

# LIFEBOOK S7220

EasyGuide



## Are there ...

... any technical problems or other questions that you would like help with?

Please contact:

- our Hotline/Help Desk (refer to the enclosed Help Desk List or go to: ["http://ts.fujitsu.com/helpdesk"](http://ts.fujitsu.com/helpdesk))
- your sales partner
- your sales office

Additional information is contained in the Help Desk list and the "Warranty" manual. The "Warranty" manual can be found on the supplied "Drivers & Utilities" CD/DVD.

The latest information about our products, useful tips, updates etc. is available from our website: ["http://ts.fujitsu.com"](http://ts.fujitsu.com)





**Published by**

Fujitsu Technology Solutions GmbH  
A26391-K274-Z220-1-7619, Edition 1  
2009/04

Produced by  
XEROX Global Services

# LIFEBOOK S7220

## EasyGuide

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## Contents

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# Innovative technology...

Your notebook is available in several different versions. Most of the sections in this manual apply to all models – any differences are indicated separately. Some of the illustrations and features in this manual may differ from your model and are for guidance only.

Your operating system (e.g. Microsoft Windows) has already been preinstalled and optimally configured so that you can be up and running from the moment you switch on your notebook for the first time.

Your notebook features the very latest technology so that you get the best performance from your computing experience. Depending on the model, the following components may be included:

- up to 8 GB of main memory (RAM)
- A module bay suitable for housing the following modules: a DVD Super Multi Drive, a second battery, an additional hard disk or a blind insert (Weight Saver)
- a built-in camera for snapshots and video chats (optional)
- USB ports for easy connection of printers, external hard drives, USB flash memory and much more
- a PC card or Expresscard slot in which you can run a type I or type II PC card or an ExpressCard/34 or ExpressCard/54
- An on-board audio controller and two stereo loudspeakers for true audio enjoyment. It is also possible to connect a microphone and external speakers for even better performance.

For mouse control, the notebook has a touchpad. Briefly touching the touchpad twice is all that is required to open an application, for example.

With the user-friendly *BIOS Setup* you can control the hardware of your notebook and better protect your system against unauthorised access by using the powerful password features.

This Operating Manual tells you how to get your notebook up and running and how to operate it in daily use.







Further information on this notebook can be found in the following documentation:

- In the "Professional Notebook" Operating Manual
- In the "Safety" and "Warranty" manuals
- In the documentation for the operating system
- In information files (e.g. \*.TXT, \*.DOC, \*.WRI, \*.HLP, \*.PDF)



You can find information on accessories for your Notebook at ["http://ts.fujitsu.com/accessories"](http://ts.fujitsu.com/accessories).

## Notational conventions

	Pay particular attention to text marked with this symbol. Failure to observe these warnings could pose a risk to health, damage the device or lead to loss of data. The warranty will be invalidated if the device becomes defective through failure to observe these warnings.
	Indicates important information for the proper use of the device.
	Indicates an activity that must be performed
	Indicates a result
<b>This font</b>	indicates data entered using the keyboard in a program dialogue or command line, e.g. your password (( <b>Name123</b> ) or a command used to start a program ( <b>start.exe</b> )
This font	indicates information that is displayed on the screen by a program, e.g.: Installation is complete.
<i>This font</i>	indicates <ul style="list-style-type: none"> <li>terms and texts used in a software interface, e.g.: Click on <i>Save</i></li> <li>names of programs or files, e.g. <i>Windows</i> or <i>setup.exe</i>.</li> </ul>
"This font"	indicates <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>Names of CDs, DVDs and titles or designations of other materials, e.g.: "CD/DVD Drivers &amp; Utilities" or "Safety" Manual</li> </ul>
	indicates a key on the keyboard, e.g: 
<b>This font</b>	indicates terms and texts that are emphasised or highlighted, e.g.: <b>Do not switch off the device</b>

# Important notes



Take note of the safety hints provided in the "Safety" manual, in the "Professional Notebook" operating manual and in this manual.

## Help if problems occur

Should you ever have a problem with your computer that you cannot solve yourself, in many cases you can solve it quickly using the *SystemDiagnostics* program pre-installed on your computer.

- ▶ To start the *SystemDiagnostics* programme, click on *Startsymbol - Program - Fujitsu Siemens Computers - SystemDiagnostics*

