

# ESPRIMO E3xxx

Operating Manual



## Are there ...

... any technical problems or other questions you wish to discuss?

Please contact:

- Our Hotline/Help Desk (refer to the enclosed Help Desk List or go to: ["http://ts.fujitsu.com/support/helpdesk.html"](http://ts.fujitsu.com/support/helpdesk.html))
- Your authorised distributor
- Your sales office

Further information can be found in the "Safety" and "Warranty" manuals.

Latest information on our products, tips, updates etc. can be found on our website: ["http://ts.fujitsu.com"](http://ts.fujitsu.com)





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# **ESPRIMO E3xxx**

## **Operating Manual**

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# Your ESPRIMO E3xxx

... is available with various configuration levels with different hardware and software. You can incorporate accessible drives (for example a DVD drive) as well as other boards.

This manual tells you how to start using your device and how to operate it in daily use. This manual applies for all configuration levels. Depending on the chosen configuration level, some of the hardware components described may not be available on your PC. Please also read the notes about your operating system.

Depending on the configuration selected, the operating system is preinstalled on your hard disk (e.g. Windows Vista).

Further information on this device is provided:







- in the poster "Getting Started"
- in the "Safety" manual
- in the "Ergonomics" manual
- in the "Warranty" manual
- in the operating manual for the monitor
- in the manual for the mainboard
- in your operating system documentation
- in the information files (e.g. \*.PDF, \*.HTML, \*.DOC, \*.CHM, \*.TXT, \*.HLP)



You will find an electronic version of some of the listed manuals on the "User Documentation" or "Drivers & Utilities" DVD.

You can access and view the required information using the *Acrobat Reader* program, which is also included on the DVD. You can of course also print out a copy of the manual if you prefer.

## Notational conventions

	Pay particular attention to text marked with this symbol. Failure to observe this warning will endanger your life, will damage the device or lead to loss of data. The warranty will be invalidated if you cause defects in the device through failure to take notice of this warning
	indicates important information that is required to use the device properly.
	indicates an activity that must be performed in the order shown
	indicates a result
<b>This style</b>	flags data entered using the keyboard in a program dialog or command line, e.g. your password ( <b>Name123</b> ) or a command to launch a program ( <b>start.exe</b> )
This style	refers to information displayed by a program on the screen, e.g.: Installation is completed
<i>This style</i>	is for <ul style="list-style-type: none"> <li>terms and texts in a software user interface, e.g.: Click <i>Save</i>.</li> <li>names of programs or files, e.g. <i>Windows</i> or <i>setup.exe</i>.</li> </ul>
"This style"	is for <ul style="list-style-type: none"> <li>cross-references to another section, e.g. "Safety information"</li> <li>cross-references to an external source, e.g. a web address: For more information, go to "<a href="http://ts.fujitsu.com">http://ts.fujitsu.com</a>"</li> <li>indicates names of CDs and DVDs as well as names and titles of other materials, e.g.: "CD/DVD Drivers &amp; Utilities" or "Safety" manual</li> </ul>
	refers to a key on the keyboard, e.g.: 
<b>This style</b>	flags concepts and text that are emphasised or highlighted, e.g.: <b>Do not switch off device</b>

# Important notes

In this chapter you will find information regarding safety which it is essential to take note of when working with your device.

## Safety information



Pay attention to the information provided in the "Safety" manual and in the following safety notes.

During installing and operating the device, please observe the instructions on environmental conditions in the ["Technical data", Page 42](#) chapter as well as the instructions in the ["Getting started", Page 6](#) chapter.

You must only operate the device if the rated voltage for the device matches the local mains supply voltage. Check the rated voltage set for this device (see the ["Getting started", Page 6](#) chapter).

The ON/OFF switch does not fully disconnect the TV from the mains voltage. To completely disconnect the mains voltage, remove the power plug from the grounded mains outlet.

Replace the lithium battery on the mainboard in accordance with the instructions in the ["Mainboard expansions", Page 40](#) - ["Replacing the lithium battery", Page 41](#) chapter.

Caution, components in the system can get very hot.

## Transporting the device



Transport all parts separately in their original packaging or in a packaging which protects them from knocks and jolts, to the new site.

Do not unpack them until all transportation manoeuvres are completed.

## Cleaning the device



Turn off all power and equipment switches and remove the power plug from the mains supply.

Do not clean any interior parts yourself, leave this job to a service technician.

Do not use any cleaning agents that contain abrasives or may corrode plastic.

Ensure that no liquid enters the system.

Wipe the casing with a dry cloth. If particularly dirty, use a cloth that has been moistened in mild domestic detergent and then carefully wrung out. Use disinfectant wipes to clean the keyboard and the mouse.

## Energy saving, disposal and recycling

Further information can be found on the "Drivers & Utilities" DVD.

### CE marking



#### **CE marking for devices without wireless component supplied up to 15.01.2007**

The shipped version of this device complies with the requirements of EEC directives 89/336/EEC "Electromagnetic compatibility" and 73/23/EEC "Low voltage directive".

#### **CE marking for devices without wireless component supplied from 16.01.07 to 19.07.2007**

The shipped version of this device complies with the requirements of EEC directives 89/336/EEC "Electromagnetic compatibility" and 2006/95/EC "Low voltage directive".

#### **CE marking for devices without wireless component supplied during market launch as of 20.07.07**

The shipped version of this device complies with the requirements of EEC directives 2004/108/EC "Electromagnetic compatibility" and 2006/95/EC "Low voltage directive".



#### **CE marking for devices with radio component**

This equipment complies with the requirements of Directive 1999/5/EC of the European Parliament and Commission from 9 March, 1999 governing Radio and Telecommunications Equipment and mutual recognition of conformity.

This equipment can be used in the following countries:

Belgium	Bulgaria	Denmark	Germany
Estonia	Finland	France	Greece
UK	Ireland	Iceland	Italy
Latvia	Liechtenstein	Lithuania	Luxemburg
Malta	Netherlands	Norway	Austria
Poland	Portugal	Rumania	Sweden
Switzerland	Slovakia	Slovenia	Spain
Czech Republic	Hungary	Cyprus	

Contact the corresponding government office in the respective country for current information on possible operating restrictions. If your country is not included in the list, then please contact the corresponding supervisory authority as to whether the use of this product is permitted in your country.

## FCC Class B Compliance Statement

The following statement applies to the products covered in this manual, unless otherwise specified herein. The statement for other products will appear in the accompanying documentation.

### **NOTE:**

This equipment has been tested and found to comply with the limits for a "Class B" digital device, pursuant to Part 15 of the FCC rules and meets all requirements of the Canadian Interference-Causing Equipment Standard ICES-003 for digital apparatus. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in strict accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Fujitsu Technology Solutions GmbH is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by Fujitsu Technology Solutions GmbH. The correction of interferences caused by such unauthorized modification, substitution or attachment will be the responsibility of the user.

The use of shielded I/O cables is required when connecting this equipment to any and all optional peripheral or host devices. Failure to do so may violate FCC and ICES rules.

# Getting started



Please observe the safety information in the ["Important notes", Page 3](#) chapter.

## Unpacking and checking the delivery

It is recommended not to throw away the original packaging material! It may be required for reshipment at some later date.

- ▶ Unpack all the individual parts.
  - ▶ Check the contents of the package for any visible damage caused during transport.
  - ▶ Check whether the delivery conforms to the details in the packing slip.
- ↳ Should you discover that the delivery does not correspond to the delivery note, notify your local sales outlet immediately.

## Steps for initial setup

Only a few steps are necessary to put your new device into operation for the first time:

- Select a location for device and set up device
- Connecting the monitor, mouse and keyboard
- Check the voltage at the mains outlet and connect the device to an electrical outlet
- Switch the device on

You will learn more about the individual steps in the following sections.

### External devices



If you have received other devices in addition to your device (e.g. a printer or a modem), do not connect these until after the initial installation. The following sections contain a description of how to connect these external devices.

### Drives and boards



If you have received drives or boards with your device, please do not install them until after first-time setup. How to install drives and boards is described in the ["System expansions", Page 26](#) chapter.

## Setting up the device



When installing your device, please read the recommendations and safety notes in the "Safety" manual.

Only install the device in the operating positions for which it is intended.

