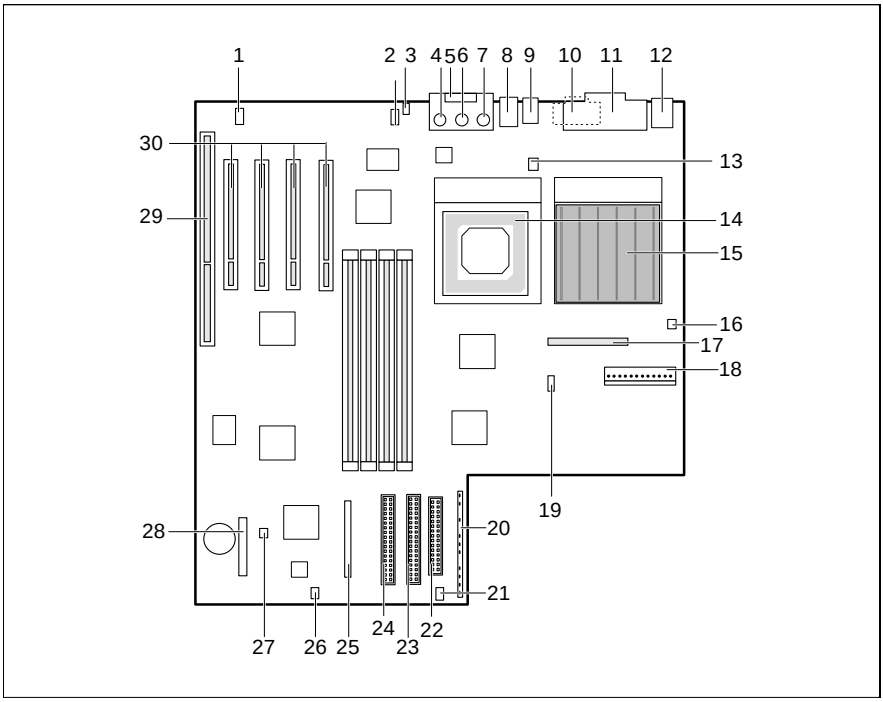
Texts in italics indicate commands or menu items.

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

Features

- System board in ATX format
- Dual processor system (second processor optional)
- 64-bit microprocessor Pentium (200 MHz) with 16 Kbytes first-level cache (8 Kbytes data cache, 8 Kbytes code cache) and 256 Kbytes or 512 Kbytes internal second-level cache
- Prepared for Pentium Pro OverDrive-Processor (OverDrive - ready)
- RAM on the system board:
  16 MB to 512 MB (buffered DIMM, EDO 3.3 V)
- Error recognition via ECC
- 256 Kbytes Flash BIOS
- PCI bus
- 3 PCI slots (with busmaster capability) and 1 PCI/ISA slot (shared)
- EIDE hard disk controller connected to PCI bus for up to four IDE drives (e.g. EIDE hard disk drives, ATAPI CD ROM drive)
- Real-time clock/calendar with integrated battery backup
- Floppy disk controller (up to 2.88 Mbytes format)
- Internal connector for wavetable board, voice modem, CD / Audio
- Connector for Audio (microphone input, line out) and Game/Midi
- Parallel interface (ECP- and EPP-compatible)
- 2 Serial ports (1 x internal, 1 x external)
- 2 USB (Universal Serial Bus) ports
- PS/2 mouse port, PS/2 keyboard port
- Power saving and security functions
- EtherExpress PRO/100B PCI LAN subsystem, busmaster 32 bit directly at PCI bus with MII standard interface for access via IEEE 802.3µ
- RJ-45 Ethernet port, 10BaseT and 100Base-TX capable
- Ultra-wide SCSI controller Adaptec 7880, for 8 bit and 16 bit devices with transfer rate up to 40 Mbyte/s
- Audio controller on the ISA-BUS (Crystal CS4236), soundblaster-compatible, synthesizer, supports MPU-401

Ports and connectors



1 = Wavetable connector
2 = CD Line in
3 = Voice modem port
4 = Audio port (microphone port)
5 = Game/Midi port
6 = Audio port (Line In)
7 = Audio port (Line Out)
8 = RJ-45 Ethernet port
9 = 2 USB
10 = Serial port 1
11 = Parallel port
12 = PS/2 mouse (top) and keyboard connection (bottom)
13 = Connector for processor fan 2
14 = Second Processor (optional)
15 = First processor
16 = Connector for processor fan 1
17 = Voltage conversion module for second processor (optional)
18 = Power supply
19 = Serial port 2
20 = LED connectors (front panel)
21 = SCSI LED
22 = Floppy disk drive
23 = IDE drives 1 and 2 (primary)
24 = IDE drives 3 and 4 (secondary)
25 = SCSI connection
26 = Fan connection for add-on boards
27 = Jumpers for memory speed
28 = Jumper for configuration
29 = ISA bus slot
30 = PCI bus slots

Resource table

	possible IRQ	Possible Address	Possible DMA
Keyboard	IRQ1		
Serial port COM2 / IrDA	IRQ3	02F8, 03F8 02E8, 03E8	
Serial port COM1	IRQ4	03F8, 02F8 03E8, 02E8	
Floppy disk drive controller	IRQ6		DMA2
Parallel port LPT1	IRQ5, IRQ7	0278, 0378	DMA1, DMA3
RTC	IRQ8		
Audio controller Base address: Joystick: MPU 401: Adlib:	IRQ5, IRQ7, IRQ11, IRQ12, IRQ15 IRQ9	 0220-022F 0240-024F 0260-026F 0280-028F 0200-0207 0300-0301 0330-0331 0338-038B	DMA0, DMA1, DMA3
Mouse controller	IRQ12	0388	
Numeric processor	IRQ13		
IDE controller 1	IRQ14		
IDE controller 2	IRQ15		

The interrupts, addresses and DMAs set in the factory are underlined.
"Possible IRQ" = You can use these interrupts for the corresponding application
"Possible address" = You can use this address for the corresponding application
"Possible DMA" = You can use these DMAs for the corresponding application

i Please note that a resource cannot be used by two applications at the same time.

Important notes

Take note of the safety hints provided in the manual "Safety and Ergonomics", in the chapter "Important notes" in the Operating manual of your device and in the following paragraphs.

- Incorrect replacement of the lithium battery may lead to a risk of explosion. It is therefore essential to observe the instructions in the section „Add-on modules“ - „Replacing the lithium battery“.
  The lithium battery must be replaced with an identical battery or a battery type recommended by the manufacturer (CR2032).
- Data cables to peripheral devices must be adequately shielded.
- Keep this Operating Manual together with your device. If you pass on the device to third parties, you should also pass on the Operating Manual.
- Do not throw lithium batteries into the trashcan. The lithium battery must be disposed of in accordance with local regulations concerning special waste.

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.

CE

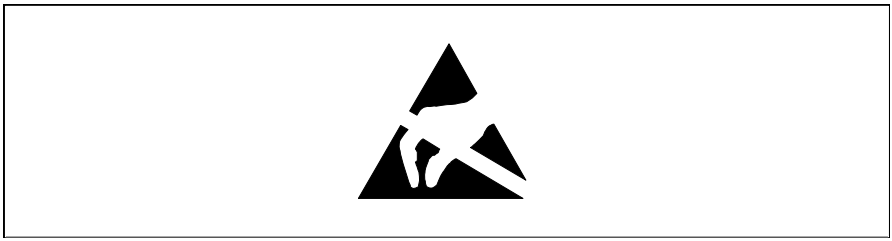
This board complies with the requirements of the EEC directive 89/336/EEC with regard to "Electromagnetic compatibility".

Conformity was tested in the typical configuration of a Personal Computer.

When installing the board, observe the specific installation notes in the Operating Manual or Technical Manual for the appropriate device.

Notes on installing and removing boards

Boards with ESDs (electrostatic sensitive devices) may be identified by the following label:



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

- You must always discharge yourself (e.g. by touching a grounded object) before working with boards containing ESDs.
- The equipment and tools you use must be free of static charges.
- Pull out the power plug before inserting or pulling out boards containing ESDs.
- Always hold boards with ESDs by their edges.
- Never touch pins or conductors on boards fitted with ESDs.

Settings in BIOS Setup

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

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

If you want to change settings in *BIOS Setup*, you must:

- call *BIOS Setup*
- select the relevant menu
- select the field for the entry you want to change
- change the entry
- make other settings, if required
- save the settings and exit *BIOS Setup*

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

Calling BIOS Setup

▶ Restart your system.

The following message will be displayed at the bottom of the screen:

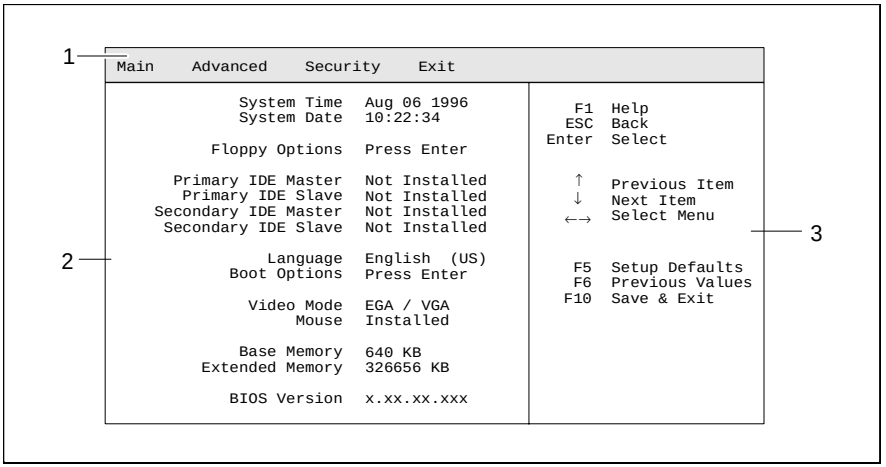
```
Press F1 to enter Setup
```

▶ Press the function key F1 .

i If you have assigned a setup password, you must now enter this password and confirm it with the Enter key.

The *Main* menu of *BIOS Setup* is displayed on the screen.

Example of the *Main* menu of the *BIOS Setup*



1 = Menu bar
2 = Working area
3 = Operations bar

The *BIOS Setup* screen is divided into the following areas:

- Menu bar (1)
  In the menu bar, you can select the different *BIOS Setup* menus.
- Working area (2)
  The working area displays the setting options (fields) of the selected menus. You can set the entries in the displayed fields according to your requirements. You can change entries in these submenus.
- Operations bar (3)
  The operations bar indicates which keys you can use to operate *BIOS Setup*.

i You can display more information on the functions of the keys by pressing **F1**.