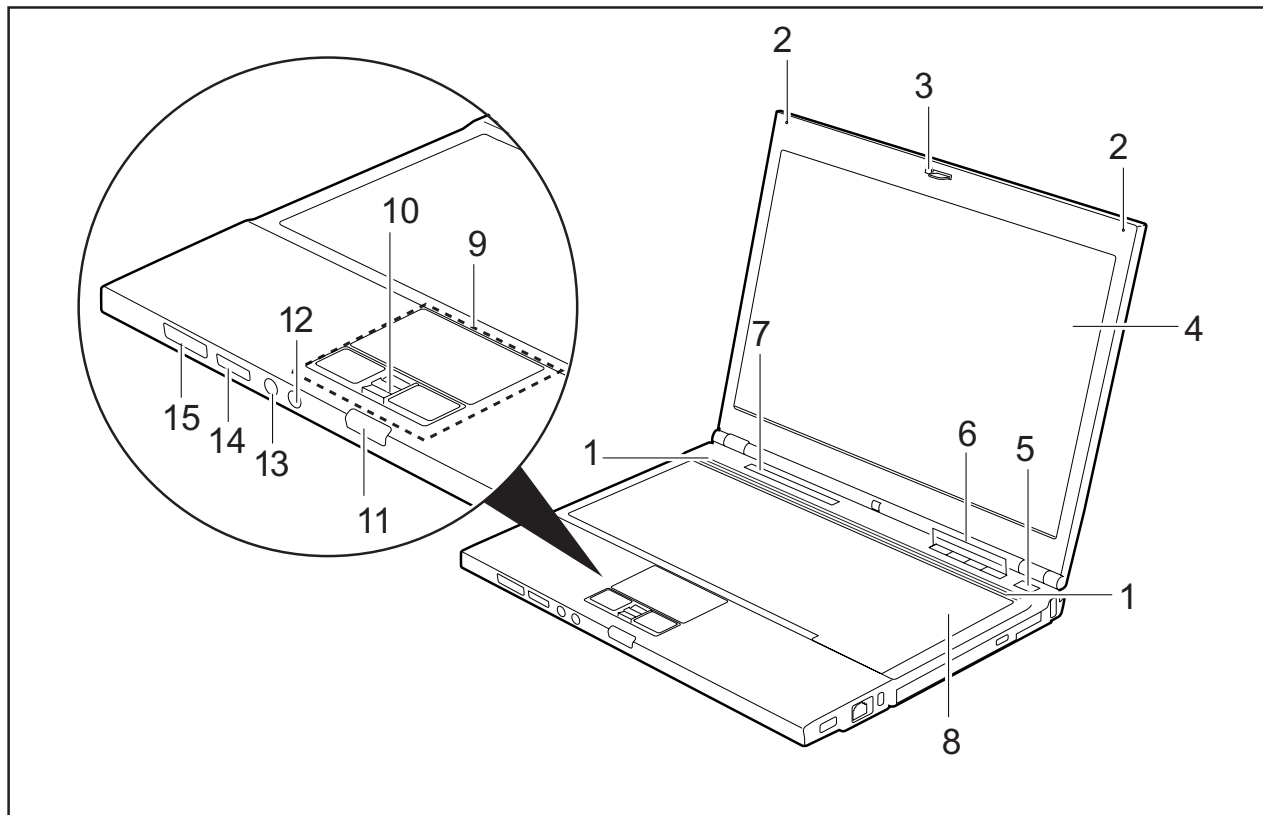
or

- ▶ To start the *SystemDiagnostics* programme, click on *Startsymbol - Program - Fujitsu - SystemDiagnostics*.
- ▶ If a problem is detected during the test run, the *SystemDiagnostics* program outputs a code (e.g. DIFS code YXXX123456789123).
- ▶ Take a note of this DIFS code and the ID number of your device. The ID number can be found on the type rating plate on the back of the casing.
- ▶ For further clarification of the problem, contact the Help Desk for your country (see the Help Desk list or visit the Internet at "<http://ts.fujitsu.com/support>"). For this, please have ready the ID number & serial number of your system and the DIFS code.

# Ports and operating elements

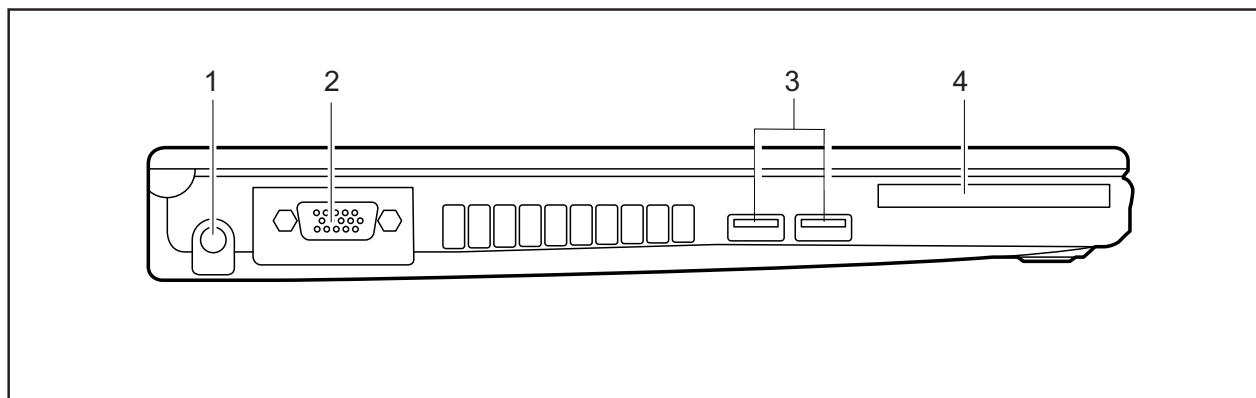
This chapter presents the individual hardware components of your device. This will provide you with an overview of the ports and operating elements on the device. Please familiarise yourself with these components before starting to work with your device.