We recommend that you place your device on a surface with good anti-slip qualities. In view of the multitude of different finishes and varnishes used on furniture, it is possible that the rubber feet will mark the surface they stand on.

Do not expose the device to extreme environmental conditions (see ["Technical data", Page 42](#)). Protect the device from dust, humidity, and heat.

Make sure that the device is adequately ventilated. In order to avoid overheating, do not cover the ventilation area of the monitor or the device.

Do not stack several devices on top of each other.

If you place a monitor on the device, it may weigh a maximum of 25 kg. Make sure that you do not block any ventilation slots on the device.

Depending on the location of your device, bothersome vibrations and noises may occur. To prevent this, a distance of at least 3 mm should be maintained from other devices on casing sides without ventilation surfaces.

The device can operate in either a vertical or horizontal position.

## Vertical operating position (optional)



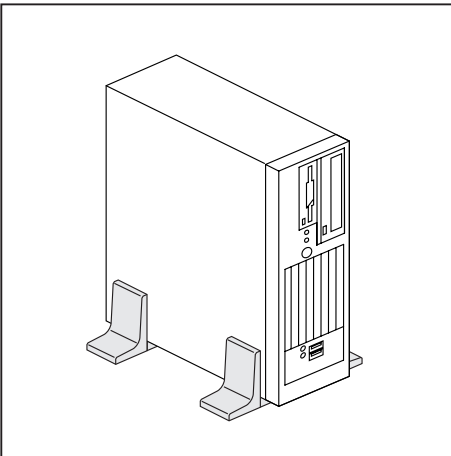
Use the base feet contained in the accessory pack when it is to be used in a vertical position.

The vertical operating position is only permissible with base feet. The drives must be at the top to ensure that sufficient ventilation is provided. The base feet provide for sufficient ventilation on the underside of the device.

Proceed as follows to operate the device in the vertical operating position:



Further information on the installation of the base feet can be found in the instructions enclosed with the base feet.



- ▶ Disconnect the cables if required.
- ▶ Pull the base feet apart.
- ▶ Place the device vertically on the base feet.
- ▶ If necessary, reconnect the cables.



## Connecting the monitor, mouse and keyboard

The ports for the monitor, mouse, and keyboard are on the front and rear of the device.



Keyboard port, purple



USB port, black

(USB mouse, USB keyboard)



Monitor port, blue



PS/2 mouse port, green

## Connecting the monitor

- ▶ Follow the instructions contained in the monitor manual to prepare the monitor for operation (e.g. connecting cables).
- ▶ Plug the data cable into the monitor port of the device.
- ▶ Plug the monitor power cable into the grounded mains outlet.

## Connecting the mouse

Depending on the equipment level selected, your device will be supplied with a USB mouse or a PS/2 mouse.

### Connecting a USB mouse

- ▶ Connect the USB mouse to one of the USB ports on the device.

### Connecting a PS/2 mouse



If you do not attach a mouse to the PS/2 mouse port, you can disable the mouse controller in the *BIOS Setup* in order to free the IRQ12 for a different application.

- ▶ Connect the PS/2 mouse to the PS/2 mouse port of the device.

## Connecting the keyboard

Depending on the equipment level selected, your device will be supplied with a USB keyboard or a PS/2 keyboard.

### Connecting a USB keyboard

Use the supplied keyboard cable only.

- ▶ Plug the rectangular connector of the keyboard cable into the rectangular socket on the underside or on the rear of the keyboard.
- ▶ Insert the flat rectangular USB plug of the keyboard cable into one of the device's USB ports.

### Connecting a PS/2 keyboard

Use the supplied keyboard cable only.

- ▶ Plug the rectangular connector of the keyboard cable into the rectangular socket on the underside or on the rear of the keyboard.
- ▶ Plug the round plug of the keyboard cable into the keyboard port on the device.

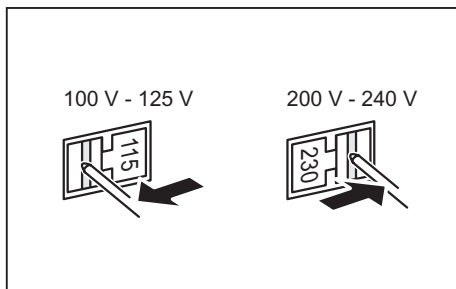
## Connecting the device to the mains voltage



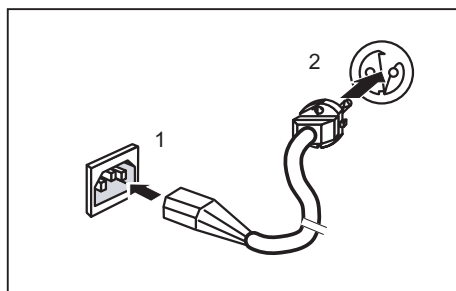
The visible value must agree with the local mains voltage:

- 115 = 100 V to 125 V
- 230 = 200 V to 240 V

- ▶ Check the voltage setting.



- ▶ If an incorrect mains voltage is set, push the slide switch all the way into the other possible position with a pointed object.



- ▶ Connect the power cable to the device (1).
- ▶ Plug the power plug into a grounded mains outlet (2).

## Switching on for the first time: installing the software

If the device is integrated into a network, the user and server details as well as the network protocol are required during the software installation.

Contact your network administrator if you have any questions about these settings.

When you switch on the device for the first time, the supplied software is installed and configured. Plan a reasonable amount of time for this, as this process must not be interrupted.



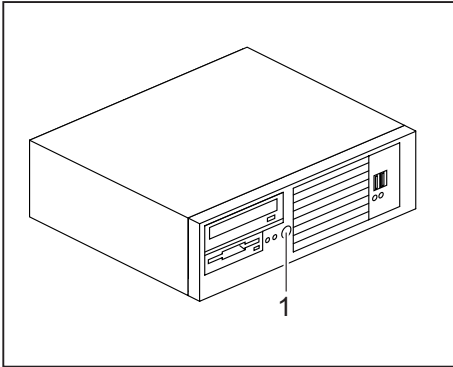
Once the installation has been started the device must not be switched off, unless the installation has been completed.

During installation, the device may only be rebooted when you are requested to do so!

The installation will otherwise not be carried out correctly and the contents of the hard disk must be completely restored.

You may need the licence number for Windows during the installation. The licence number is located on a sticker on your device.

## Switching on monitor and device



- ▶ Switch the monitor on (see the operating manual for the monitor).
- ▶ Press the ON/OFF switch (1) on the front of the device.
- ↳ The power-on indicator lights green and the device is started.

## Installing the software

- ▶ During installation, follow the on-screen instructions.
- ▶ Consult the operating system manual if there is anything unclear about the requested input data.



For further information about the system and its drivers, utilities and updates please refer to the "Drivers & Utilities" DVD or visit our website at ["http://ts.fujitsu.com/support/"](http://ts.fujitsu.com/support/).

## Connecting external devices



Read the documentation on the external device before connecting it.

With the exception of USB devices, always remove all power plugs before connecting external devices!

Do not connect or disconnect cables during a thunderstorm.

Always take hold of the actual plug. Never unplug a cable by pulling the cable itself.

Connect and disconnect the cables in the order described below.

## Connecting the cables

- ▶ Turn off all power and equipment switches.
- ▶ Remove all power plugs from the grounded mains outlets.
- ▶ Connect all the cables to the device and the external devices. Please make sure that you always observe the safety notes provided in ["Important notes", Page 3](#).
- ▶ Plug all data communication cables into the appropriate sockets.
- ▶ Plug all power cables into the grounded mains outlets.



USB devices are hot-pluggable. This means you can connect and disconnect USB cables while your device is switched on.

Additional information can be found in ["Connecting external devices to the USB ports", Page 15](#) and in the documentation for the USB devices.

## Disconnecting the cables

- ▶ Turn off all power and equipment switches.
- ▶ Remove all power plugs from the grounded mains outlets.
- ▶ Unplug all data communication cables from the appropriate sockets.
- ▶ Disconnect all of the cables from the device and from the external devices.

## Ports provided by the device

The ports are located on the front and back of the device. The ports available on your device depend on the configuration level you have selected. The standard ports are marked with the symbols shown below (or similar). Detailed information on the location of the connections is provided in the manual for the mainboard.