In the various *BIOS-Setup* menus you can define the settings for the following topics:
Main - System functions
Advanced - Extended system configuration
Security - Security functions
Exit - Save and exit

Main menu - System settings

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

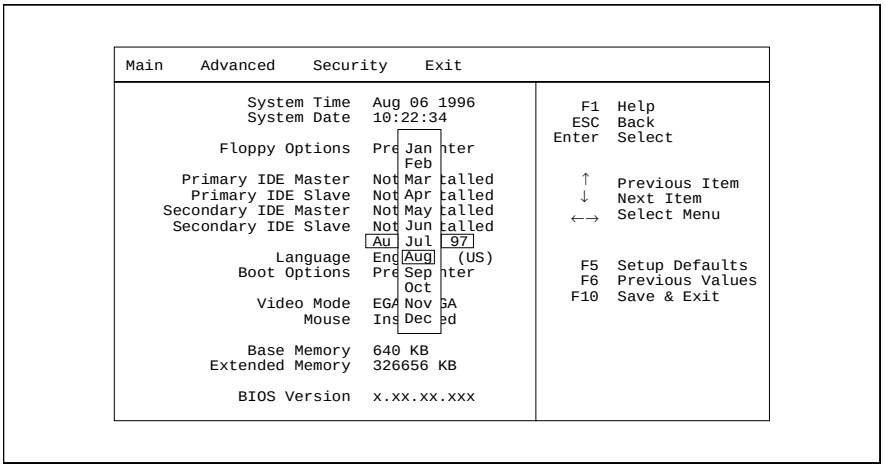
- Time (in the field marked *System Time*)
- Date (in the field marked *System Date*)
- Floppy disk drive (in the *Floppy Options* field)
- Hard disk drive (in the fields marked *IDE)*
- System boot (in the field of *Boot Options*)

```
Main    Advanced    Security    Exit

          System Date   Aug 06 1996          F1   Help
          System Time   07:42:19            ESC   Back
                                           Enter   Select
       Floppy Options   Press Enter
                                              ↑    Previous Item
   Primary IDE Master   Not Installed          ↓    Next Item
    Primary IDE Slave   Not Installed        ←→    Select Menu
Secondary IDE Master    Not Installed
 Secondary IDE Slave    Not Installed          F5   Setup Defaults
                                               F6   Previous Values
            Language    English  (US)          F10   Save & Exit
       Boot Options     Press Enter

         Video Mode     EGA / VGA
              Mouse     Installed

        Base Memory     640 KB
    Extended Memory     326656 KB

        BIOS Version    x.xx.xx.xxx
```

Example for *Main* menu

System Time / System Date - Time and Date

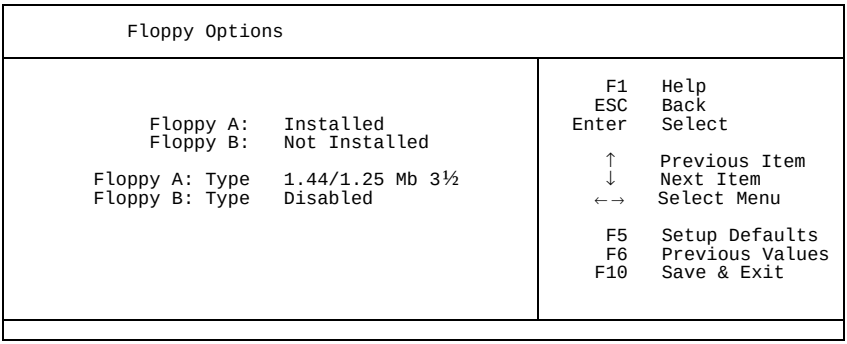
The *System Time* field and the *System Date* field show the time and date respectively according to the device. The time is shown in the format hours:minutes:seconds and the date is shown in the format month/day/year.



Example for submenu *System Date*

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 „Add-on modules“ - „Replacing the lithium battery“).

Floppy Options - Floppy disk drive



Example for submenu *Floppy Options*

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).

Disabled A floppy disk drive is not installed.
(Default entry for Diskette B:).

Primary IDE Master - Hard disk drive

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

```
          Primary IDE Master   Not Installed

 IDE Device Configuration   Auto Configured      F1   Help
                                                ESC   Back
                Cylinders   0                 Enter   Select
                    Heads   0
                  Sectors   0                    ↑    Previous Item
         Maximum Capacity   0 MB                ↓    Next Item
                                               ←→    Select Menu
     IDE Translation Mode   Auto Detected
  Multiple Sector Setting   Auto Detected       F5   Setup Defaults
Fast Programmed I/O Modes   Auto Detected       F6   Previous Values
                                               F10   Save & Exit
```

Example for the submenu *Primary IDE Master*

i You should change the default settings only if you are connecting an additional IDE drive to one of the two IDE connectors.

The maximum transfer rate of two IDE drives connected to the same connector is determined by the slowest one. Fast hard disks should therefore be connected to the first IDE connector and identified as *Primary IDE Master* or *Primary IDE Slave*. Slower hard disks or other IDE drives (e.g. CD ROM drives) should be connected to the second IDE connector and identified as *Secondary IDE Master* or *Secondary IDE Slave*.

The following description of the setting options for *Primary IDE Master* also applies to *Secondary IDE Master*, *Primary IDE Slave* and *Secondary IDE Slave*. The default settings depend on the installed drive.

IDE Device Configuration - Hard disk configuration

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

Auto Configured
: 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 yourself.
Examples of user-defined entries (IDE drives):

hard disk	hard disk capacity			
parameter	850 Mbyte	1,2 Gbyte	1,6 Gbyte	2,1 Gbyte
Cylinders	1654	2484	3148	4092
Heads	16	16	16	16
Sectors	63	63	63	63
Write Precomp	None	None	None	None

Disabled
: You cannot change the hard disk parameters (*Cylinders, Heads, Sector/Track* and *Write Precomp*). An IDE drive has not been installed.

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 *IDE Device Configuration* field to *User Definable*.

IDE Translation Mode

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

Never change the translation mode for formatted hard disks.

Standard CHS
Default addressing for hard disks with less than 1024 cylinders).

Logical Block
Logical blocks.

Extended CHS
Extended addressing for hard disks with more than 1024 cylinders).

Auto detected (Default entry)
The BIOS recognizes the IDE hard disk drive's translation mode for LBA (Logical Block Addressing).

Multiple sector setting - Sectors/block

Sets the sectors transferred per block for each interrupt. You will find the setting for optimum performance in the specifications for the hard disk drive.

Disabled, 4 Sectors/Block, 8 Sectors/Block, Auto detected (default entry)

Fast Programmed I/O Mode - Transfer rate

This field defines the transfer rate of the IDE hard disk drive.

Disabled 0,8 Mbyte/s to 2 Mbyte/s

Auto detected (Default entry)
The fastest mode supported by your hard disk will be selected (up to PIO4, 10 Mbyte/s to 16 Mbyte/s)

Boot Options - System startup

This submenu allows to select the settings for the system startup of the device.

```
           System startup - Boot Options

         First Boot Device   Floppy            F1    Help
        Second Boot Device   Hard Disk        ESC    Back
         Third Boot Device   Disabled       Enter    Select
        Fourth Boot Device   Disabled
                                               ↑     Previous Item
              System Cache   Enabled           ↓     Next Item
                  Num Lock   Off              ←→    Select Menu

              Setup Prompt   Enabled           F5    Setup Defaults
       Hard Disk Pre-delay   Disabled          F6    Previous Values
                                              F10    Save & Exit
Typematic Rate Programming   Default
      Scan User Flash Area   Enabled
```

Example for submenu *Boot Options*

Boot device - Sequence and drive for booting the system

defines the sequence in which the system BIOS searches the drives for system files to start the operating system.

First Boot Device:

Disabled
Floppy (default setting)
Hard Disk
CD ROM
Network

Second, Third, Fourth Boot Device:

Disabled (Default setting for *Third, Fourth Boot Device*)
Floppy
Hard Disk (Default setting for *Second Boot Device*)
Network

System Cache

defines whether the cache is used or not.

Enabled	The cache is used. (Default entry).
Disabled	The cache is not used.

Num Lock

By pressing the Num Lock key you switch between the upper case level (Num Lock lamp lit) and lower case level (Num Lock lamp off) of the calculator keypad.

On At upper-case level (Num Lock lamp lit) the digit and comma keys are active.

Off At lower-case level (Num Lock lamp off) the cursor control functions are active in the calculator keypad (default entry).

Setup Prompt

This field specifies whether the setup prompt *Press F1 to enter SETUP* is displayed when the system is started.

Enabled The setup prompt *Press F1 to enter SETUP* is displayed when the system is started (default entry).

Disabled The setup prompt is not displayed.

Hard Disk Pre-Delay - Delayed start

Defines the pre-delay when the hard disk drives are started.

3, 6, 9, 12, 15, 21, 30 Seconds
All hard disk drives start after the specified pre-delay.

Disabled All hard disk drives start without a pre-delay (default entry).

Typematic Rate Programming

Determines the speed of character repetition after a key has been held down for a specific length of time.

Default 60 characters per second after 250 ms delay (default entry).

Override Can be set to 3-30 characters per second after 250-1000 ms delay.

Scan User Flash Area

Defines whether additional code stored in the User Flash Area should be executed.

Only change this setting if this code is corrupted (for example after a failed BIOS update). When you reboot this area will then be skipped.

Enabled Code in the User Flash Area will be executed. (Default entry)

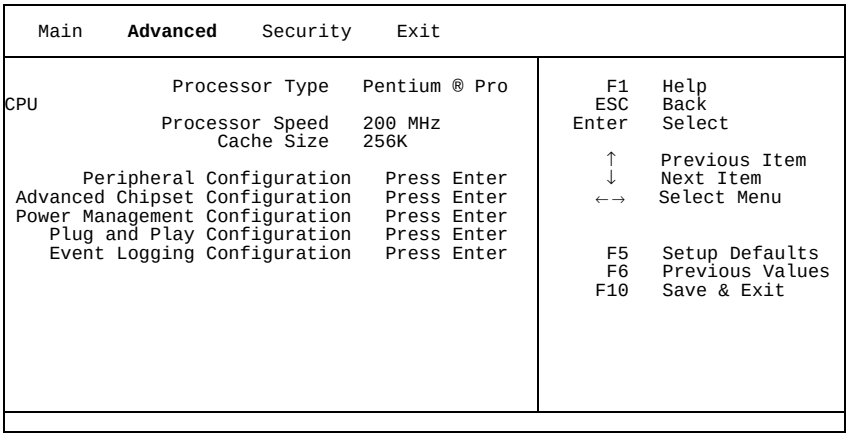
Disabled Code in the User Flash Area will be skipped.

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:

- Interfaces and controllers (in the *Peripheral Configuration* submenu)
- System settings (in the *Advanced Chipset Configuration* submenu)
- Energy saving functions (in the *Power Management Configuration* submenu)
- Plug&Play functionality (in the *Plug and Play O/S* field)
- Logging system events (in the *Event Logging Configuration* submenu)



Example for the *Advanced* menu

Peripheral Configuration - Interfaces and controllers

In this submenu you can set the interfaces and controllers.

```
          Peripheral Configuration

  Primary PCI IDE Interface   Auto Configured      F1   Help
Secondary PCI IDE Interface   Auto Configured     ESC   Back
           Floppy Interface   Auto Configured   Enter   Select
    Serial Port 1 Interface   Auto Configured
    Serial Port 2 Interface   Auto Configured       ↑   Previous Item
    Parallel Port Interface   Auto Configured       ↓   Next Item
         Parallel Port Type   Compatible           ←→   Select Menu
             USB Controller   Disabled
 Hardware Monitor Interface   Enabled

     Primary PCI IDE Status   Enabled              F5   Setup Defaults
   Secondary PCI IDE Status   Enabled              F6   Previous Values
              Floppy Status   Enabled             F10   Save & Exit
       Serial Port 1 Status   COM1 3F8 IRQ4
       Serial Port 2 Status   COM2 2F8 IRQ3
       Parallel Port Status   LPT1 378 IRQ7
```

Example for submenu *Peripheral Configuration*

Primary / Secondary PCI IDE Interface - IDE drive controller

This field allows you to enable and disable the built-in IDE hard disk controller. The associated interrupts (IRQ 14 for the first connector, IRQ 15 for the second connector) will only be available if no IDE hard disk drive is physically connected.

i The *Auto Configured* entry only appears when the *Main* menu is entered in the *IDE Device Configuration Auto Configured* field of the *Primary IDE Master* submenu.