## Notebook open



- |                          |  |
|--------------------------|--|
| 1 = Loudspeaker          | 9 = Touchpad and touchpad buttons          |
| 2 = Internal microphones | 10 = Fingerprint sensor                    |
| 3 = Camera               | 11 = Screen unlocking device               |
| 4 = LCD screen           | 12 = Microphone port                       |
| 5 = ON/OFF switch        | 13 = Headphones port                       |
| 6 = Application buttons  | 14 = ON/OFF switch for wireless components |
| 7 = Status indicators    | 15 = Memory card slot                      |
| 8 = Keyboard             |  |

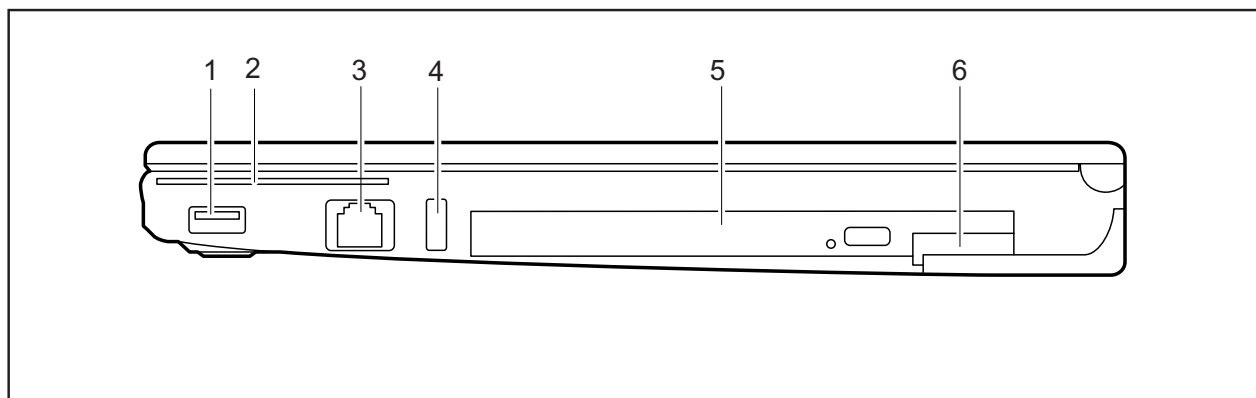
## Left side



1 = DC input connector (DC IN)  
2 = Monitor port

3 = USB ports  
4 = PC card/ExpressCard slot

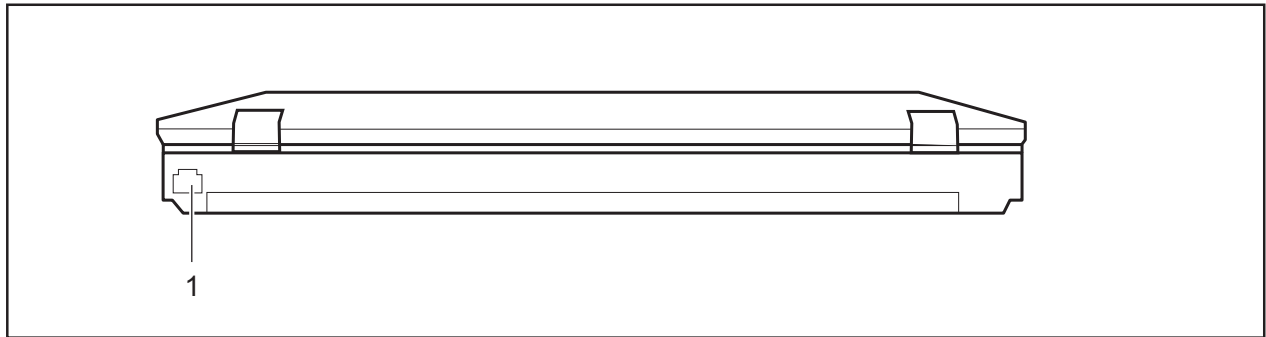
## Right-hand side



1 = USB ports  
2 = SmartCard slot  
3 = Modem port