Serial interface, turquoise



Microphone jack (mono), pink



Monitor port, blue



Audio input (Line in), light blue



Headphones port, orange or light green



Audio output (Line out), light green



USB - Universal Serial Bus, black

LAN

LAN port



PS/2 mouse port, green



Keyboard port, purple



Some of the connected devices require special drivers (see the documentation for the connected device).

## Connecting external devices to the serial interface

External devices can be connected to the serial interface (e.g. a printer or modem).

- ▶ Connect the data cable to the external device.
- ▶ Connect the data cable to the corresponding serial interface.
- ↳ For an exact description of how to connect external devices to the corresponding port, please see the external device documentation.

### Port settings



You can change the port settings (e.g. address, interrupt) in the *BIOS Setup*.

### Device drivers



The devices connected to the serial interface require drivers. Your operating system already includes many drivers. If the required drive is missing, install it. The latest drivers are usually available on the Internet or will be supplied on a data carrier.

## Connecting external devices to the USB ports

You can connect a wide range of external devices to the USB ports (e.g. printer, scanner, modem or keyboard).



USB devices are hot-pluggable. This means you can connect and disconnect USB cables while your device is switched on.

Additional information can be found in the documentation for the USB devices.

- ▶ Connect the data cable to the external device.
- ▶ Connect the data cable to one of the USB ports on your device.

### Device drivers



The external USB devices you connect to the USB ports usually require no driver of their own, as the required software is already included in the operating system. However, if the external USB device requires its own software, please install it from the data carrier provided with the USB device.

To ensure USB 2.0, the length of the cable used between the front USB port of your device and the external USB device must not exceed 3 m.

# Operation

## Switch the device on

- ▶ If necessary, switch the monitor on (see the operating manual for the monitor).
- ▶ Press the ON/OFF switch on the front of the device.
- ↳ The power-on indicator lights green and the device is started.

## Switching off the device

- ▶ Shut down the operating system properly.
- ▶ If the operating system does not automatically switch the device into power-saving mode or switch it off, press the ON/OFF switch for at least 4 seconds.
- ↳ The device then consumes a minimum amount of energy.



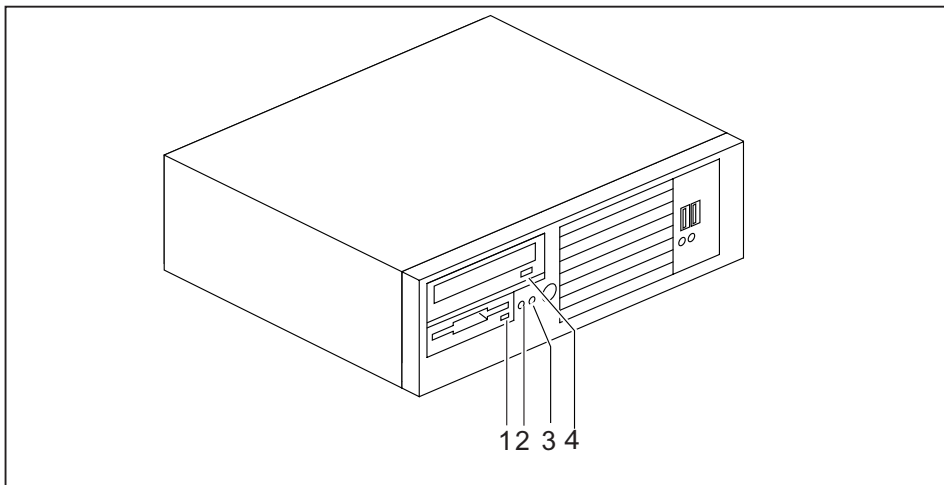
The ON/OFF switch does not fully disconnect the TV from the mains voltage. To completely disconnect the mains voltage, remove the power plug from the power socket.

- ▶ If necessary, switch the monitor off (see the operating manual for the monitor).



## Indicators on the device

The indicators are on the front of the casing. Which indicators are available on your device depends on the configuration level you have selected.



1 = Floppy disk indicator

2 = Hard disk indicator

3 = Power indicator

4 = Drive indicator, e.g. DVD

### Hard disk indicator

The indicator lights up when the device's hard disk is accessed.

### Power indicator



In energy-saving mode, the device must not be switched off with the main power switch (if present) or disconnected from the mains, as this may result in data loss.



The indicator can also light up if the device has been switched off by pressing and holding the ON/OFF switch.

- The indicator lights up: The device is on.
- The indicator flashes: The system is in power-saving mode. After being switched on with the On/Off switch, the device switches on or returns to the state it was in before it went into power-saving mode.
- The indicator does not light up: the device is disconnected from the power supply or is ready for operation. If the device is ready it can be switched on using the ON/OFF switch.

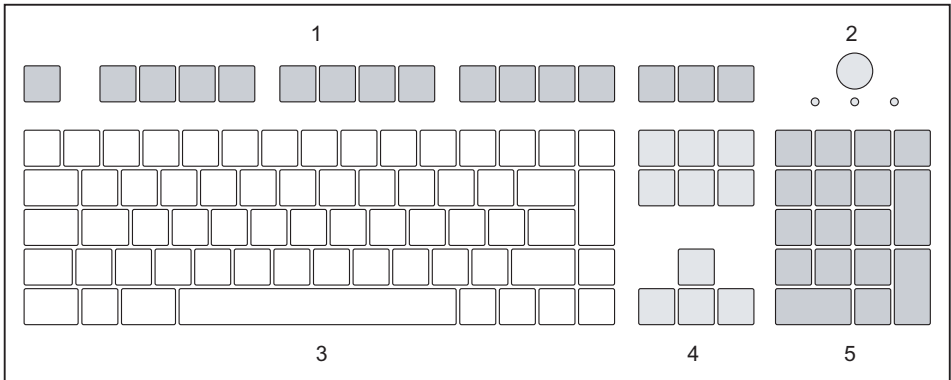
### Floppy disk indicator (optional)

The indicator lights up when the device's floppy disk drive is accessed. You may only remove the floppy disk when the indicator is not on.

### Drive indicator, e.g. DVD

The indicator lights up when the CD-ROM or DVD drive is accessed. You may only remove the DVD when the indicator is dark.

## Keyboard



1 = Function keys

4 = Cursor keys

2 = On/off switch (optional)

5 = Numeric keypad (calculator keypad)

3 = Alphanumeric keypad



The illustrated keyboard is an example and may differ from the model you use.

## Important keys and keyboard shortcuts

The description of the following keys and keyboard shortcuts applies to Microsoft operating systems. Details of other keys and keyboard shortcuts can be found in the documentation for the relevant application program.



### On/off switch (optional)

Depending on the setting in the BIOS Setup, the device can be switched on or off with this switch. Some operating systems allow you to configure additional functions of the ON/OFF switch in the Control Panel.

With some keyboards the ON/OFF switch can only be used with an ACPI (Advanced Configuration and Power Management Interface). Otherwise the key is inoperative. The mainboard must support this function.

### Enter key

confirms the highlighted selection. The Enter key is also referred to as the "Return" key.



### Start key

calls up the Windows *Start* menu.



### Menu key

calls up the menu for the marked item (Windows).



### Shift key

enables upper-case letters and the upper key symbols to be displayed.



### Alt Gr key

produces a character shown on the bottom right of a key (e.g. the @ sign on the **Q** key).



### Num Lock key

By pressing the Num Lock key you switch between the upper- and lower-case levels of the calculator keypad.

When the Num Lock indicator is lit the numeric keypad and arithmetic keys are active.

When the Num Lock indicator is not lit the cursor control functions on the Numeric keypad are active.

### Ctrl key

performs a special operation when pressed in conjunction with another key. The **Ctrl** key is also referred to as "Control" or the "Control key".



### Warm restart

restarts your device. Press simultaneously the keys **Ctrl**, **Alt** and **Del**. Under some operating systems the Task Manager appears first. You must then press all three keys again to reboot.