Auto Configured
: The first IDE hard disk controller is enabled (default entry). Two IDE drives (preferably high-speed hard disks) can be attached to the first (primary) connector. IRQ14 is occupied.

Disabled
: The two IDE hard disk controller are disabled.

Floppy Interface - Floppy disk drive controller

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

Auto Configured
(Default entry)

Enabled The floppy disk controller is enabled - IRQ 6 is used.

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

Serial 1 / Serial 2 - Serial ports

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

COM1 (3F8h, IRQ3), COM2 (2F8h, IRQ4), COM3 (3E8h, IRQ3), COM4 (2E8h, IRQ4),
The serial port is set to the shown address and interrupt.

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

Disabled The serial interface is disabled.

Parallel Port Interface

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

LPT1 (378h, IRQ5), LPT2 (278h, IRQ5), LPT3 (3BCh, IRQ5)
The parallel port is set to the shown address and interrupt.

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

Disabled The parallel interface is disabled.

Parallel Port Type - Parallel data transfer

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 Mbytes/s. and 2.4 Mbytes/s. These modes will only work with peripheral devices which support them. In addition, the field *Parallel* must be set to *378h* or *278h*.

Compatible	The port functions as an output port only (default entry).
Bidirection	Data can be transferred in both directions across the port.
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. The DMA channel required is defined by the system BIOS on the principle of Plug & Play.
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.

USB Controller

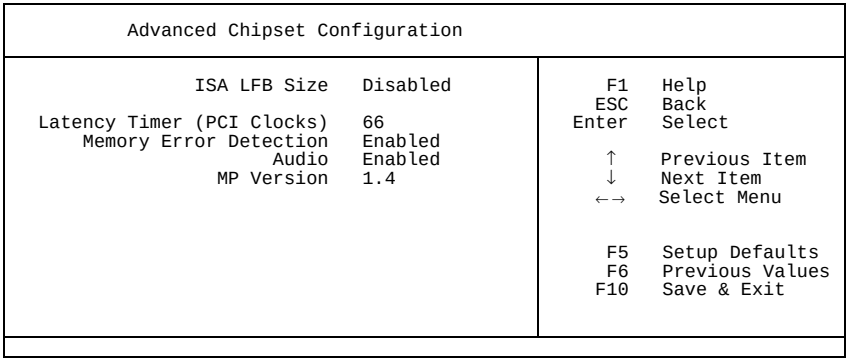
This field is used to enable and disable the USB controller (Universal Serial Bus) on the system board.

Enabled	The system BIOS determines which system resources (interrupts, addresses) are occupied.
Disabled	The USB controller is disabled (default entry).

Hardware Monitor Interface

for future applications.

Advanced Chipset Configuration - Making advanced system settings



Example for submenu *Advanced Chipset Configuration*

ISA LFB (= Linear Frame Buffer) size

Masks a contiguous ISA LFB (1, 2, 4 MB in size) into the RAM area of 15, 14 or 12 to 16 MB.

1, 2, 4 MB The specified size of ISA LFB will be masked in.

Disabled The ISA LFB is not masked in (default entry).

Latency Timer

The field defines the lowest number of clock cycles in which a burst can be transferred on the PCI bus. The number of clock cycles can be entered direct via the keyboard (default entry: *66*).

Possible settings:

0-256

Memory Error Detection

Enables data errors to be detected and corrected with memory modules equipped for this purpose.

Enabled Error Correction Code (ECC) is enabled when all memory modules support ECC (default entry).

Disabled Error Correction Code (ECC) is disabled.

Audio - Audio controller

The audio controller is enabled or disabled.

Enabled The system BIOS determines which system resources (interrupts, addresses, DMAs) are occupied (default entry).

Disabled The audio controller is disabled.

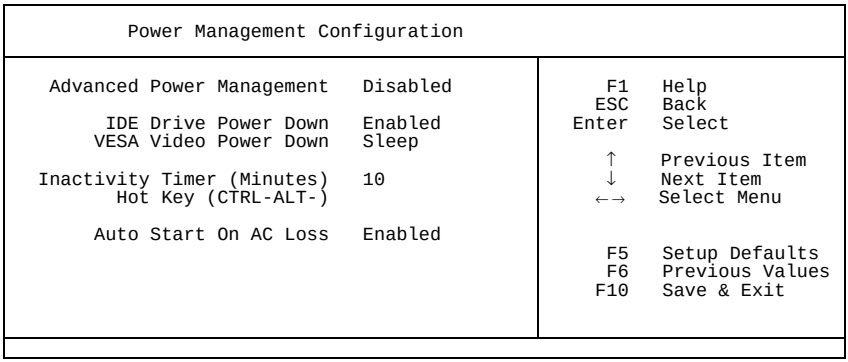
MP Version - Multiprocessor version

This entry is used to select the version of the multiprocessor specification.

Possible settings:
1.1, *1.4*

Do not change the factory setting *1.1*.

Power Management Configuration



Example for submenu *Power Management Configuration*

Advanced Power Management (APM)

Defines whether an operating system with APM capability is to utilize APM functionality.

Enabled An operating system with APM capability will utilize APM functionality.

Disabled An operating system with APM capability will not utilize APM functionality (default entry).

IDE Drive Power Down

This field defines the amount of time without system activity before the motor of the hard disk drive is switched off. As soon as there is a hard disk access, the motor is switched back on.

Enabled If the hard disk is not accessed for a predefined period of time, it's motor switches off automatically.

Disabled The PC does not switch off the hard disk drive.

VESA Video Power Down

This field defines the amount of time without system activity before the monitor is switched off. As soon as there is a hard disk access, the monitor is switched back on.

i Refer to the Operating Manuals for your operating system and monitor to see whether your system supports this setting.

Standby, *Suspend*, *Sleep* (default entry),

Disabled The monitor does not switch off.

Inactivity Timer (Minutes)

This field defines the amount of time without system activity before the system (motor of the hard disk drive and operating system) is switched off.

Default entry = *10 min.*

i Refer to the Operating Manual for your operating system to see whether your operating system supports this setting.

Hot Key (CTRL-ALT-)

Defines a key combination with the keys CTRL + ALT + letter key which you can press to switch your device immediately to energy saving mode.

i Refer to the Operating Manual for your operating system to see whether your operating system supports this setting.

Auto Start On AC Loss

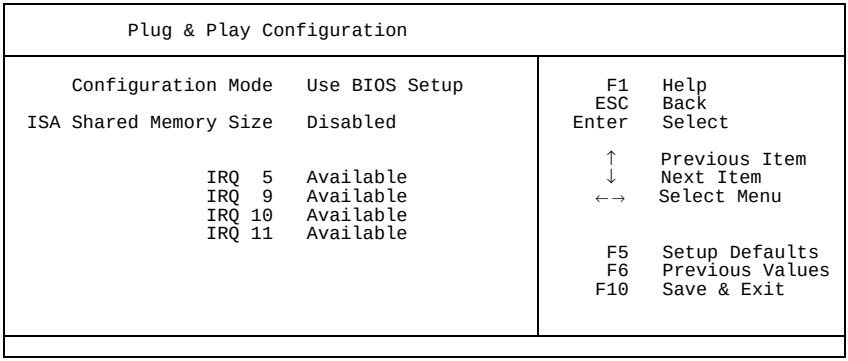
Defines whether the system automatically reboots after a power outage.

Enabled The system will automatically reboot after a power outage (default entry).

Disabled The system will not reboot after a power outage.

Plug & Play Configuration

calls the submenu in which you can make the settings for the PCI slots and the ISA and PCI boards.



Example for submenu *Plug & Play Configuration*

Configuration Mode - Plug&Play functionality

defines the Plug&Play functionality. Modules that support Plug&Play are automatically recognized and installed.

Use BIOS Setup

The operating system takes over some of the Plug&Play functions (default entry). You should select this setting only if the operating system supports Plug&Play.

Use PnP OS

The System BIOS takes over the complete Plug&Play functionality.

ISA Shared Memory Size

By default this function is disabled, thus enhancing the performance of your device.

Defines the size of the ISA Shared Memory that will not be copied into the faster RAM (for example of add-on modules).

If your ISA module uses a Dual Ported RAM in the associated Shared Memory, select the Shared Memory size that may not be copied into the RAM.

16, 32, 48, 64, 80, 86 KB
Defines the Shared Memory size of the add-on module. The value required is specified in the documentation for the add-on module.

Disabled The entire ROM area is copied to fast RAM (default entry).

ISA Shared Memory Base Address

If you select a memory size in the *ISA Shared Memory Size* field, the line *ISA Shared Memory Base Address* is displayed. Select one of the start addresses offered for the Shared Memory in the RAM.

IRQ 5, 9, 10, 11

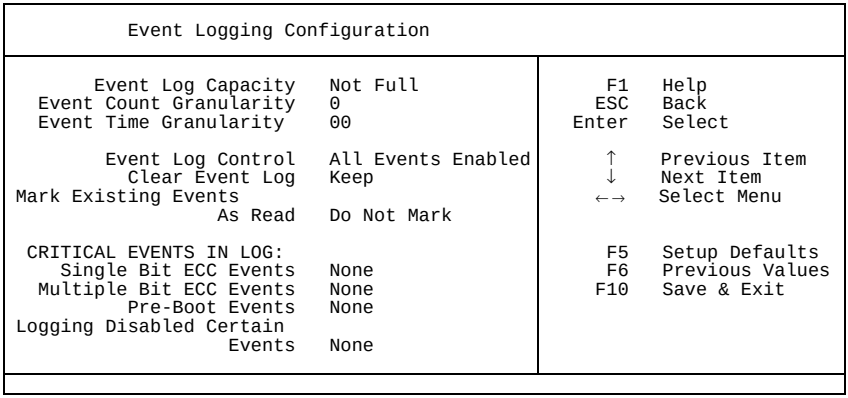
defines which interrupt is used by ISA boards.

Available The interrupt is available (default entry).

Used By ISA Card
The interrupt is assigned to an ISA card.

Event Logging Configuration

calls the submenu in which you can make the settings for logging the system events.



Example for submenu *Event Logging Configuration*

Event Log Capacity

Indicates whether the event log is full.

Event Count Granularity

Defines the number of events that will be skipped before the next event is written into the event log.

Default entry = *0*

Event Time Granularity (Minutes)

Defines the time that must have elapsed before the next event is logged.

Default entry = *0 Minutes*

Event Log Control

Enables users to switch event logging on or off or to restrict it.

All Events Enabled
: All events are logged (default entry).

ECC Events Disabled
: Memory errors are not logged.

All Events Disabled
: Event logging is disabled.

Clear Event Log

Defines whether the event log will be cleared on the next POST (Power-On Self-Test).

Keep The event log will not be cleared (default entry).

On Next Boot The event log will be cleared on the next POST and the entry reset to *Keep*.

Mark Existing Events as Read

Marks all the events in the event log as read or not read.

Do Not Mark All entries are marked as not read (default entry).

Mark All entries are marked as read.

Critical Events in Log

Some critical events are listed. If you mark the corresponding field and press Enter, a submenu containing detailed information on the critical event will appear. The entries in the submenu are shown in the table below.