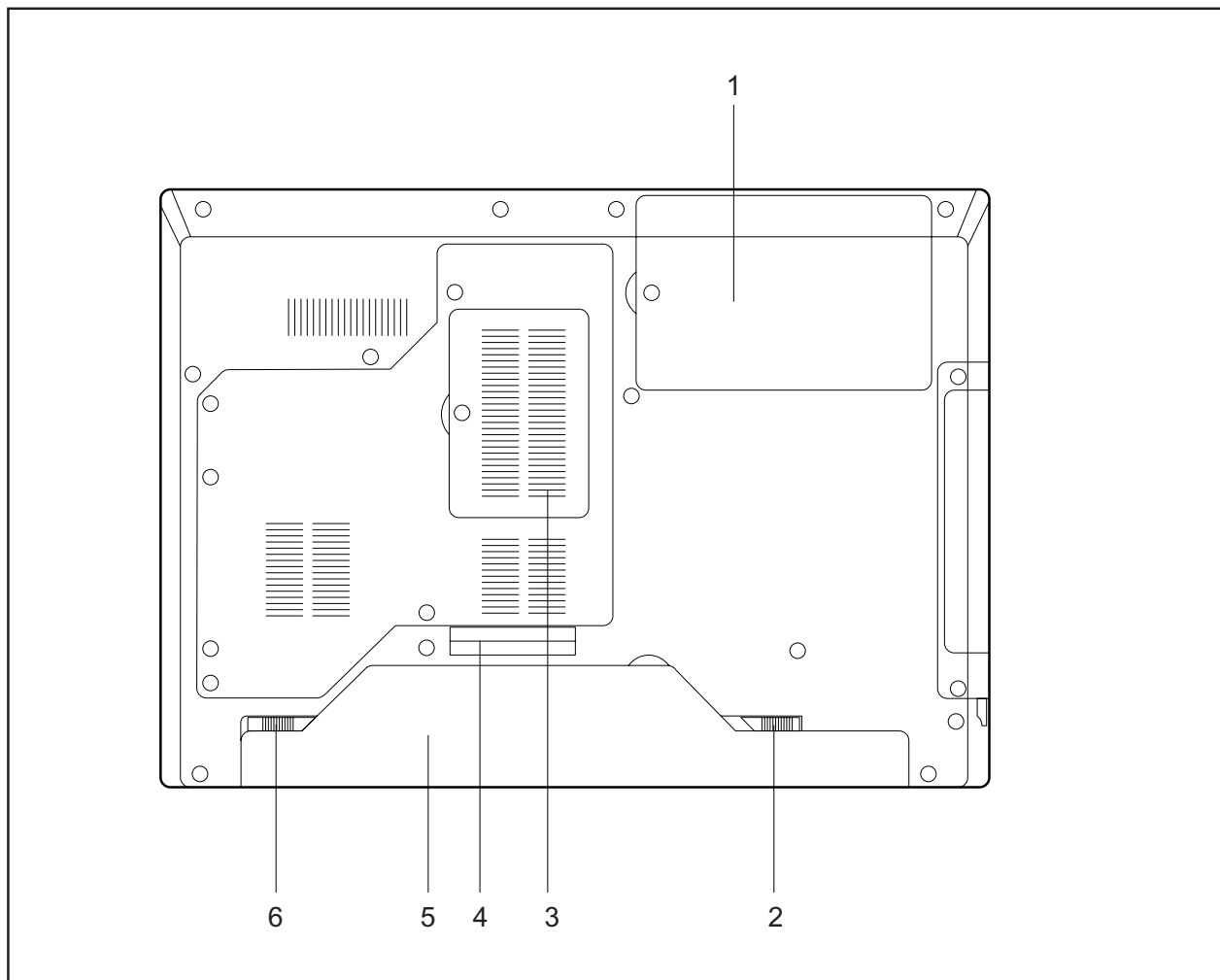
4 = Kensington Lock  
5 = Module bay with optical drive  
6 = Eject lever for module

## Rear



1 = LAN port

## Underside



1 = Hard disk

2 = Battery release

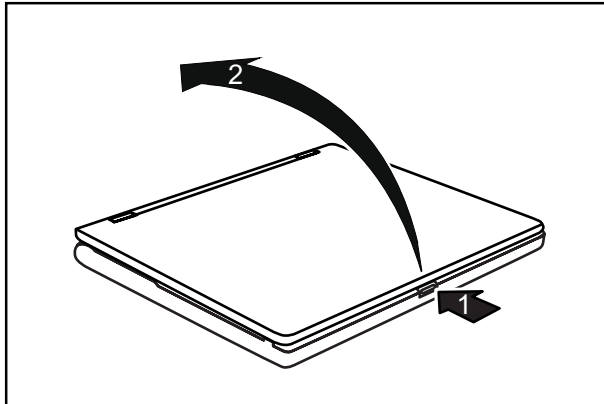
3 = Cover for memory modules

4 = Port for port replicator

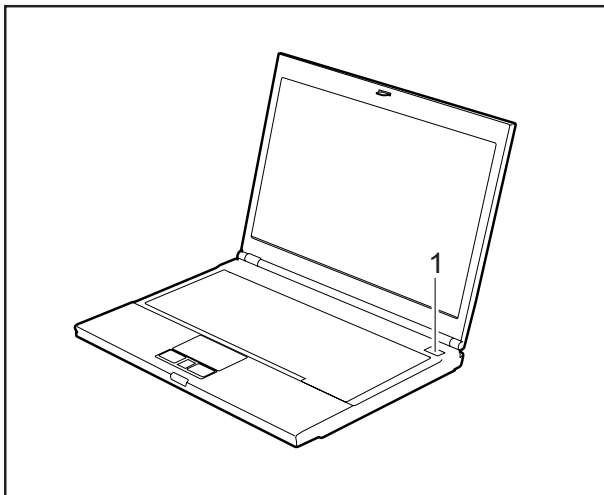
5 = Battery

6 = Battery release latch

## Switching on the notebook



- ▶ Press the release button (1) and open the LCD–display panel (2).



- ▶ Press the ON/OFF switch (1) to switch the notebook on.
- ↳ The operating mode indicator of the notebook appears in the status indicator panel.



### Windows XP

You can configure the ON/OFF switch under *Start – (Settings) – Control Panel – Performance and Maintenance – Power Options – Advanced*.

### Windows Vista

You can configure the ON/OFF switch under *Start symbol – (Settings) – Control Panel – Mobile PC – Power Options*.