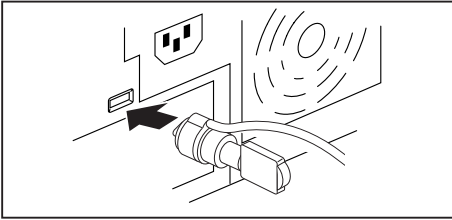


## Settings in BIOS Setup

In *BIOS Setup*, you can set the system functions and the hardware configuration of the device. When the PC is delivered, the default entries are valid (see "BIOS Setup" manual or manual for the mainboard). You can customise these settings to your requirements in the *BIOS Setup*.

## Using Kensington Lock

Your device comes with a Kensington Lock device for the Kensington MicroSaver. With the Kensington MicroSaver, a sturdy steel cable, you can help protect your device from theft. The Kensington MicroSaver is available as an accessory.



- ▶ Fit the Kensington MicroSaver on the corresponding device on your equipment.

# Troubleshooting and tips



Refer to the safety notes in the "Safety" manual and in the ["Getting started", Page 6](#) chapter when connecting or disconnecting cables.

If a fault occurs, try to correct it as described in the following documentation:

- in this chapter
- in the documentation for the connected devices
- in the help systems of the software used
- in the documentation for your operating system

If you fail to correct the problem, proceed as follows:

- ▶ Switch the device off.
- ▶ Make a note of the steps and the circumstances that led to the fault.
- ▶ Make a note of any error messages displayed.
- ▶ Note the ID number of your device. The ID number can be found on the type rating plate on the back of the casing.
- ▶ Please contact your sales outlet or our service department (refer to the enclosed Help Desk List or go to ["http://ts.fujitsu.com/support/"](http://ts.fujitsu.com/support/)).

## Troubleshooting

### Power indicator remains off after you have switched on your device

Cause	Remedy
The mains voltage supply is faulty.	<ul style="list-style-type: none"> <li>▶ Check whether the power cable is properly plugged into the device and a grounded mains outlet.</li> <li>▶ Switch the device on.</li> </ul>
Internal power supply overloaded.	<ul style="list-style-type: none"> <li>▶ Pull the power plug of the device out of the mains outlet.</li> <li>▶ Wait a moment.</li> <li>▶ Plug the power plug into a properly grounded mains outlet again.</li> <li>▶ Switch the device on.</li> </ul>

## The device cannot be switched off with the ON/OFF switch.

Cause	Remedy
The device has not been switched on with the ON/OFF switch.	▶ Press the ON/OFF switch again.
System crash	▶ Press the ON/OFF switch for at least 4 seconds, until the device switches off. The operating system is not shut-down properly in the process. Error messages are therefore possible the next time the system is booted.

## Monitor remains blank

Cause	Remedy
Monitor is switched off.	▶ Switch your monitor on.
Power saving has been activated (screen is blank)	▶ Press any key on the keyboard.  or ▶ Deactivate the screen saver. If necessary, enter the appropriate password.
Brightness control is set to dark	▶ Adjust the brightness control. For detailed information, please refer to the operating manual supplied with your monitor.
Power cable not connected	▶ Switch off the monitor and the device. ▶ Check that the monitor power cable is properly connected to the monitor and to a grounded mains outlet or to the monitor socket of the device. ▶ Check that the device power cable is properly plugged into the device and a grounded mains outlet. ▶ Switch on the monitor and the device.
Monitor cable not connected	▶ Switch off the monitor and the device. ▶ Check that the monitor cable is properly connected to the device and monitor. ▶ Switch on the monitor and the device.
Wrong monitor has been set under Windows 2000	▶ Restart the device. ▶ When the message <i>Windows is starting up</i> appears, press function key <b>[F8]</b> . The <i>Windows 2000 Advanced Options</i> menu appears. ▶ Select <i>Safe Mode</i> or <i>Safe Mode with Network</i> . ▶ Go to <i>Start – Settings – Control Panel – Display – Settings</i> to enter the correct values for the connected monitor as described in the operating manual of the monitor.

Cause	Remedy
Wrong monitor has been set under Window XP	<ul style="list-style-type: none"> <li>▶ Restart the device.</li> <li>▶ Press <b>[F8]</b> while the system is booting.</li> </ul> <p>Either the <i>Windows Advanced Start Options</i> menu or the menu for selecting the operating system appears.</p> <ul style="list-style-type: none"> <li>▶ If the menu for selecting the operating system appears, press <b>[F8]</b>.</li> <li>▶ Select <i>Safe Mode</i> or <i>Safe Mode with Network</i>.</li> <li>▶ Go to <i>Start - Settings - Control Panel - Display</i> and the <i>Settings</i> tab to enter the correct values for the connected monitor as described in the operating manual of the monitor.</li> </ul>
Wrong monitor has been set under Windows Vista	<ul style="list-style-type: none"> <li>▶ Restart the device.</li> <li>▶ Press <b>[F8]</b> while the system is booting.</li> </ul> <p>Either the <i>Windows Advanced Start Options</i> menu or the menu for selecting the operating system appears.</p> <ul style="list-style-type: none"> <li>▶ If the menu for selecting the operating system appears, press <b>[F8]</b>.</li> <li>▶ Select <i>Safe Mode</i> or <i>Safe Mode with Network</i>.</li> <li>▶ Go to <i>Start symbol - (Settings) - Control Panel - Appearance and Personalization - Personalization</i> and enter the correct values for the connected monitor as described in the operating manual of the monitor.</li> </ul>
The wrong RAM modules have been inserted	<ul style="list-style-type: none"> <li>▶ See the technical manual for the mainboard for information on which memory modules can be used.</li> </ul>

## No mouse pointer displayed on the screen

Cause	Troubleshooting
The mouse is not correctly connected.	<ul style="list-style-type: none"> <li>▶ Shut down the operating system properly.</li> <li>▶ Switch the device off.</li> <li>▶ Check that the mouse cable is properly connected to the system unit. If you use an adapter or extension lead with the mouse cable, check the connections.</li> <li>▶ Make sure that only one mouse is connected.</li> <li>▶ Switch the device on.</li> </ul>
The mouse controller is not enabled.	<p>The mouse controller must be enabled, if you use a PS/2 mouse.</p> <ul style="list-style-type: none"> <li>▶ Check in the <i>BIOS-Setup</i> whether the mouse controller is <i>enabled</i>.</li> <li>▶ Check that the mouse driver is properly installed and is present when the application programme is started. Detailed information can be found in the user guide for the mouse and application programme.</li> </ul>

## The floppy disk cannot be read or written

Cause	Remedy
The write protection of the floppy disk or the floppy disk drive is activated.	<ul style="list-style-type: none"> <li>▶ Check whether the write protection of the floppy disk or the floppy disk drive is activated (refer to the "BIOS Setup" manual and if necessary to the manual for the mainboard).</li> </ul>
The floppy disk drive controller is not enabled.	<ul style="list-style-type: none"> <li>▶ Check the relevant entries for floppy disk drive in the <i>Main</i> menu of the <i>BIOS Setup</i>.</li> <li>▶ Check that the floppy disk drive controller is enabled (refer also to the manual for the mainboard or in the "BIOS Setup" manual).</li> </ul>
The floppy disk drive is not connected.	<ul style="list-style-type: none"> <li>▶ Check that the cables of the floppy disk drive are properly connected.</li> </ul>



## Time and/or date is not correct

Cause	Remedy
Time and date are incorrect.	<ul style="list-style-type: none"> <li>▶ Set the correct time and date within the operating system you are using.</li> </ul> <p><b>or</b></p> <ul style="list-style-type: none"> <li>▶ Set the correct time and/or date in the <i>BIOS Setup</i>.</li> </ul>
The on-board backup battery in the device is flat.	<ul style="list-style-type: none"> <li>▶ If the time and date are repeatedly wrong when you switch on your device, replace the lithium battery (see <a href="#">"Replacing the lithium battery", Page 41</a>).</li> </ul>

## Error messages on the screen

Error messages and their explanations are provided:

- in the technical manual for the mainboard
- in the documentation for the programs used

## Installing new software

When installing programs or drivers, important files may be overwritten and modified. To be able to access the original data in the event of any problems following installation, you should backup your hard disk prior to installation.

## Hard disk contents, restoring

The instructions can be found on the case of the Recovery DVD.