These three entries appear in every submenu.	Date of Last Occurrence Time of Last Occurrence Total Count of Events/Errors
Single Bit ECC Events	Memory Bank with Errors
Multiple Bit ECC Events	Memory Bank with Errors
Pre-Boot Events	POST ERRORS FOUND
Logging Disabled Certain Events*	Event Type Disabled

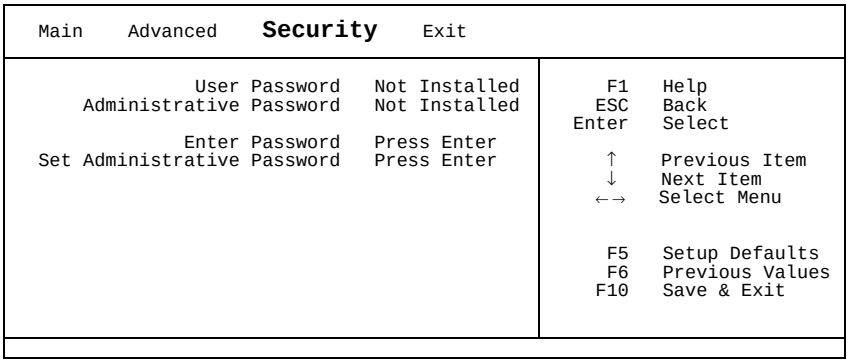
* not supported

If values other than *None* are displayed in the fields for *Critical Events in Log*, contact your customer service.

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 *Enter Password*)
- Protecting system boots (in the field marked *Set Administrative Password*)
- Prevent unexpected system startup (in the *Unattended Start* field)
- Enable hot key for security functions (in the *Security Hot Key* field)



Example for *Security* menu

If you assign passwords you can protect your system to varying degrees. The table below shows you which password you can use to modify which options.

Password assigned	**Administrator mode**	**User mode**	**Password to be entered when you boot your system**
None	All	All	None
Administrator	All	Restricted	None
User	--------	All	User
Administrator and user	All	Restricted	Administrator and/or user

User Password

This field indicates whether the appropriate password is installed or not.

Administrative Password

This field indicates whether the appropriate password is installed or not.

Enter Password

This field enables you to install the user password. If you install a User Password this will be prompted at system boot or callup of BIOS setup.
Mark the field and press the Return key. You can then enter and confirm the user password.

```
      Enter New Password
    Confirm New Password
--------------------------------
    Press Enter or TAB to Accept
         Press ESC to Abort
```

To accept, press the Enter or tab key.

After you have entered the user password the following appears:

```
       Password Installed!
    Press Any Key to Continue
```

To continue press any key.

If you have assigned a user password you can specify further settings.

Unattended Start

If a user password has been assigned, this prevents the keyboard being used by unauthorized parties.

If *Unattended Start* is enabled, the user password ensures that keyboard input is locked until the user password is entered.

Enabled After the system has booted the keyboard remains locked until the user password has been entered.

Disabled The keyboard is not locked (default entry).

Security Hot Key

Specifies a letter that is used to lock the keyboard with the key combination CTRL + ALT + letter. The user password must then be entered to unlock the keyboard.

Enabled Key combination has been assigned for the keyboard lock. If you confirm the key combination, the keyboard LED will flash. This indicates that the keyboard is locked.

Disabled No key combination has been assigned for locking the keyboard (default entry).

Set Administrative Password

This field enables you to install the administrative password. The administrative password prevents unauthorized access to your BIOS setup.
Mark the field and press the Return key. You can then enter and confirm the administrative password.

```
  Main    Advanced    Security    Exit

              User Password   Not Installed      F1   Help
    Administrative Password   Not Installed     ESC   Back
                                               Enter   Select
             Enter Password   Press Enter
Set Administrative Password   Press Enter         ↑    Previous Item
                                                  ↓    Next Item
                                                 ←→    Select Menu
   Enter New Password
  Confirm New Password

                                                  F5   Setup Defaults
  Press Enter or TAB to Accept                    F6   Previous Values
       Press ESC to Abort                        F10   Save & Exit
```

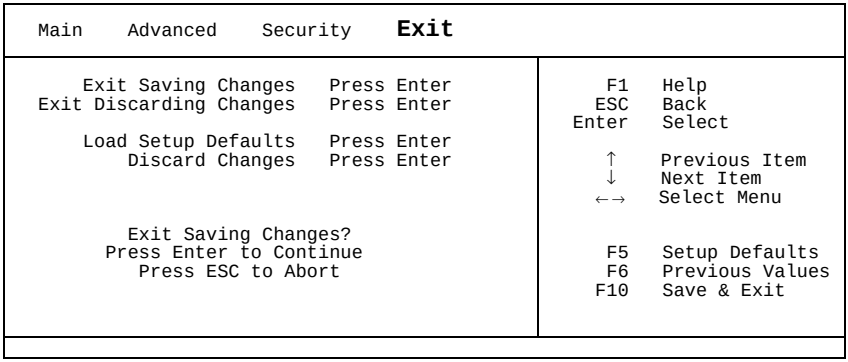
After you have assigned the administration password, a corresponding message is displayed.

```
Password Installed!
Press Any Key to Continue
```

To continue press any key.

Exit menu - Exiting BIOS Setup

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



Example for menu *Exit*

Exit Saving Changes

saves the settings you have made and exits BIOS Setup.

Exit Discarding Changes

exits BIOS Setup without saving the new settings.

Load Setup Default

reverts all settings to the default values.

Discard Changes - Previous entries

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

Settings in the SCSI Setup

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

The Ultra-wide SCSI controller (host adapter) is the interface between the system interface and devices with SCSI interfaces.

The Ultra-wide SCSI controller 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 Operating or Technical Manual.

Setting SCSI addresses (IDs) on devices

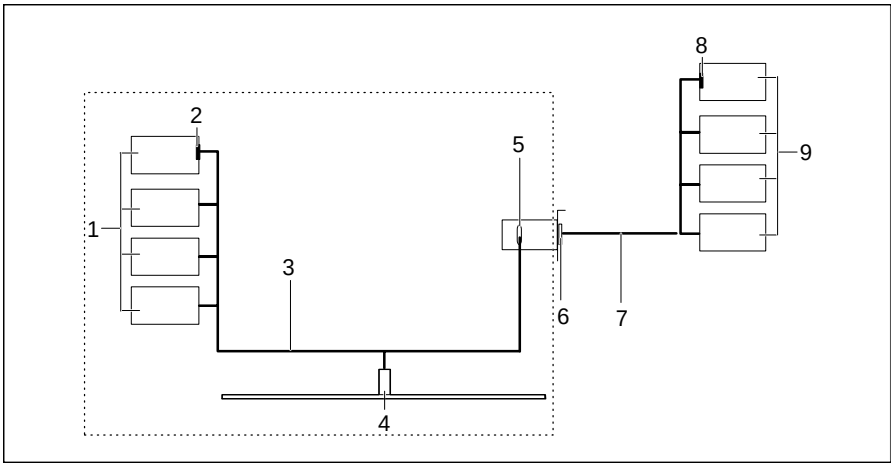
Each device which is connected to the SCSI controller must be set to a separate SCSI address (ID 0 through ID 15).

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.

To learn more about setting the SCSI address please refer to the descriptions of your SCSI devices.

Connecting SCSI devices



1 = Internal SCSI devices
2 = Terminating resistor at the last internal SCSI device
3 = Internal SCSI cable
4 = System board with SCSI connector
5 = Connector for internal SCSI cable of the ultra-wide SCSI terminator board
6 = Connector for external SCSI cable of the ultra-wide SCSI terminator board
7 = External SCSI cable
8 = Terminating resistor at the last external SCSI device
9 = External SCSI devices

SCSI devices are interlinked by a cable which runs from device to device. All the devices connected to a SCSI controller are on the same SCSI bus.

i Only single-ended SCSI devices may be linked to the ultra-wide SCSI controller. Most SCSI devices meet this requirement. If in doubt please contact your dealer or our service department.

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 PC 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 ultra-wide SCSI controller or at the ultra-wide SCSI terminator board.

Connecting internal SCSI devices only

If you connect only internal SCSI devices, the terminating resistors must be enabled or installed on the last device connected to the SCSI cable. The terminating resistors must be removed from all other internal SCSI devices.

The ultra-wide SCSI terminator board terminates the SCSI bus at the other end of the SCSI cable. The terminating resistors of the SCSI controller are disabled (*LowOFF/HighOFF*) via the SCSI setup at the factory.

How you install or remove the terminating resistors of the SCSI devices, see description of your SCSI devices.

- Be sure the ends of the SCSI bus are correctly terminated.
- Connect the internal SCSI devices to the SCSI connector on the system board by means of the internal SCSI cable.
- Connect the internal SCSI cable with the ultra-wide SCSI terminator board or make sure that the ultra-wide SCSI terminator board is connected to the internal SCSI cable.

Connecting external SCSI devices only

If you connect only external SCSI devices, the terminating resistors must be enabled on the SCSI controller and on the last device connected to the SCSI cable.

In the case of ultra-wide SCSI you must use active termination. If the SCSI device does not permit active termination, you may not connect it.

The terminating resistors must be removed from all other external SCSI devices.

How you install or remove the terminating resistors of the SCSI devices, see description of your SCSI devices.

- Be sure the ends of the SCSI bus are correctly terminated.
- Connect the external SCSI devices to the external SCSI port of the ultra-wide SCSI terminator board by means of the external SCSI cable.

Connecting internal and external devices

In this configuration the SCSI controller is not at the end of the SCSI bus, but between the internal and external devices. The terminating resistors on the SCSI controller must therefore be turned off.

Terminating resistors must be installed on the two drives connected as last to the internal and external SCSI cables, respectively. The terminating resistors must be removed from all other SCSI devices.

How you install or remove the terminating resistors of the SCSI devices, see description of your SCSI devices.

- Connect the internal devices to the SCSI connector on the system board by means of the internal SCSI cable.
- Connect the external devices with the external SCSI port of the ultra-wide SCSI terminator board by means of the external SCSI cable.

In setting in the field *Host Adapter SCSI Termination* of the SCSI configuration program must be *LowOFF/HighOFF*. Then the ultra-wide SCSI controller disables it's terminating resistor (see section "Host Adapter SCSI Termination" in chapter "SCSI configuration program").

The ultra-wide SCSI terminator board has terminating resistors which enable and disable themselves automatically

Connectors and cables

The connector of the ultra-wide SCSI controller and the ultra-wide SCSI terminator board 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.

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

If you have connected one or more 8-bit SCSI devices, the total length of the SCSI line (internal and external) may not exceed 3 m.

If you have set the *Support for Ultra SCSI Speed* menu item to *Enabled*, you may only connect 7 drives with a maximum cable length of 1.50 m. The internal cable length is 1.10 m.

Cable length totally	Number of drives that can be connected	Setting in the SCSI-configuration program
1,50 m	7	Ultra SCSI Speed enabled
3,00 m	3	Ultra SCSI Speed enabled
3,00 m	7	Ultra SCSI Speed disabled (Fast Wide SCSI)

SCSI configuration program

The BIOS of the Ultra-wide SCSI controller includes a menu-driven SCSI configuration program. This program allows you to change almost all of the option settings of the SCSI controller.

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 "Error messages" and also, if necessary, to the documentation on your SCSI device.

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

Starting the SCSI configuration program

- Start your PC and press key combination [CTRL] and [A], when the following message appears:

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

The first menu of the SCSI configuration program *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
[ESC]	to call the previous menu and to terminate the SCSI configuration program
[F6]	to reset to the default settings
[F5]	to toggle display between color and monochrome mode

Terminating the SCSI configuration program

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*).
- Pressing [ESC] in the first menu exits the SCSI configuration program.

Default Settings in the menu Configure/View Host Adapter Settings

SCSI Bus Interface Definitions	**Default setting**
Host Adapter SCSI ID	7
SCSI Parity Checking	Enabled
Host Adapter SCSI Termination	LowOFF/HighOFF
Additional Options	**Default setting**
Boot Device Options	
Boot Target ID	0
Boot LUN Number*	0
SCSI Device Configuration	
Initiate Sync Negotiation	Yes (Enabled)
Initiate Wide Negotiation**	Yes (Enabled)
Maximum Sync Transfer Rate	20 Mbyte/s/40 Mbyte/s**
Enable Disconnection	Yes (Enabled)
Send Start Unit Command****	No (Disabled)
Advanced Configuration Options	**Default setting**
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*.
** Only if *Support for Ultra SCSI Speed* 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 SCSI controller, must be set to separate SCSI IDs.