If you have assigned a password, you must enter this when requested to do so, in order to start the operating system password. You can find more information in the "Professional Notebook" operating instructions, "Security functions" section.



## Switching off the Notebook

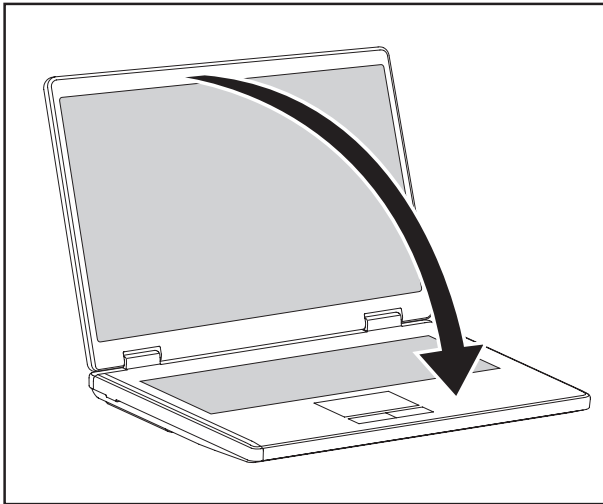
- ▶ Close all applications and shut down your operating system (please see operating system manual).



If the notebook cannot be shut down properly, press and hold the ON/OFF button for approximately four seconds. The notebook will switch off. Any unsaved data may be lost.

The notebook is delivered with a protective film inserted between the keyboard and the LCD screen.

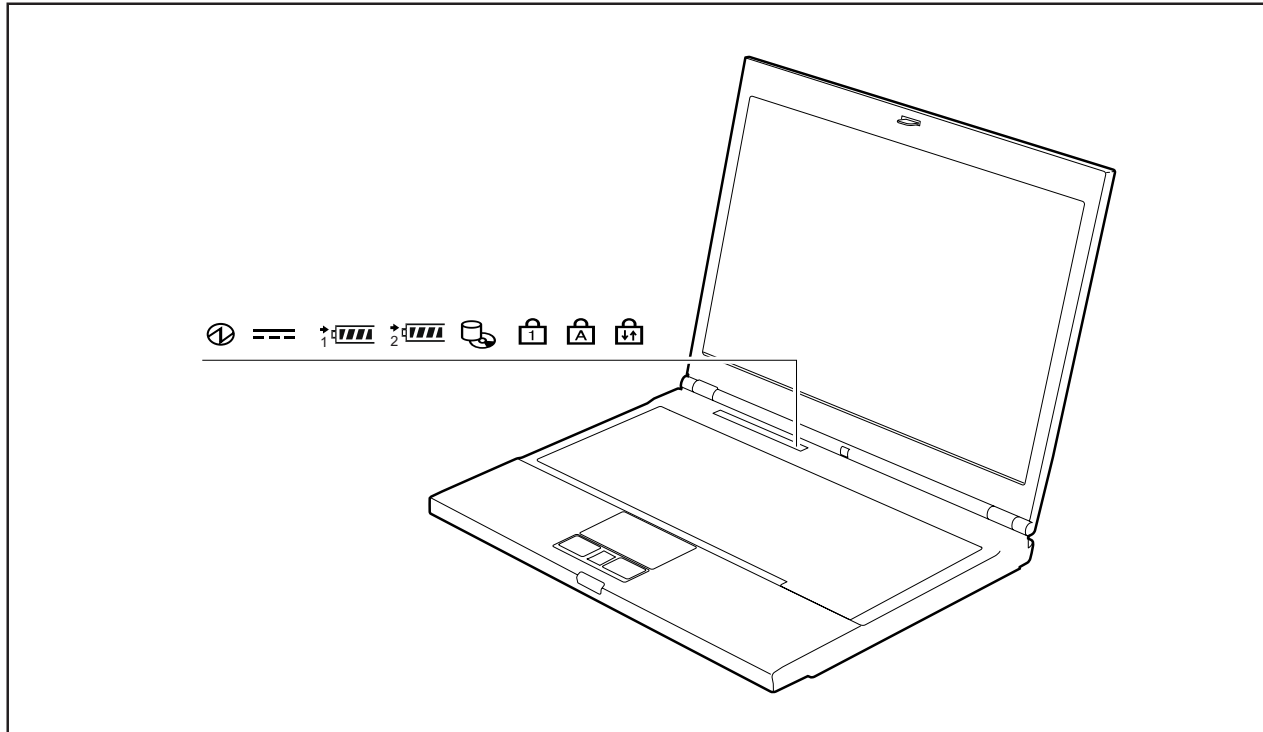
To ensure optimal protection of the LCD screen, it is recommended that you insert this protective film between the keyboard and the LCD screen each time you close the notebook.



- ▶ Close the LCD screen so that it locks into place.

## Status indicators

The status indicators provide information about the status of the power supply, the drives and the keyboard functions.



Power-on indicator



Hard disk indicator



Power indicator



Num Lock indicator



Battery charging indicator



Caps Lock indicator



First battery indicator



Scroll Lock indicator



Second battery indicator

The meanings of the symbols are as follows:



#### Power-on indicator

- Indicator is on: The notebook is switched on.
- Indicator flashes: The notebook is in suspend mode.
- The indicator is not illuminated: The notebook is switched off or the notebook is in Save-to-Disk mode.