## Tips

Topic	Tip
Out of system resources	<ul style="list-style-type: none"> <li>▶ Close unnecessary applications.</li> </ul> <p><b>or</b></p> <ul style="list-style-type: none"> <li>▶ Run the applications in a different order.</li> </ul>
Other manuals	Further manuals are provided as PDF files on the "Drivers & Utilities" DVD.

# System expansions



As the device has to be shut down in order to install/uninstall system hardware components, it is a good idea to print out the relevant sections of this chapter.

It may be necessary to update the BIOS when carrying out a system expansion or hardware upgrade. Additional information is contained in the "BIOS Setup" manual or possibly in the technical manual for the mainboard.

When installing components that become very hot, make sure that the maximum permissible temperature is not exceeded.



The device must be switched off when installing/removing the system expansions and may not be in energy-saving mode.

Remove the power plug before opening the device.

This chapter describes all the activities required to modify your device hardware (e.g. installing boards or drives).

Read the supplied documentation before installing new drives and/or boards.

Refer to the manual for the mainboard before making any extensions to the mainboard.

## Information about boards

Take care with the locking mechanisms (catches and centring pins) when you are replacing boards or components on boards

To prevent damage to the board or the components and conductors on it, please take care when you insert or remove boards. Make sure expansion boards are inserted straightly.

Never use sharp objects (screwdrivers) for leverage.



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

When handling boards fitted with ESDs, you must always observe the following points:

- You must always discharge static build up (e.g. by touching a grounded object) before working.
- The equipment and tools you use must be free of static charges.
- Only touch or hold the boards by the edge or at the areas marked green (Touch Points).
- Never touch pins or conductors on boards fitted with ESDs.

## Opening the casing

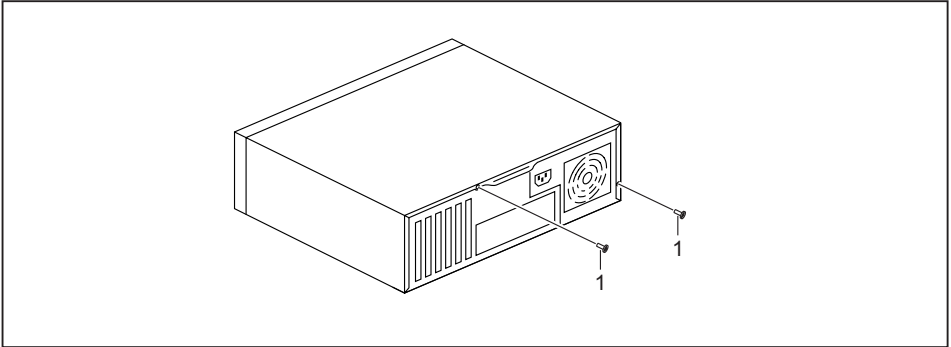
### Removing cover

- ▶ Switch the device off.

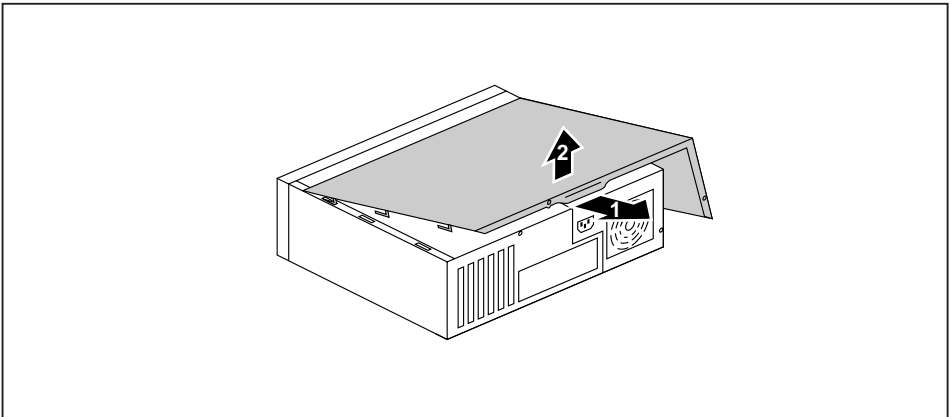


The device must not be in the energy-saving mode!

- ▶ Remove any plugged-in wires which are in the way.

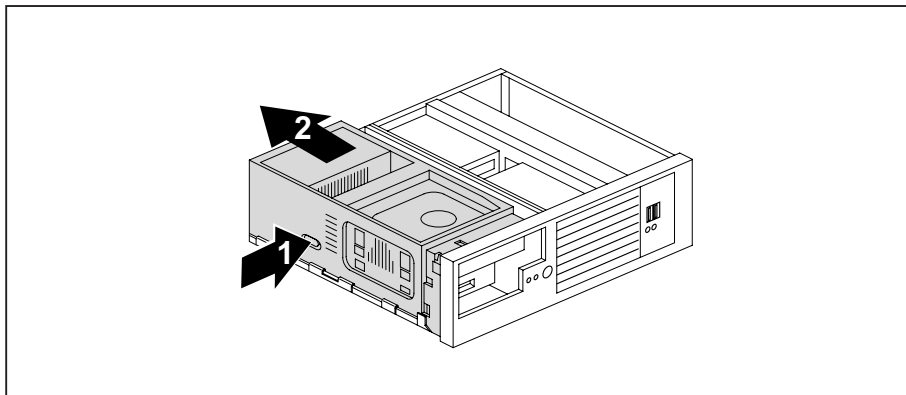


- ▶ Loosen the screws (1).

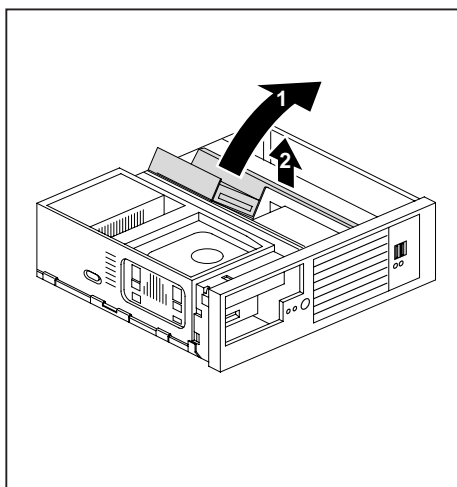


- ▶ Pull the cover a small distance in the direction indicated by the arrow (1) and remove it (2).

## Removing the hard disk drive cage



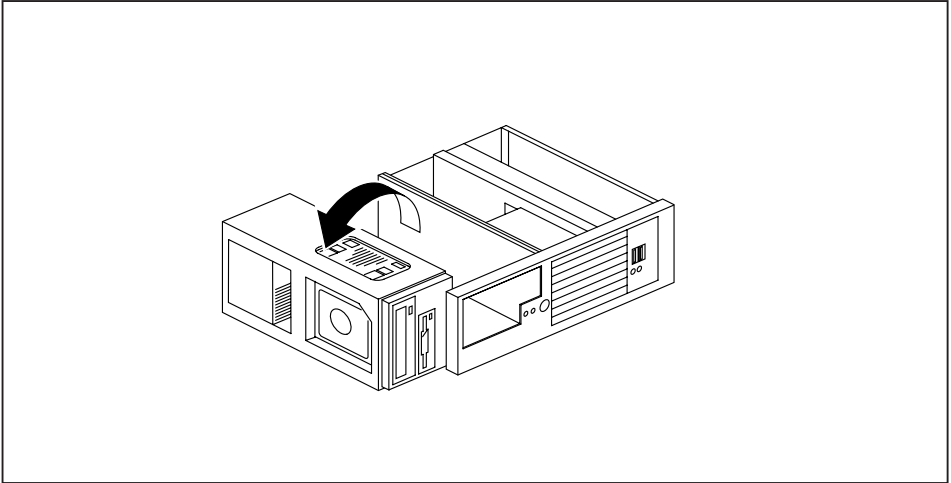
- ▶ Press and hold the button (1) and slide the drive cage in the direction of the arrow (2).
- ↳ The hard disk drive cage and the other drive cage are released.



- ▶ Fold the hard disk drive cage in the direction of the arrow (1).
- ▶ Disconnect the cables from the hard disk drive.
- ▶ Take the hard disk drive cage out of the casing (2).