The SCSI controller is normally set to ID 7.

You do not normally need to change the SCSI address, not even if you install several SCSI controllers. In this case each SCSI controller may be assigned address 7, because each is connected to it's own SCSI bus.

SCSI Parity Checking

The ultra-wide SCSI controller uses parity bits on the SCSI bus to verify the data from your SCSI devices (*Enabled*).

If one of your SCSI devices does not support *Parity Checking*, disable it on the SCSI controller.

Host Adapter SCSI Termination

The termination of the SCSI controller is disabled by default.

Setting in the menu *Host Adapter SCSI Termination*	Terminating resistor
LowON/HighON	*enabled*
LowOFF/HighOFF	*disabled*
LowOFF/HighON	not used

The default setting is "LowON/HighON“. The terminating resistor of the SCSI controller is enabled.
Change the setting to "LowOFF/HighOFF“!

With F6 you can reset to the default setting.

Additional Options

Boot Device Options

Boot Target ID

This option specifies the SCSI address (ID) of the device you wish to boot from. The default setting is SCSI ID 0. The SCSI ID selected here must correspond to the ID configured on the boot device.

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. The default setting is LUN 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.

SCSI devices that negotiate *Initiate Sync Negotiation* (synchronous data transfer) can maintain a much higher conversation speed than devices that do not support this feature.

You should set *Initiate Sync Negotiation* only for those devices which you definitely know support the function. You may also have to make certain settings on your SCSI device. Please read the documentation supplied with your SCSI device.

When *Sync Negotiation* is disabled, the SCSI controller will automatically go into synchronous mode if it receives a request from one of your SCSI devices. The SCSI controller can then respond to a request for fast transfer, and still maintain a dialog with slower devices.

Initiate Wide Negotiation

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

You should set *Initiate Wide Negotiation* only for those devices which you definitely know support the function. You may also have to make certain settings on your SCSI device. Please read 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 20 Mbyte/s.

Maximum Sync Transfer Rate

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 at synchronous data transfer. The maximum data transfer rate is 20 Mbyte/s. If you have entered *Enabled* in the *Support for Ultra SCSI Speed* menu item, the transfer rate of 40 Mbyte/s is entered automatically.

If you connect devices, observe the rules in chapter "Connecting SCSI devices“.

Enable Disconnection

The default setting is *Yes* (enabled).

This permits SCSI devices to enable the SCSI bus during command execution.

A back-up tape disconnecting during rewind is a typical example.

You may change *Enable Disconnection* to *No*, if there are only two devices on the SCSI bus: the SCSI controller and one other device. In this case, disconnection improves performance slightly.

Send Start Unit Command

The default setting is *No* (disabled).

When this feature is enabled, the SCSI controller BIOS allows compatible disk drives on the bus to rest with their power off, until they receive a "Start Unit" command from the ultra-wide SCSI controller. (This feature has no effect if the SCSI controller BIOS is disabled).

Your PC's power supply may strain under the load of several drives spinning-up at the same time. This feature reduces the load on your PC's power supply at system start-up.

Your SCSI devices may require switch or jumper adjustment to enable this feature. See the manufacturers documentation of your SCSI devices.

Advanced Configuration Options

Host Adapter BIOS

The default setting for the SCSI controller BIOS is *Enabled*.

If you only use SCSI devices from which you do not wish to boot and additional drivers are required, you can disable the SCSI controller BIOS. Disabling the SCSI controller BIOS saves you 16 Kbytes of memory address space and can shorten boot-up time by as much as 60 seconds.

Disable the SCSI controller BIOS in the SCSI configuration program if you do not need the BIOS to control your SCSI devices, but you want to retain access to the configuration program at system start-up with the keys CTRL-A .

i Note that you will have to install additional drivers to access drives if the ultra-wide SCSI controller BIOS is disabled.

Support Removable Disks under BIOS as Fixed Disks

This option allows you to use removable-media drives, such as CD-ROM drives, without installing additional drivers. The default setting is *Boot Only*. Possible settings:

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

The default setting is *Enabled*.

Normally, you can only access drives with a capacity of up to 1 Gbyte.

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 controller BIOS must be enabled. The drive must be controlled by the SCSI controller BIOS.

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.

Do not use this option with drives that contain two or more partitions formatted with different operating systems.

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. The default setting is *Enabled*.

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

Multiple LUN Support

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

BIOS Support for Bootable CD-ROM

This option determines whether the SCSI controller BIOS supports for booting from a CD-ROM drive. The default setting is *Enabled*.

BIOS Support for Int 13 Extensions

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

Support for Ultra SCSI Speed

This option determines whether the SCSI controller BIOS supports the fast transfer rate 40 Mbyte/s. The default setting is *Disabled*. If you use ultra SCSI hard disks, this function is supported and you can enable *(Enabled)* the setting *Support for Ultra SCSI Speed*.

If you connect devices, observe the rules in chapter "Connecting SCSI devices".

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*.

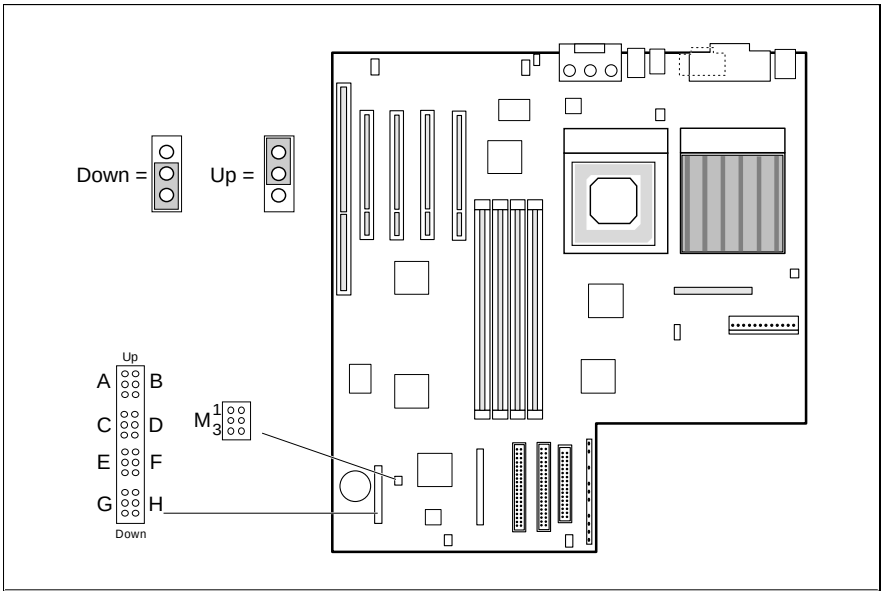
Verify

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.

Jumper settings



You may not change the default settings for jumpers C to H

Access to BIOS Setup - Jumper A

Jumper A enables and disables access to system BIOS.

up	BIOS Setup cannot be accessed.
down	System BIOS can be accessed (default setting).

Recovering System BIOS - jumper B

The jumper B 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).

up	The System BIOS executes from floppy drive A: and restores the System BIOS on the system board.
down	The System BIOS is started from the system board (default setting).

Clock Frequency - Jumpers E-H

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

processor	switch E	switch F	switch G	switch H
200 MHz	down	down	down	down

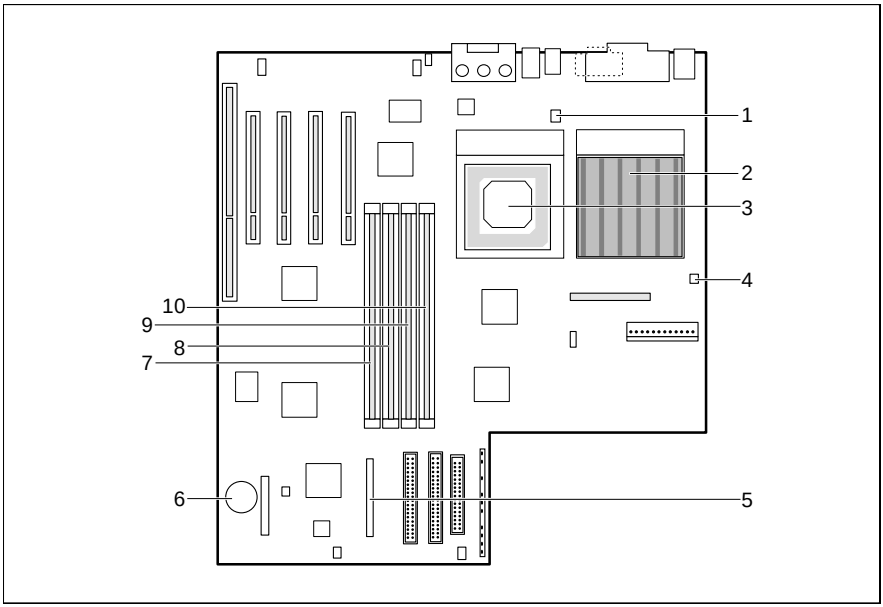
Memory Speed - Jumper M

Jumper M defines whether memory modules with an access time of 50 ns or 60 ns are used.

up	The memory modules have an access time of 50 ns.
down	The memory modules have an access time of 60 ns (default entry).

Do not change the factory setting.

Add-on modules



1 = Connector for processor fan 2
2 = First processor
3 = Second processor
4 = Connector for processor fan 1
5 = SCSI connection
6 = Lithium battery
7 = Location bank 0 for main memory
8 = Location bank 1 for main memory
9 = Location bank 2 for main memory
10 = Location bank 3 for main memory

Upgrading main memory

Four locations (bank 0 and bank 3) are available on the system board for installing memory modules. The board supports a maximum of 512 Mbytes. You may install memory modules of 16, 32, 64 or 128 Mbytes.

You may only use fast EDO memory modules with ECC (access time ≤ 60ns) Used buffered DIMM modules only (3.3 V, 168 Pins).
To avoid damage to the system board only memory modules released by Siemens Nixdorf should be used.

Installing memory modules

- ▶ Flip the retainers to the left and right of the location outward.
- ▶ Insert the memory module into the appropriate location. Ensure the coding is correct.
- ▶ Push the lateral retainers up until they snap in place.
- ▶ Press the lateral retainers firmly against the mounting location.

Removing a memory module

- ▶ Carefully push the retaining clips at each end of the module outwards.
- ▶ Slide the memory module out of it's location.

Installing and removing a processor

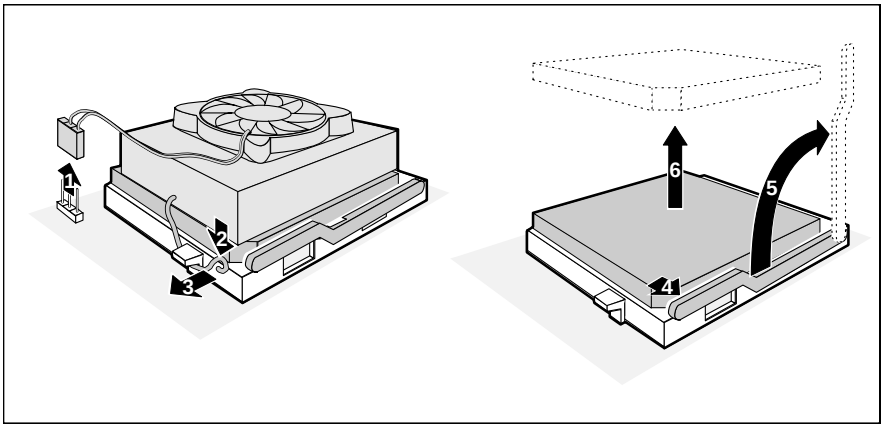
Please take note of the hints in the documentation of your operating system.