#### Power indicator

Indicator is on: The mains adapter is supplying power to the notebook.



#### Battery charging indicator

- Indicator is on: the battery is charging.
- The indicator is not illuminated: The battery is either too hot or too cold to be charged.



#### Battery indicators

The charging state of the batteries is indicated with two battery indicators. The number "1" indicates that the information applies to the first battery in the battery compartment. The number "2" indicates that the information applies to the second battery in the module bay.

 indicates that the battery is charged to 0 - 25 % of its maximum capacity.

 indicates that the battery is charged to 25 - 50 % of its maximum capacity.

 indicates that the battery is charged to 50 - 75 % of its maximum capacity.

 indicates that the battery is charged to 75 - 100 % of its maximum capacity.



#### Hard disk indicator

Indicator is on: The hard disk drive or the CD/DVD in the optical drive of the notebook is being accessed.



#### Num Lock indicator

Indicator is on: The **[Num]** key has been pressed. The virtual numerical keypad is enabled. You can output the characters indicated on the upper right of the keys.



#### Caps Lock indicator

Indicator is on: The Caps Lock key has been pressed. All the characters you type will appear in upper case. In the case of overlay keys, the character printed on the upper left of the key will appear when that key is pressed.



#### Scroll Lock indicator

Indicator is on: The key combination **[Fn]** + **[Scr]** has been pressed. The effect that this key has varies between applications.






## Key combinations

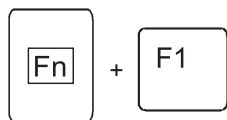
The following description of key combinations refers to functions when using Microsoft Windows. Some of the following key combinations may not function in other operating systems and with some device drivers.

Key combinations are entered as follows:

- ▶ Press and hold the first key in the combination.
- ▶ While holding the first key down, press the other key or keys in the combination.

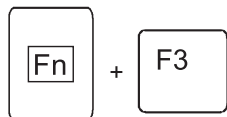


The key combination  +  or  +  can be used on external keyboards that do not feature a  key.



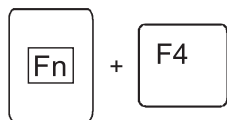
### Sleep mode

This key combination is used to activate the suspend mode (S3).



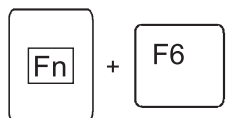
### Enable/disable loudspeakers

This key combination switches your notebook's loudspeakers off and on.



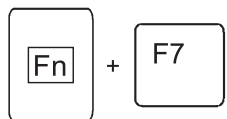
### Switching the touchpad on/off

This key combination enables and disables the touchpad.



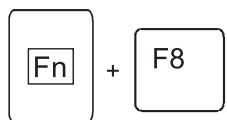
### Decrease screen brightness

This key combination decreases the brightness of the screen.



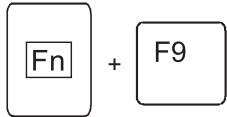
### Increase screen brightness

This key combination increases the brightness of the screen.

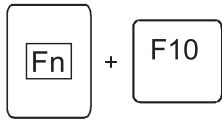


### Decrease volume

This key combination reduces the volume of the integrated loudspeakers.

**Volume increase**

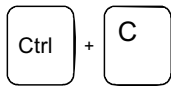
This key combination raises the volume of the integrated loudspeakers.

**Toggle output screen**

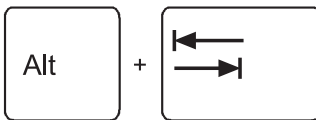
If an external monitor is connected, the monitor on which the output is to be displayed can be selected with this key combination.

You can opt to use:

- just the notebook's LCD screen
- just the external monitor
- both the LCD screen and the external monitor

**Halt current operation**

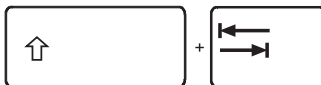
This key combination can be used to halt an operation instantly without clearing the keyboard buffer.

**Switch between open applications**

With this key combination you can switch between several open applications.

**Perform warm boot**

This key combination triggers a reset and reboots the notebook. First press and hold both the **Ctrl** and **Alt** key, then press the **Del** key. This will cause the Task Manager to be displayed. The key combination must be pressed a second time to reboot the system.