## Opening the drive cage

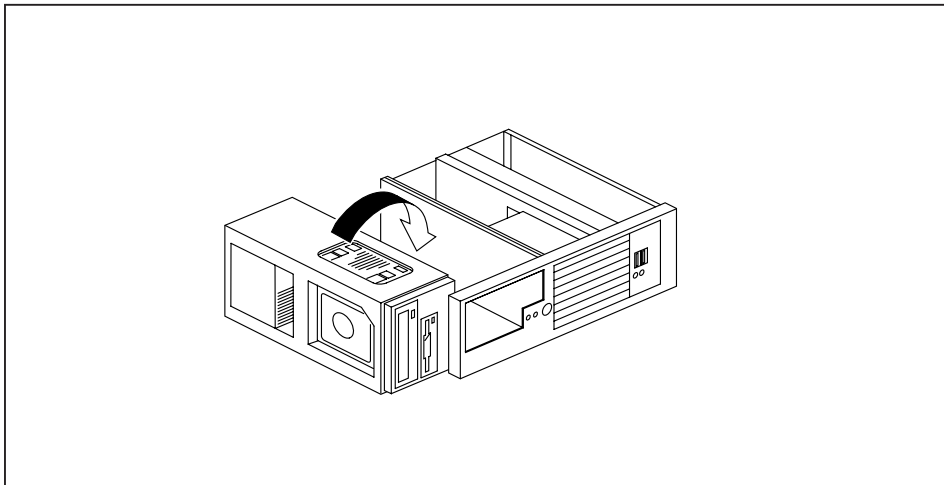
- ▶ Disconnect the cables from the drives and the mainboard.



- ▶ Fold over the drive cage in the direction of the arrow.

## Closing the casing

### Folding the drive cage back in place



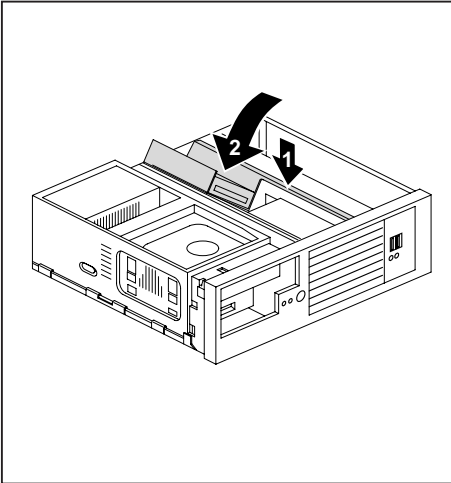
When folding the drive cage back in place, take care not to trap any cables.

- ▶ Fold the drive cage in the direction of the arrow.
- ▶ Connect the cables to the drives and the mainboard.

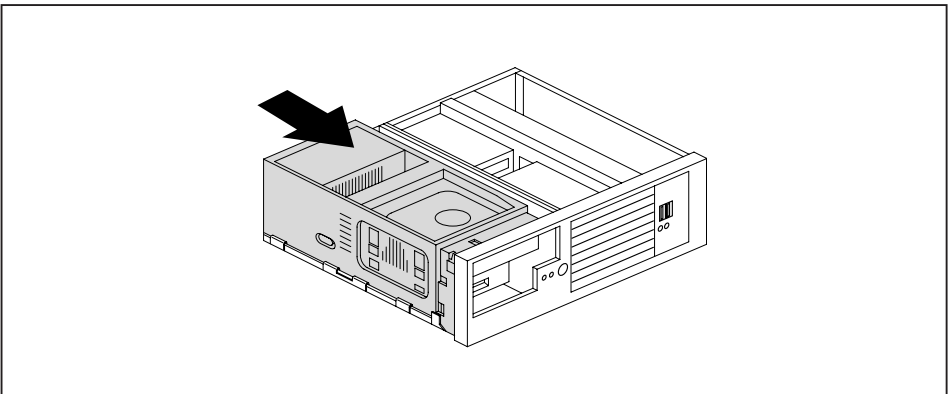
## Installing the hard disk drive cage



Make sure that you install the hard disk drive cage before folding the other drive cage back into place. Otherwise the hard disk drive cage and the other drive cage will not latch properly in place.

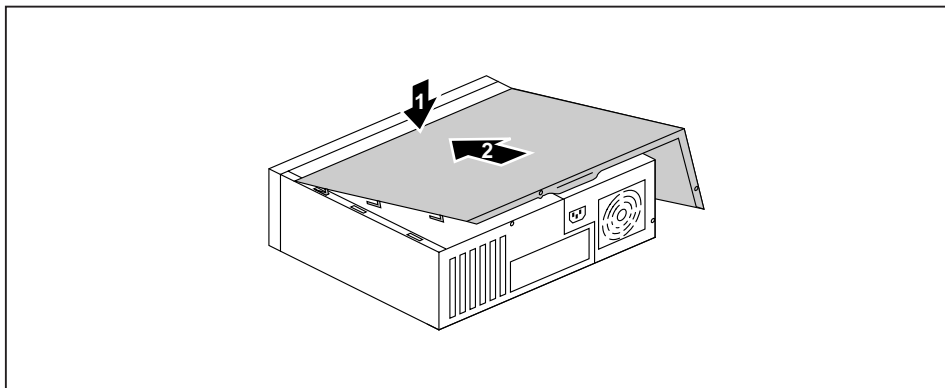


- ▶ Insert the hard disk drive cage into the casing (1).
- ▶ Connect the cables to the hard disk drive.
- ▶ Fold the hard disk drive cage in the direction of the arrow (2).

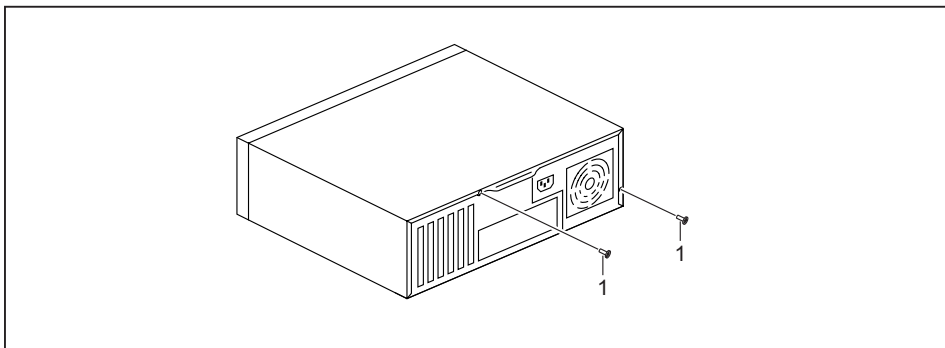


- ▶ Slide the hard disk drive cage in the direction of the arrow until it clicks into position.
- ↳ The hard disk drive cage and the other drive cage are locked.

## Reattach the cover.



- ▶ Place the cover on the casing (1) and push it into place in the direction indicated by the arrow (2).



- ▶ Fasten the screws (1).
- ▶ Connect the cables to the device.



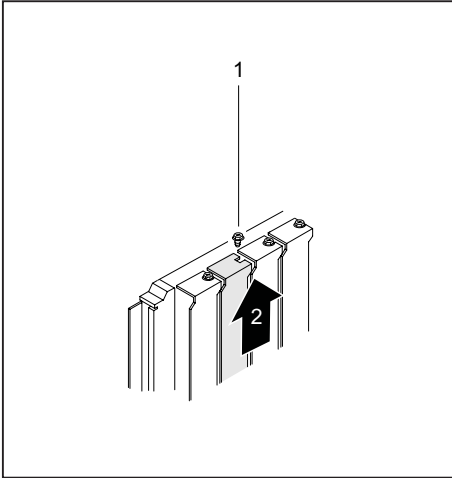
## Assembling and dismantling low-profile units



Do not dispose of the slot cover. If you remove the board again, you must reinstall the slot cover (cooling, fire protection or EMC regulations to be complied with).

### Remove the slot cover.

- ▶ Open the casing (see ["Opening the casing", Page 27](#)).