When you install a second processor, ensure that both processors are identical with regard to stepping, speed and size of the second level cache.

In a dual-processor configuration, the voltage conversion module must be installed. In this case contact your sales office or your service.

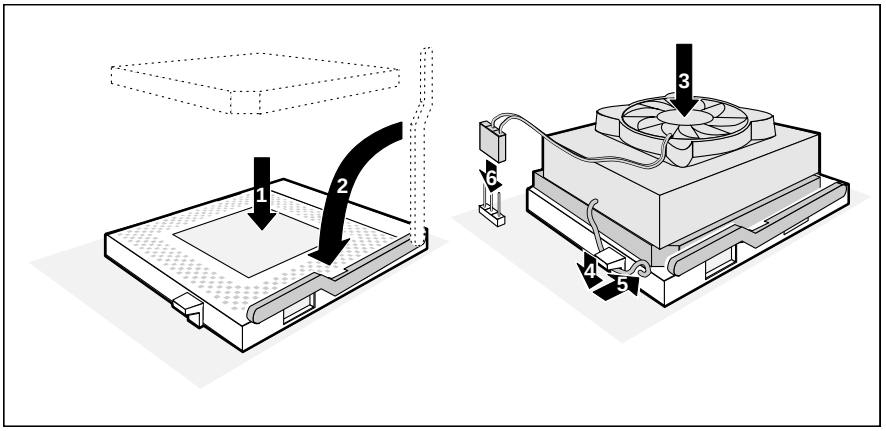
When you upgrade your system by installing a second processor you must also reinstall Windows NT. Please do not use the *Upgrade* option to do this.

Removing the processor



- Remove the line (1) of the fan.
- Press the retainer in the direction of the arrow (2) and (3) and tilt it upwards.
- Lift the processor fan and the heat sink off the processor.
- Push the lever in the direction of the arrow (4) and lift it as far as it will go (5).
- Remove the old processor from the socket (6).

Installing the processor

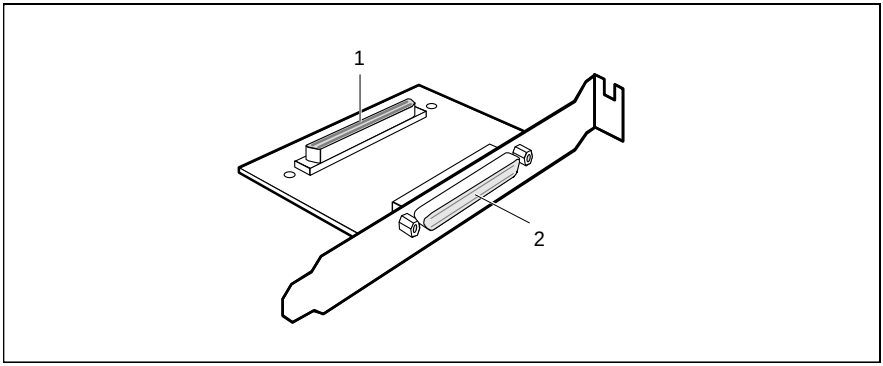


- Insert the new processor in the socket so that the mark on the upper side of the processor matches the mark on the socket (1).

The mark on the processor may be covered. 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 (2) so that it snaps into place.
- Apply the heat transfer compound evenly on the underside of the heat sink (approx. 0.5 mm).
- Mount the processor fan and the heat sink on the new processor (3).
- Swing the retainer down and press it in the direction of arrows (4) and (5) until it snaps in place.
- Fit the line (6) of the processor fan.

Installing an ultra-wide SCSI terminator board (D998)



1 = Connector for internal SCSI line 2 = External SCSI port

- ► Attach the internal SCSI line to the SCSI port on the system board and to port (1).
- ► Install the SCSI terminator board in your device (refer to the Operating Manual).
- ► Connect an external SCSI line to the external SCSI port (2).

i If you want to change the default settings in the BIOS of the ultra-wide SCSI controller use the SCSI configuration program. The SCSI configuration program is described in chapter "Settings in the SCSI Setup".

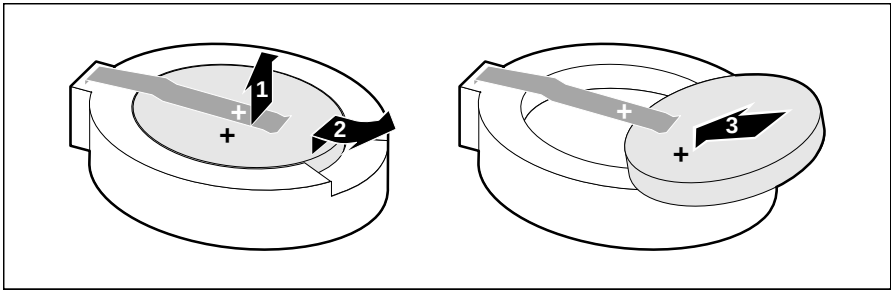
Replacing the lithium battery

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 it's socket (2).
- ► Insert a new lithium battery of the same type in the socket (3).

Error messages

This chapter contains error messages generated by the system board and the ultra-wide SCSI controller.

`8042 Gate - A20 error`
: Gate A20 on the keyboard controller (8042) is not working. Contact your sales office or customer service.

`Address Line Short!`
: Error in address switchover on the system board. Contact your sales office or customer service.

`Cache Memory Bad, Do Not Enable Cache!`
: Error in the cache. In the Setup menu set the entry for *Cache* to *Disabled*.

`Ch-2 Timer Error`
: Error in timer 2 on the system board. Contact your sales office or customer service.

`CMOS Battery State Low`
: Switch the device off and on again. If the message is still displayed, replace the lithium battery or contact your sales office or customer service.

`CMOS Checksum Failure`
: The values stored in the CMOS RAM are incorrect or incomplete. Call the BIOS Setup and correct the previously made entries or set the default entries.

`CMOS System Options Not Set`
: The values stored in the CMOS RAM are incorrect or incomplete. Call the BIOS Setup and correct the previously made entries or set the default entries.

`CMOS Display Type Mismatch`
: The monitor type set in the CMOS RAM is incorrect. Call the BIOS Setup, correct the entry and leave the BIOS Setup with *Exit Saving Changes*.

`CMOS Memory Size Mismatch`
: The memory size on the system board is different from that specified in the CMOS RAM. Call the BIOS Setup leave the BIOS Setup with *Exit Saving Changes*.

`CMOS Time and Date Not Set`
: The values stored in the CMOS RAM are incorrect or incomplete. Call the BIOS Setup, reset the time and date and quit the BIOS Setup using *Exit Saving Changes*.

`Device connected, but not ready`

The ultra-wide SCSI controller received no answer when it requested data from an installed SCSI device. Try setting the *Send Start Unit Command* to *yes* in the SCSI configuration program.

`Diskette Boot Failure`

The diskette in drive A: is either not a boot diskette or is errored. Introduce the system floppy disk and press the Enter key. In the *Setup* menu check the entries for floppy disk and hard disk drive.

`DMA Error`
`DMA #1 Error`
`DMA #2 Error`

Error in the DMA controller.

`ECC Error`

The memory is errored. The memory address cannot be determined. Switch the device off and on again. If the message is still displayed, please contact your sales office or customer service.

`FDD Controller Failure`

The BIOS cannot set up a connection to the diskette drive controller. Check the entries for the floppy disk drive in the BIOS Setup and the connections to the floppy disk drive controller. Switch the device off and on again. If the message is still displayed, please contact your sales office or service.

`HDD Controller Failure`

The BIOS cannot set up a connection to the hard disk drive controller. Check the entries for the hard disk drive in the BIOS Setup and the connections to the hard disk drive controller. Switch the device off and on again. If the message is still displayed, please contact your sales office or customer service.

`INTR #1 Error`
`INTR #2 Error`

Interrupt line 1 or 2 is errored. Switch the device off and on again. If the message is still displayed, contact your sales office or customer service.

`Invalid Boot Diskette`

The operating system cannot be started from the diskette in diskette drive A. Insert another system disk.

`Keyboard Is Locked...Unlock`

The keyboard lock is enabled. Disable the keyboard lock.

`Keyboard/Interface Error`

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

`Off Board ECC Error`

The memory is errored. If the memory address can be determined, the address is displayed on the screen as XXXX. Switch the device off and on. If the message is still displayed, contact your sales office or customer service.

`Start unit request failed`

The BIOS was unable to send a *Start Unit* command to the device. Run the SCSI configuration program and disable the *Send Start Unit Command* (*no*).

`Time-out failure during...`

An unexpected time-out occurred. Check SCSI bus termination and cabling. One of the devices on the SCSI bus may be defective.

Messages d'erreur

Vous trouverez dans ce chapitre les messages d'erreur émis par le module système.

`8042 Gate - A20 error`
: La porte A20 du contrôleur clavier (8042) ne fonctionne pas. Adressez-vous à votre revendeur ou à votre S.A.V.

`Address Line Short!`
: Erreur dans la commutation d'adresse du module système. Adressez-vous à votre revendeur ou à votre S.A.V.

`Cache Memory Bad, Do Not Enable Cache!`
: La mémoire cache est erronée. Réglez le paramètre de mémoire cache du Setup sur Disabled.

`Ch-2 Timer Error`
: Erreur dans le Timer 2 du module système. Adressez-vous à votre revendeur ou à votre S.A.V.

`CMOS Battery State Low`
: Eteignez l'appareil, puis rallumez-le. Si le message subsiste, remplacez votre pile au lithium ou adressez-vous à votre revendeur ou à votre S.A.V.

`CMOS Checksum Failure`
: Les valeurs sauvegardées dans la mémoire RAM CMOS sont erronées ou incomplètes. Appelez le Setup du BIOS et corrigez les dernières données entrées ou activez les entrées standard.

`CMOS System Options Not Set`
: Les valeurs sauvegardées dans la mémoire RAM CMOS sont erronées ou incomplètes. Appelez le Setup du BIOS et corrigez les dernières données entrées ou activez les entrées standard.

`CMOS Display Type Mismatch`
: Le type d'écran spécifié dans la mémoire RAM CMOS est erroné. Appelez le Setup du BIOS; corrigez l'entrée et quittez le Setup du BIOS avec *Exit Saving Changes*.

`CMOS Memory Size Mismatch`
: La taille de la mémoire du module système ne correspond pas à celle indiquée dans la mémoire RAM CMOS. Appelez le Setup du BIOS, puis quittez-le avec *Exit Saving Changes*.

`CMOS Time and Date Not Set`
: Les valeurs sauvegardées dans la mémoire RAM CMOS sont erronées ou incomplètes. Appelez le Setup du BIOS, réglez la date et l'heure, puis quittez le Setup du BIOS avec *Exit Saving Changes*.

`Device connected, but not ready`

Ce message apparaît lorsqu'un périphérique SCSI connecté ne réagit pas à un signal émis par le contrôleur SCSI Ultra Wide. Activez (*yes*) la fonction *Send Start Unit Command* dans le programme de configuration SCSI.

`Diskette Boot Failure`

La disquette insérée dans le lecteur A: n'est pas une disquette d'initialisation ou est erronée. Introduisez la disquette système et appuyez sur la touche d'entrée. Vérifiez les paramètres pour le lecteur de disquettes ou de disque dur dans le menu Setup.

`DMA Error DMA #1 Error DMA #2 Error`

Erreur dans le contrôleur DMA.