**Back tab**

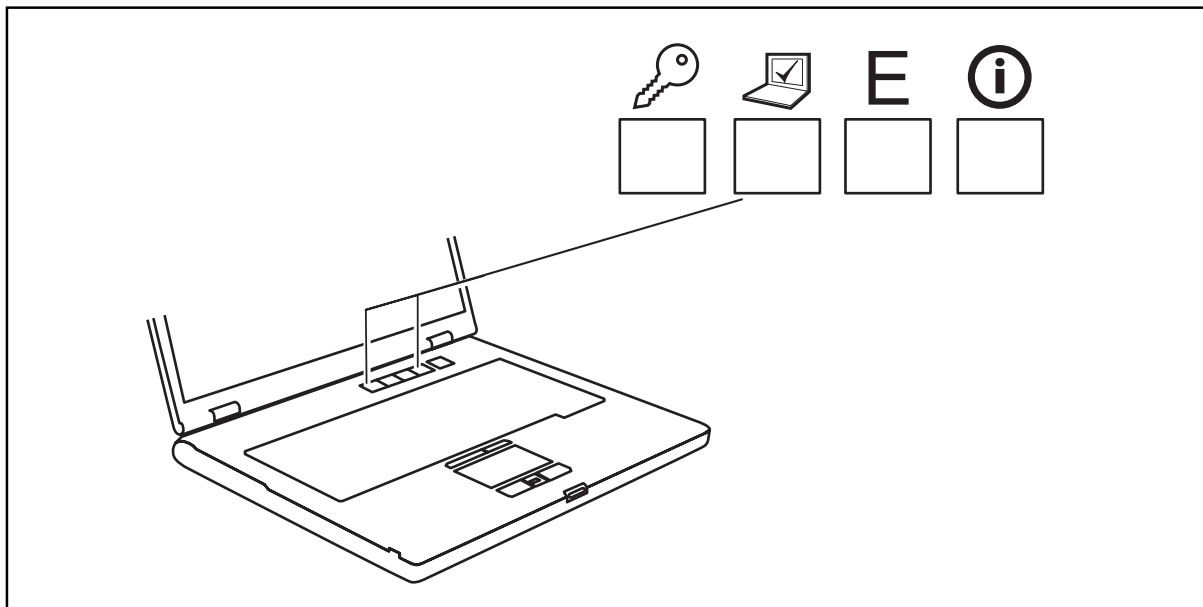
This key combination moves the cursor back to the previous tabular stop.



Key combinations using the Windows keys are detailed in the manual for your operating system.

## Application buttons

Your notebook is equipped with four application keys.



### Lock Workstation key

This key allows you to lock your workstation. However, you are also free to program this key as desired.



### Mobility Center key

This button starts the Mobility Center. However, you are also free to program this key as desired.



### E key

The E key is a simple way of activating and deactivating power management functions (e.g. reducing screen brightness), refer to the "Professional Notebook" manual.



### I key

The I key allows you to access further information about your notebook. However, you are also free to program this key as desired.

## Programming the application keys

With the *Application Panel* you can assign various functions to the application keys.

### Windows XP

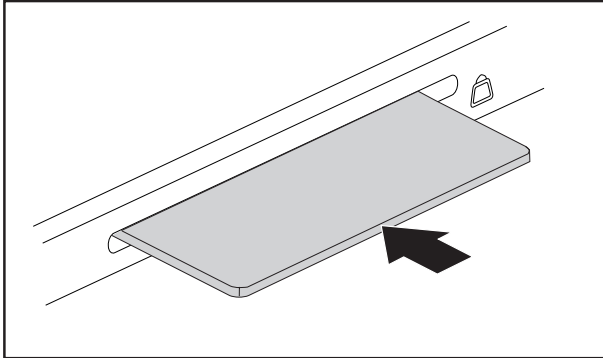
You will find the *Application Panel* under *Start - (Settings) - Control Panel - Additional Control Panel Options - Application Panel*.

### Windows Vista

You will find the *Application Panel* under *Start symbol - Programs - Lifebook Application Panel*.

## SmartCard reader

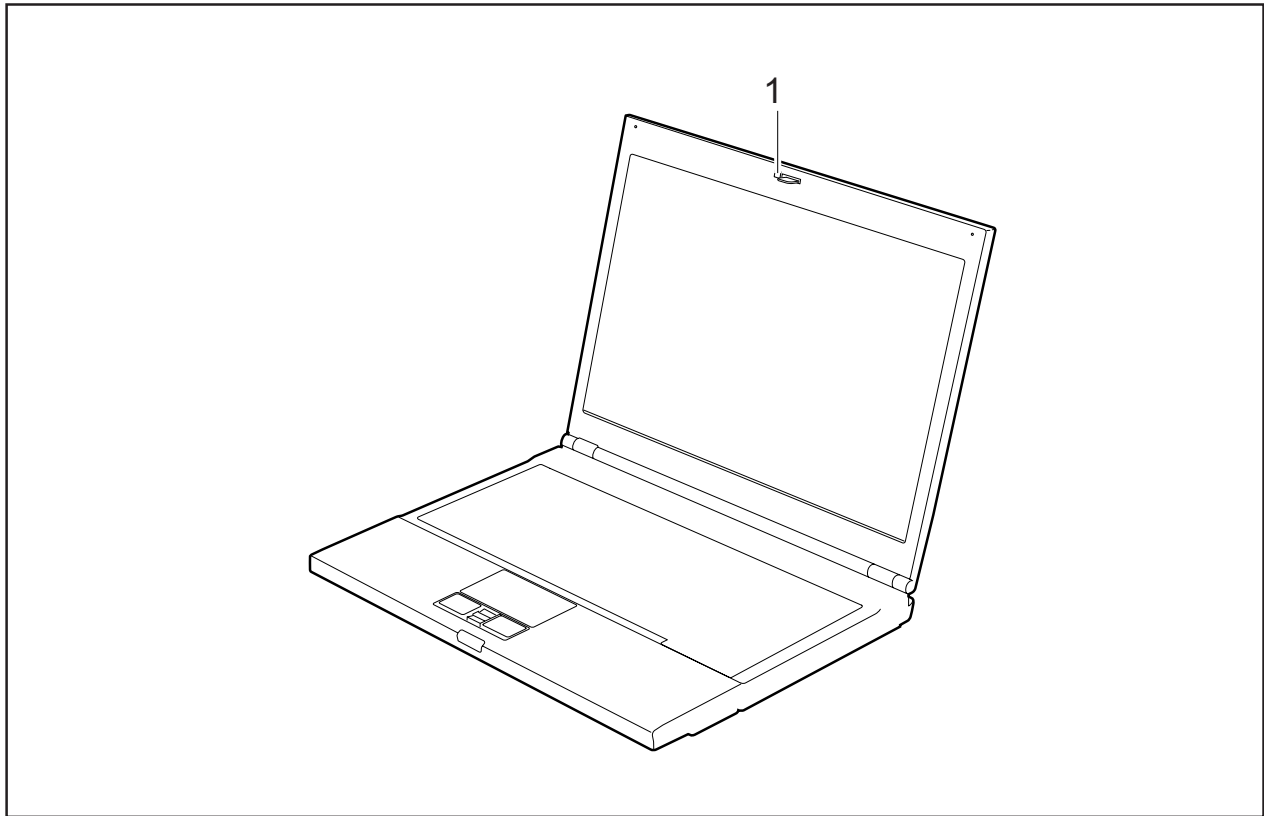
Your device is equipped with a SmartCard reader.