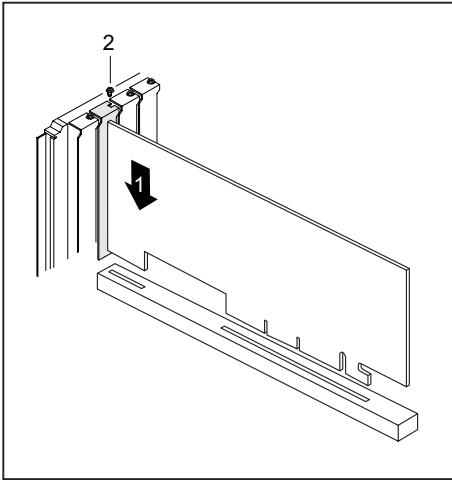


- ▶ Loosen the screw (1).
- ▶ Pull the slot cover out of the slot (2).



Do not throw away the slot cover. For cooling, protection against fire and in order to comply with EMC regulations, you must refit the slot cover if you remove the board.

## Installing a board



- ▶ Push the board into the slot (1) until it engages.
- ▶ Fasten the screw (2).

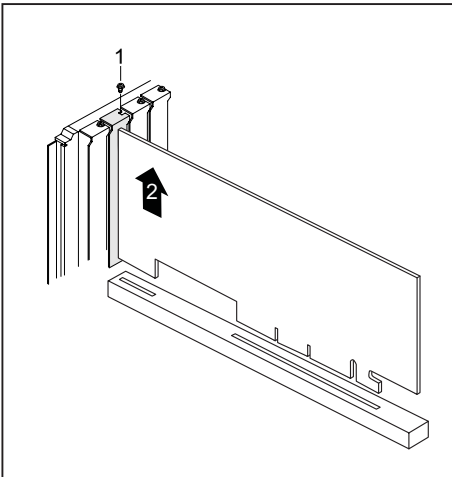
▶ If necessary, connect the cables to the board.



If you have installed or removed a board, please check the relevant PCI slot settings in the *BIOS Setup*. If necessary, change the settings. Further information is provided in the PCI board documentation.

## Removing boards

▶ If necessary, disconnect the cables which are connected to the board.

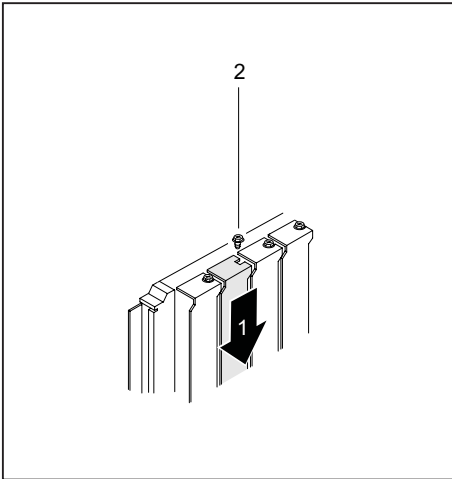


- ▶ Loosen the screw (1).
- ▶ Pull the board out of the slot (2).
- ▶ Place the board in suitable packaging.

## Reinstalling a slot cover



For cooling, protection against fire, and in order to comply with EMC (electromagnetic compatibility) regulations, you must refit the slot cover.



- ▶ Push the slot cover into the slot (1).
- ▶ Tighten the screw (2).

- ▶ Close the casing (see ["Closing the casing", Page 30](#)).



If you have installed or removed a board, please check the relevant PCI slot settings in the *BIOS Setup*. If necessary, change the settings. Further information is provided in the PCI board documentation.

## Installing and removing drives

In the standard model the device may be equipped with the following drives:

- one non-accessible 3½-inch drive
- two accessible drives (one 3½-inch drive and one 5¼-inch drive)

"Accessible drives" are e.g. DVD or disk drives into which a data carrier can be inserted from outside. Non-accessible drives are e.g. hard disk drives.

### Removing and installing accessible drives

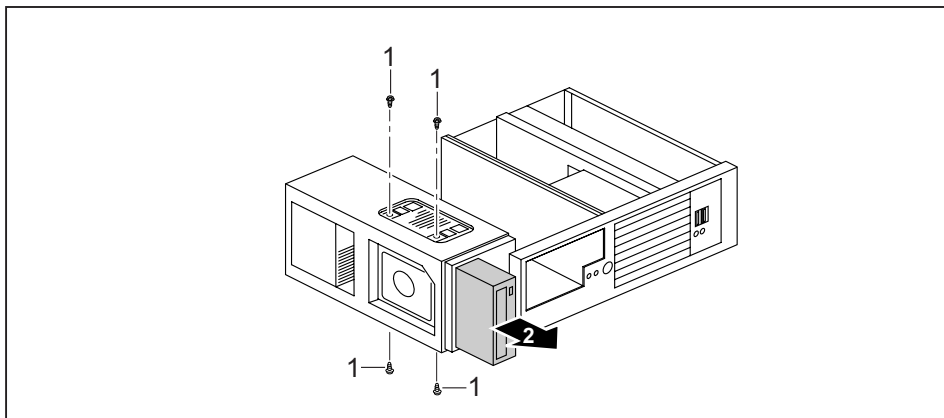


The following description applies to both accessible 3½-inch drives and accessible 5¼-inch drives.

The number of screws used to attach the drives varies according to the type of drive fitted and may not necessarily match the depiction below.

#### Removing an accessible drive

- ▶ Open the casing (see ["Opening the casing", Page 27](#)).
- ▶ Pull the data and the power supply connectors from the drive.



- ▶ Loosen the screws (1).
- ▶ Pull the drive from the front out of the drive cage (2).
- ▶ If necessary, make the required settings on the remaining hard disk drive.
- ▶ If you are not planning to install a new drive, install the corresponding drive cover in the front panel (if available). To do this, insert the drive cover from behind into the front panel and press the latches gently into their respective retainers.
- ▶ Close the casing (see ["Closing the casing", Page 30](#)).



It may be necessary to modify the drive entry in the BIOS setup.

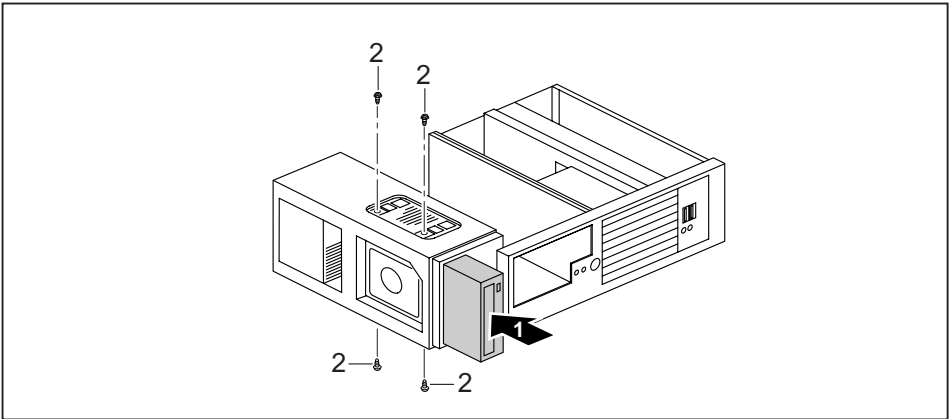
## Installing an accessible drive

- ▶ Open the casing (see ["Opening the casing", Page 27](#)).
- ▶ If a drive cover is fitted, remove this first. To do this, press the corresponding drive cover lightly out forwards and pull the drive cover forward out of the front cover.



Do not throw away the safety covers. If you remove the drive again, you must reinstall the covers (cooling, fire protection or EMC regulations to be complied with).

- ▶ Take the new drive out of its packaging.



- ▶ Slide the new drive into the drive cage (1) until the stop.
- ▶ Plug the data and the power supply connectors into the drive. Make sure the polarity is correct.
- ▶ Fasten the screws (2).
- ▶ Close the casing (see ["Closing the casing", Page 30](#)).

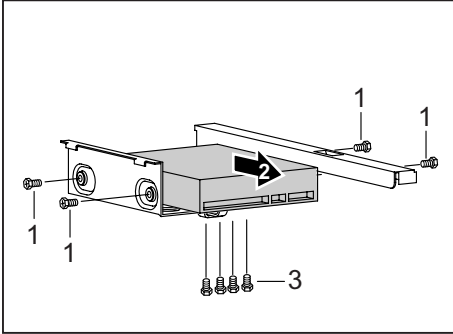


It may be necessary to modify the entry for the drive in the BIOS Setup.