`ECC Error`

La mémoire est erronée. L'adresse mémoire ne peut être déterminée. Eteignez l'appareil, puis rallumez-le. Si le message subsiste, adressez-vous à votre revendeur ou à notre S.A.V.

`FDD Controller Failure`

Le BIOS ne peut établir de liaison avec le contrôleur du lecteur de disquettes. Vérifiez dans le menu Setup les paramètres pour le lecteur de disquettes et toutes les connexions avec le contrôleur du lecteur de disquettes. Eteignez l'appareil, puis rallumez-le. Si le message subsiste, adressez-vous à votre revendeur ou à notre S.A.V.

`HDD Controller Failure`

Le BIOS ne peut établir de liaison avec le contrôleur du lecteur de disque dur. Vérifiez dans le menu Setup le paramètre pour le lecteur de disque dur et toutes les connexions avec le contrôleur du lecteur de disque dur. Eteignez l'appareil, puis rallumez-le. Si le message subsiste, adressez-vous à votre revendeur ou à notre S.A.V.

`INTR #1 Error`
`INTR #2 Error`

La ligne Interrupt 1 ou 2 est erronée. Eteignez l'appareil, puis rallumez-le. Si le message subsiste, adressez-vous à votre revendeur ou à notre S.A.V.

`Invalid Boot Diskette`

Le système d'exploitation ne peut être lancé à partir de la disquette introduite dans le lecteur A:. Introduisez une autre disquette système.

`Keyboard Is Locked...Unlock`

Le verrou du clavier est activé. Désactivez-le.

`Keyboard/Interface Error`

Eteignez l'appareil, puis rallumez-le. Si le message subsiste, adressez-vous à votre revendeur ou à notre S.A.V.

`Off Board ECC Error`

La mémoire est erronée. Si l'adresse mémoire peut être déterminée, elle est représentée sous forme XXXX à l'écran. Eteignez l'appareil, puis rallumez-le. Si le message subsiste, adressez-vous à votre revendeur ou à notre S.A.V.

`Start unit request failed`

Le BIOS du contrôleur SCSI Ultra Wide est incapable d'exécuter la commande *Start Unit*. Désactivez (*no*) la fonction *Send Start Unit Command* dans le programme de configuration SCSI pour le lecteur.

`Time-out failure during...`

Une erreur est survenue lors de la réinitialisation de la carte d'interface SCSI. Vérifiez les résistances de terminaison et le câblage des périphériques SCSI. Il est possible qu'un périphérique SCSI soit défectueux.

Mensajes de error

Hallará los mensajes de error presentados por el módulo de sistema.

`8042 Gate - A20 error`
: Gate A20 en el controlador de teclado (8042) no funciona. Diríjase a su distribuidor o al Servicio Postventa.

`Address Line Short!`
: Error en la conmutación de dirección en el módulo de sistema. Diríjase a su distribuidor o al Servicio Postventa.

`Cache Memory Bad, Do Not Enable Cache!`
: La memoria caché está defectuosa. Ponga el registro de caché en el menú Setup en Disabled.

`Ch-2 Timer Error`
: Error en Timer 2 en el módulo de sistema. Diríjase a su distribuidor o al Servicio Postventa.

`CMOS Battery State Low`
: Conecte el aparato y desconéctelo de nuevo. Si aparece el mensaje de nuevo, sustituya la pila de litio o diríjase a su distribuidor o al Servicio Postventa.

`CMOS Checksum Failure`
: Los valores memorizados en la RAM CMOS son erróneos o no están completos. Active el setup de BIOS y corrija los registros efectuados en último lugar o ajuste los registros predeterminados.

`CMOS System Options Not Set`
: Los valores memorizados en la RAM CMOS son erróneos o no están completos. Active el setup de BIOS y corrija los registros efectuados en último lugar o ajuste los registros predeterminados.

`CMOS Display Type Mismatch`
: El tipo de pantalla ajustado en la RAM CMOS es erróneo. Active el setup de BIOS, corrija el registro y salga del setup de BIOS con *Exit Saving Changes.*

`CMOS Memory Size Mismatch`
: El tamaño de memoria en el módulo de sistema no coincide con el tamaño de memoria indicado en la RAM CMOS. Active el setup de BIOS y salga del mismo con *Exit Saving Changes.*

`CMOS Time and Date Not Set`
: Los valores memorizados en la RAM CMOS son erróneos o no están completos. Active el setup de BIOS, ajuste la hora y la fecha de nuevo y salga del setup de BIOS con *Exit Saving Changes.*

`Device connected, but not ready`

Este mensaje se visualiza cuando un dispositivo SCSI que está conectado no reacciona a la señal del controlador SCSI Ultra-Wide. Active la función *Send Start Unit Command* (*yes*) en el programa de configuración SCSI.

`Diskette Boot Failure`

El disquete en la unidad de disco A: no es un disquete de inicialización o está defectuoso. Inserte el disquete de sistema y pulse la tecla de entrada. En el menú Setup compruebe los registros para las unidades de disco.

`DMA Error DMA #1 Error DMA #2 Error`

Error en el controlador DMA.

`ECC Error`

La memoria está defectuosa. La dirección de memoria no se puede determinar. Desconecte y vuelva a conectar el aparato. Si aparece el mensaje de nuevo, diríjase a su distribuidor o al Servicio Postventa.

`FDD Controller Failure`

El BIOS no puede establecer conexión con el controlador de la unidad de disquete. En el menú Setup compruebe el ajuste para la unidad de disquete y todas las uniones por enchufe hacia el controlador de la unidad de disquete. Desconecte y vuelva a conectar el aparato. Si aparece el mensaje de nuevo, diríjase a su distribuidor o al Servicio Postventa.

`HDD Controller Failure`

El BIOS no puede establecer conexión con el controlador de la unidad de disco duro. En el menú Setup compruebe el ajuste para la unidad de disco duro y todas las uniones por enchufe hacia el controlador de la unidad de disco duro. Desconecte y vuelva a conectar el aparato. Si aparece el mensaje de nuevo, diríjase a su distribuidor o al Servicio Postventa.

`INTR #1 Error INTR #2 Error`

La línea de interrupción 1 ó 2 es errónea. Desconecte y vuelva a conectar el aparato. Si aparece el mensaje de nuevo, diríjase a su distribuidor o al Servicio Postventa.

`Invalid Boot Diskette`

El sistema operativo no puede iniciarse desde el disquete en la unidad de disco A:. Inserte otro disquete de sistema.

`Keyboard Is Locked...Unlock`

Está activado el bloqueo de teclado. Desactive el bloqueo de teclado.

`Keyboard/Interface Error`

Desconecte y vuelva a conectar el aparato. Si aparece el mensaje de nuevo, diríjase a su distribuidor o al Servicio Postventa.

`Off Board ECC Error`

La memoria está defectuosa. Si la dirección de memoria se puede determinar, la dirección se representará en la pantalla como XXXX. Desconecte y vuelva a conectar el aparato. Si aparece el mensaje de nuevo, diríjase a su distribuidor o al Servicio Postventa.

`Start unit request failed`

El BIOS del controlador SCSI Ultra-Wide no puede ejecutar el comando *Start Unit*. Desactive la función *Send Start Unit Command* en el programa de configuración SCSI para la unidad de disco (*no*).

`Time-out failure during...`

Se ha producido un error al ajustar los valores iniciales del módulo de interfaces SCSI. Verifique las resistencias de terminación y el cableado de los dispositivos SCSI. Puede que un dispositivo SCSI tenga un defecto.

Messaggi di errore

Sono indicati i messaggi di errore, che vengono emessi dall'unità di sistema.

`8042 Gate - A20 error`
: Il Gate A20 del controller della tastiera (8042) non funziona. RivolgeteVi al Vostro rivenditore o al servizio di assistenza.

`Address Line Short!`
: Errore nella conversione indirizzi sull'unità di sistema. RivolgeteVi al Vostro rivenditore o al servizio di assistenza.

`Cache Memory Bad, Do Not Enable Cache!`
: La memoria cache è difettosa. Impostate su Disabled il valore per la cache nel menu di setup.

`Ch-2 Timer Error`
: Errore nel Timer 2 sull'unità di sistema. RivolgeteVi al Vostro rivenditore o al servizio di assistenza.

`CMOS Battery State Low`
: Spegnete l'apparecchio e riaccendetelo. Se il messaggio viene ancora visualizzato, sostituite la batteria al litio oppure rivolgeteVi al Vostro rivenditore o al servizio di assistenza.

`CMOS Checksum Failure`
: I valori memorizzati nella CMOS RAM sono errati oppure incompleti. Richiamate il setup BIOS e correggete gli ultimi valori indicati oppure ripristinate i valori standard.

`CMOS System Options Not Set`
: I valori memorizzati nella CMOS RAM sono errati oppure incompleti. Richiamate il setup BIOS e correggete gli ultimi valori indicati oppure ripristinate i valori standard.

`CMOS Display Type Mismatch`
: Il tipo di monitor memorizzato nella CMOS RAM è errato. Richiamate il setup BIOS, correggete il valore ed uscite dal setup BIOS con *Exit Saving Changes.*

`CMOS Memory Size Mismatch`
: Le dimensioni di memoria dell'unità di sistema non corrispondono con quanto indicato nella CMOS-RAM. Richiamate il setup BIOS ed uscite dal setup con *Exit Saving Changes.*.

`CMOS Time and Date Not Set`
: I valori memorizzati nella CMOS RAM sono errati oppure incompleti. Richiamate il setup BIOS, impostate nuovamente l'ora e la data ed uscite dal setup BIOS con *Exit Saving Changes.*

`Device connected, but not ready`

Questo messaggio compare se un apparecchio SCSI collegato non reagisce ad un segnale del controller Ultra-Wide-SCSI. Attivate la funzione *Send Start Unit Command* nel programma di configurazione SCSI.

`Diskette Boot Failure`

Il dischetto nel drive A: non è un dischetto di lancio oppure è difettoso. Inserite il dischetto di sistema e premete il tasto Invio. Controllate nel setup BIOS i valori per i drive per floppy e per il disco fisso.

`DMA Error DMA #1 Error DMA #2 Error`

Errore nel controller DMA.

`ECC Error`

La memoria è difettosa. L'indirizzo di memoria non è definibile. Spegnete l'apparecchio e riaccendetelo nuovamente. Se il messaggio viene ancora visualizzato, rivolgeteVi al Vostro rivenditore o al servizio di assistenza.

`FDD Controller Failure`

Il BIOS non è in grado di creare un collegamento con il controller del drive per dischetti. Controllate l'impostazione per il drive per dischetti nel menu di setup e tutti i collegamenti ad innesto con il controller del drive per dischetti. Spegnete l'apparecchio e riaccendetelo nuovamente. Se il messaggio viene ancora visualizzato, rivolgeteVi al rivenditore o al servizio di assistenza.

`HDD Controller Failure`

Il BIOS non è in grado di creare un collegamento con il controller del drive del disco fisso. Controllate l'impostazione per il controller del disco fisso nel menu di setup e tutti i collegamenti ad innesto con il controller del drive del disco fisso. Spegnete l'apparecchio e riaccendetelo nuovamente. Se il messaggio viene ancora visualizzato, rivolgeteVi al Vostro rivenditore o al servizio di assistenza.

`INTR #1 Error INTR #2 Error`

La linea Interrupt 1 o 2 è difettosa. Spegnete l'apparecchio e riaccendetelo nuovamente. Se il messaggio viene ancora visualizzato, rivolgeteVi al Vostro rivenditore o al servizio di assistenza.