## Installing and removing the hard disk drive

### Removing a hard disk drive

- ▶ Open the casing and remove the hard drive cage (see ["Opening the casing", Page 27](#)).



- ▶ Loosen the screws (1).
- ▶ Pull the hard disk drive out of the hard disk drive cage (2).

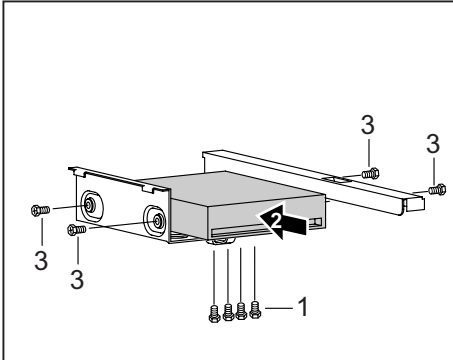
- ▶ If necessary, make the required settings on the remaining hard disk drive.



If you are not planning to install a new hard disk drive, secure the screws in the threaded bores (3) on the underside of the hard disk drive cage so that they are not lost.

### Hard disk drive: installing

- ▶ Take the new hard disk drive out of its packaging.



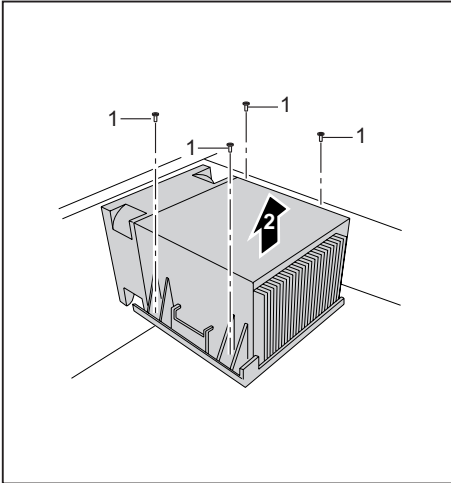
- ▶ If necessary remove the four screws (1) on the underside of the hard disk drive cage.
- ▶ Push the hard disk drive as far as it will go into the hard disk drive cage (2).
- ▶ Fasten the screws (3).

- ▶ Re-install the hard drive cage and close the casing (see ["Closing the casing", Page 30](#)).

## Removing and installing the fan

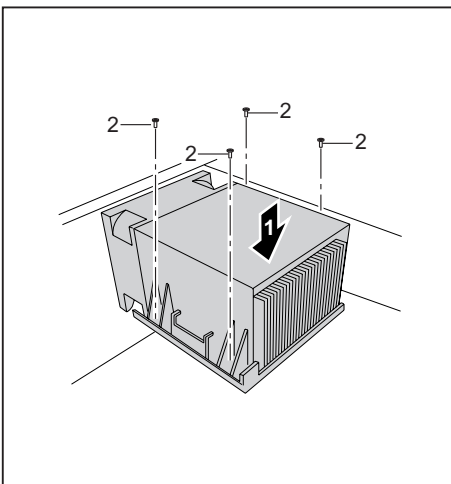
### Remove the fan

- ▶ Open the casing and remove the hard drive cage (see ["Opening the casing", Page 27](#)).
- ▶ Disconnect the cables from the cooler.



- ▶ Loosen the screws (1).
- ▶ Remove the fan from the casing (2).

### Installing the fan



- ▶ Insert the fan into the casing (1). To do this, correctly align the screw holes on the fan with the screw holes on the mainboard.
- ▶ Fasten the screws (2).
- ▶ Connect the cables to the fan.

- ▶ Re-install the hard drive cage and close the casing (see ["Closing the casing", Page 30](#)).

# Mainboard expansions

Details on how to upgrade the main memory or the processor of your device can be found in the manual for the mainboard.

## Upgrading main memory

- ▶ Open the casing and remove the hard drive cage (see ["Opening the casing", Page 27](#)).
- ▶ Upgrade the memory according to the description in the manual for the mainboard.
- ▶ Re-install the hard drive cage and close the casing (see ["Closing the casing", Page 30](#)).

## Processor, replacing

- ▶ Open the casing and remove the hard drive cage (see ["Opening the casing", Page 27](#)).
- ▶ Remove the fan (see ["Remove the fan", Page 39](#)).
- ▶ Upgrade the processor according to the description in the manual for the mainboard.
- ▶ Install the fan (see ["Installing the fan", Page 39](#)).
- ▶ Re-install the hard drive cage and close the casing (see ["Closing the casing", Page 30](#)).



## Replacing the lithium battery



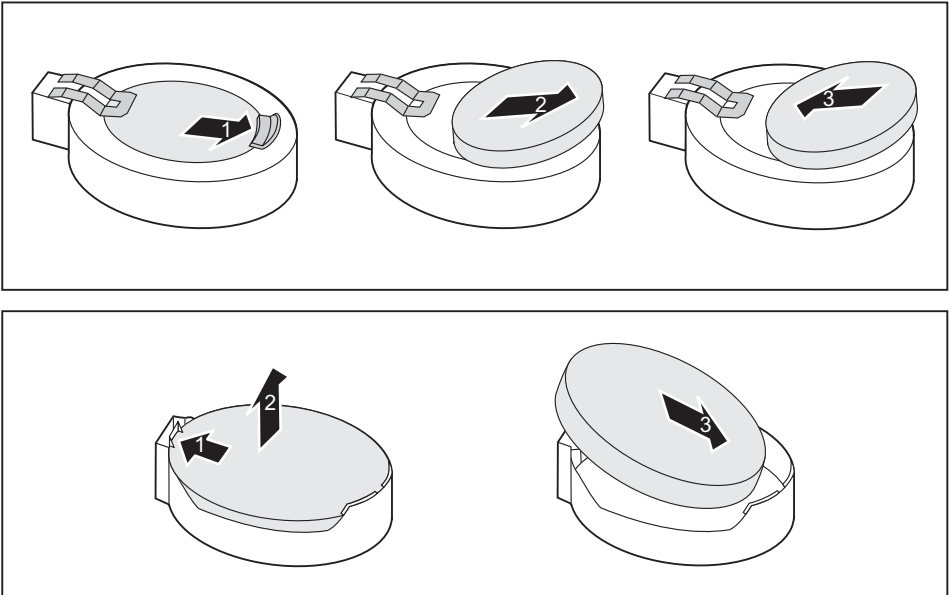
Incorrect replacement of the lithium battery may lead to a risk of explosion!

The lithium battery may be replaced only with an identical battery or with a type recommended by the manufacturer.

Do not dispose of lithium batteries with household waste. They must be disposed of in accordance with local regulations concerning special waste.

Make sure that you observe the correct polarity when replacing the lithium battery. The plus pole must be face up!

The lithium battery holder exists in different designs that function in the same way.



- ▶ Press the catch in the direction of the arrow (1).
- ↳ The battery jumps out of the holder slightly.
- ▶ Remove the battery (2).
- ▶ Push the new lithium battery of the identical type into the holder (3) and press it down until it engages.

# Technical data

<b>Data: electrical</b>	
Regulations complied with:	IEC 60950-1, EN 60950-1, UL 60950CSA 22.2 No.60950-1
Protection class:	I
Rated voltage range (selectable)	100 V – 127 V / 200 V – 240 V
Rated frequency:	50 Hz – 60 Hz
Max. rated current:	100 V – 127 V / 3.0 A 200 V – 240 V / 1.0 A
<b>Dimensions</b>	
Width/depth/height:	390 mm/350 mm/108 mm
<b>Weight</b>	
in basic configuration:	approx. 9 kg
<b>Environmental conditions</b>	
Environment class (3K2)	DIN IEC 721 part 3-3
Environment class (2K2)	DIN IEC 721 part 3-2
Temperature	
Operating (3K2)	15 °C .... 35 °C
Transportation (2K2)	-25 °C .... 60 °C
Condensation in operating must be avoided	
Clearance required to ensure adequate ventilation	
Horizontal operating position:	Front: at least 200 mm Rear: at least 200 mm
Vertical operating position:	Front: at least 200 mm Rear: at least 200 mm



The data sheets of these devices contains further technical data. You can find the data sheets on the internet at ["http://ts.fujitsu.com"](http://ts.fujitsu.com).

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