`Invalid Boot Diskette`

Il sistema operativo non può essere avviato dal dischetto inserito nel drive A:. Inserite un altro dischetto di sistema.

`Keyboard Is Locked...Unlock`

E' stato attivato il blocco della tastiera. Disattivate il blocco della tastiera.

`Keyboard/Interface Error`

Spegnete l'apparecchio e riaccendetelo nuovamente. Se il messaggio viene ancora visualizzato, rivolgeteVi al rivenditore o al servizio di assistenza.

`Off Board ECC Error`

La memoria è difettosa. Se l'indirizzo di memoria è definibile, esso viene indicato come XXXX sul monitor. Spegnete l'apparecchio e riaccendetelo nuovamente. Se il messaggio viene ancora visualizzato, rivolgeteVi al Vostro rivenditore o al servizio di assistenza.

`Start unit request failed`

Il Bios del controller Ultra-Wide-SCSI non è in grado di eseguire il comando Start Unit. Disattivate la funzione *Send Start Unit Command* nel programma di configurazione SCSI per il drive (*no*).

`Time-out failure during...`

Durante il reset del componente interfaccia SCSI si è verificato un errore. Controllate le resistenze di contatto e il collegamento dei cavi degli apparecchi SCSI. Un apparecchio SCSI non può essere difettoso.

Foutmeldingen

In dit hoofdstuk vindt u de foutmeldingen die door de systeemmodule worden uitgegeven.

`8042 Gate - A20 error`
: Gate A20 op de toetsenbord-controller (8042) werkt niet. Verwittig uw filiaal of uw service.

`Address Line Short!`
: Fout in de adresomschakeling op de systeemmodule. Verwittig uw filiaal of uw service.

`Cache Memory Bad, Do Not Enable Cache!`
: Het cache-geheugen is niet in orde. Zet de waarde voor cache in het setup-menu op Disabled.

`Ch-2 Timer Error`
: Fout in timer 2 op de systeemmodule. Verwittig uw filiaal of uw service.

`CMOS Battery State Low`
: Schakel het toestel uit en weer aan. Als de melding opnieuw verschijnt, vervangt u de lithiumbatterij of verwittigt u uw filiaal of uw service.

`CMOS Checksum Failure`
: De in CMOS RAM opgeslagen waarden zijn verkeerd of onvolledig. Roep de BIOS-setup op en corrigeer de laatste aanpassingen of stel de standaardwaarden in.

`CMOS System Options Not Set`
: De in CMOS RAM opgeslagen waarden zijn verkeerd of onvolledig. Roep de BIOS-setup op en corrigeer de laatste aanpassingen of stel de standaardwaarden in.

`CMOS Display Type Mismatch`
: Het in CMOS RAM ingestelde beeldschermtype is verkeerd. Roep de BIOS-setup op, corrigeer de waarde en verlaat de BIOS-setup met *Exit Saving Changes*.

`CMOS Memory Size Mismatch`
: De geheugenomvang op de systeemmodule komt niet overeen met de in CMOS-RAM opgegeven geheugengrootte. Roep de BIOS-setup op en verlaat de BIOS-setup met *Exit Saving Changes*..

`CMOS Time and Date Not Set`
: De in CMOS RAM opgeslagen waarden zijn verkeerd of onvolledig. Roep de BIOS-setup op, stel de tijd en datum opnieuw in en verlaat de BIOS-setup met *Exit Saving Changes*.

`Device connected, but not ready`

Deze melding verschijnt als een aangesloten SCSI-apparaat niet op het signaal van de ultra-wide-SCSI-controller reageert. Schakel de functie *Send Start Unit Command* in het SCSI-configuratieprogramma in (*yes*).

`Diskette Boot Failure`

De diskette in station A: is geen boot-diskette of de diskette is defect. Steek de systeemdiskette in en druk op de invoertoets. Controleer in het setup-menu de waarden voor het diskette- en harde-schijfstation.

`DMA Error DMA #1 Error DMA #2 Error`

Fout in de DMA-controller.

`ECC Error`

Het geheugen is niet in orde. Het geheugenadres kan niet worden bepaald. Schakel het toestel uit en weer aan. Als de melding opnieuw verschijnt, verwittigt u uw filiaal of uw service.

`FDD Controller Failure`

De BIOS kan geen verbinding tot stand brengen met de diskettestation-controller. Controleer in het setup-menu de instelling voor het diskettestation en alle stekkerverbindingen naar de diskettestation-controller. Schakel het toestel uit en weer aan. Als de melding opnieuw verschijnt, verwittigt u uw filiaal of uw service.

`HDD Controller Failure`

De BIOS kan geen verbinding tot stand brengen met de harde-schijf-controller. Controleer in het setup-menu de instelling voor het harde-schijfstation en alle stekkerverbindingen naar de harde-schijf-controller. Schakel het toestel uit en weer aan. Als de melding opnieuw verschijnt, verwittigt u uw filiaal of uw service.

`INTR #1 Error INTR #2 Error`

De interrupt-leiding 1 of 2 is niet in orde. Schakel het toestel uit en weer aan. Als de melding opnieuw verschijnt, verwittigt u uw filiaal of uw service.

`Invalid Boot Diskette`

Het besturingssysteem kan niet van de diskette in diskettestation A: worden gestart. Steek een andere systeemdiskette in.

`Keyboard Is Locked...Unlock`

De toetsenbordblokkering is geactiveerd. Hef de toetsenbordblokkering op.

`Keyboard/Interface Error`

Schakel het toestel uit en weer aan. Als de melding opnieuw verschijnt, verwittigt u uw filiaal of uw service.

`Off Board ECC Error`

Het geheugen is niet in orde. Als het geheugenadres kan worden bepaald, wordt het adres als XXXX aangegeven op het beeldscherm. Schakel het toestel uit en weer aan. Als de melding opnieuw verschijnt, verwittigt u uw filiaal of uw service.

`Start unit request failed`

Het BIOS van de ultra-wide-SCSI-controller kan het commando *Start Unit* niet uitvoeren. Schakel de functie *Send Start Unit Command* in het SCSI-configuratieprogramma voor de eenheid uit (*no*).

`Time-out failure during...`

Bij het terugstellen van de SCSI-interfacemodule is een fout opgetreden. Controleer de afsluitweerstanden en de kabels van de SCSI-apparaten. Een SCSI-apparaat kan defect zijn.

Felmeddelanden

I detta kapitel finner ni de felmeddelanden som utfärdas av systemenheten.

`8042 Gate - A20 error`
: Gate (Grind) A20 på tangentbords-kontrollern (8042) fungerar inte. Vänd Er till Ert inköpsställe eller till Er service-avdelning.

`Address Line Short!`
: Fel i adress-omkopplingen i systemenheten. Vänd Er till Ert inköpsställe eller till Er service-avdelning.

`Cache Memory Bad, Do Not Enable Cache!`
: Cache-minnet är defekt. Ställ in posten för cache-minne i Setup-menyn på Disabled (Ej aktivt).

`Ch-2 Timer Error`
: Fel i Timer 2 i systemenheten. Vänd Er till Ert inköpsställe eller till Er service-avdelning.

`CMOS Battery State Low`
: Koppla ur apparaten och koppla sedan in den igen. Om meddelandet fortfarande visas, byt litium-batteriet eller vänd Er till Ert inköpsställe eller till Er service-avdelning.

`CMOS Checksum Failure`
: De i CMOS RAM lagrade värdena är felaktiga eller ofullständiga. Anropa BIOS-Setup och korrigera de senast utförda posterna eller ställ in standardposterna.

`CMOS System Options Not Set`
: De i CMOS RAM lagrade värdena är felaktiga eller ofullständiga. Anropa BIOS-Setup och korrigera de senast utförda posterna eller ställ in standardposterna.

`CMOS Display Type Mismatch`
: Den i CMOS RAM inställda bildskärmstypen är felaktig. Anropa BIOS-Setup, korrigera posten och lämna BIOS-Setup med *Exit Saving Changes (*Gå ur, spara ändringar*).*

`CMOS Memory Size Mismatch`
: Storleken på minnet i systemenheten överensstämmer inte med den i CMOS-RAM angivna minnesstorleken. Anropa BIOS-Setup, och lämna BIOS-Setup med *Exit Saving Changes (*Gå ur, spara ändringar*).*

`CMOS Time and Date Not Set`
: De i CMOS RAM lagrade värdena är felaktiga eller ofullständiga. Anropa BIOS-Setup, ställ in tid och datum på nytt och lämna BIOS-Setup med *Exit Saving Changes (*Gå ur, spara ändringar*).*

`Device connected, but not ready`

Detta meddelande visas när en ansluten SCSI-enhet inte reagerar på en signal från Ultra-Wide SCSI-styrenheten. Koppla till (*Yes*) funktionen *Send Start Unit Command* (Sänd startenhet kommando) i SCSI-konfigurationsprogrammet.

`Diskette Boot Failure`

Disketten i enhet A: är ingen boot-diskett (laddnings-diskett) eller felaktig. Sätt in systemdisketten, och tryck på Enter. Kontrollera posterna för diskett- och hårddiskenheterna i Setup-menyn.

`DMA Error DMA #1 Error DMA #2 Error`

Fel i DMA-kontrollern.

`ECC Error`

Minnet är defekt. Minnesadressen är inte definierbar. Koppla ur apparaten och koppla in den igen. Om meddelandet visas igen, vänd Er till Ert inköpsställe eller till vår service-avdelning.

`FDD Controller Failure`

BIOS kan inte upprätta någon förbindelse till diskettenhets-kontrollern. Kontrollera i Setup-menyn inställningen till diskettenheten och alla stickproppsanslutningar till diskettenhets-kontrollern. Koppla ur apparaten och koppla in den igen. Om meddelandet fortfarande visas, vänd Er till Ert inköpsställe eller till vår service-avdelning.

`HDD Controller Failure`

BIOS kan inte upprätta någon förbindelse med hårddisk-kontrollern. Kontrollera i Setup-menyn inställningen till hårddiskenheten och alla stickproppsanslutningar till hårddisk-kontrollern. Koppla ur apparaten och koppla in den igen. Om meddelandet fortfarande visas, vänd Er till Ert inköpsställe eller till vår service-avdelning.

`INTR #1 Error INTR #2 Error`

Interrupt-ledning (avbrotts-ledning) 1 respektive 2 är felaktiga. Koppla ur apparaten och koppla in den igen. Om meddelandet fortfarande visas, vänd Er till Ert inköpsställe eller till vår service-avdelning.

`Invalid Boot Diskette`

Operativsystemet kan inte startas från disketten i diskettenhet A:. Sätt in en annan systemdiskett.

`Keyboard Is Locked...Unlock`

Tangentbordsspärren är aktiverad. Deaktivera tangentbordsspärren.

`Keyboard/Interface Error`

Koppla ur apparaten och koppla in den igen. Om meddelandet fortfarande visas, vänd Er till Ert inköpsställe eller till vår serviceavdelning.

`Off Board ECC Error`

Minnet är defekt. Om minnesadressen är definierbar, framställs den som XXXX på bildskärmen. Koppla ur apparaten och koppla in den igen. Om meddelandet fortfarande visas, vänd Er till Ert inköpsställe eller till vår service-avdelning.

`Start unit request failed`

Kommandot *Start Unit* (Startenhet) kan inte utföras av BIOS för Ultra- Wide SCSI-styrenheten. Koppla från (*No*) funktionen *Send Start Unit Command* i SCSI-konfigurationsprogrammet för drivenheten.

`Time-out failure during...`

Ett fel uppträder vid återställning av SCSI-gränssnittsenheten. Kontrollera avslutningsmotståndet och kablaget till SCSI-enheten. En SCSI-enhet kan vara defekt.

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