- ▶ The SmartCard should be inserted with the chip facing down and forwards towards the device.

## Camera (optional)

Your device is fitted with a VGA camera (1), which can also be used as a webcam.



Further information on the use of the camera can be found in the supplied software.



## Removing and installing the battery



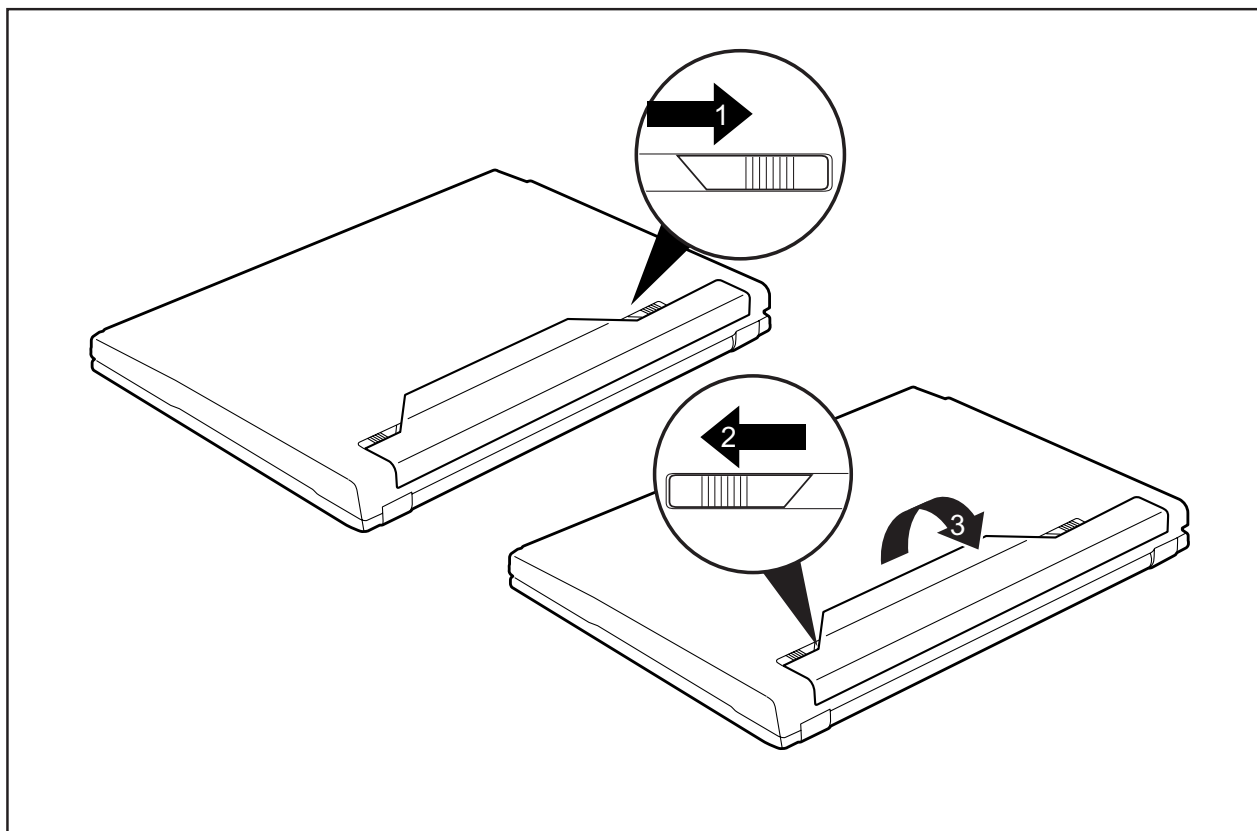
Only use rechargeable batteries approved by Fujitsu Technology Solutions for your notebook.

Never use force when inserting or removing a battery.

Make sure that no foreign bodies get into the battery connections.

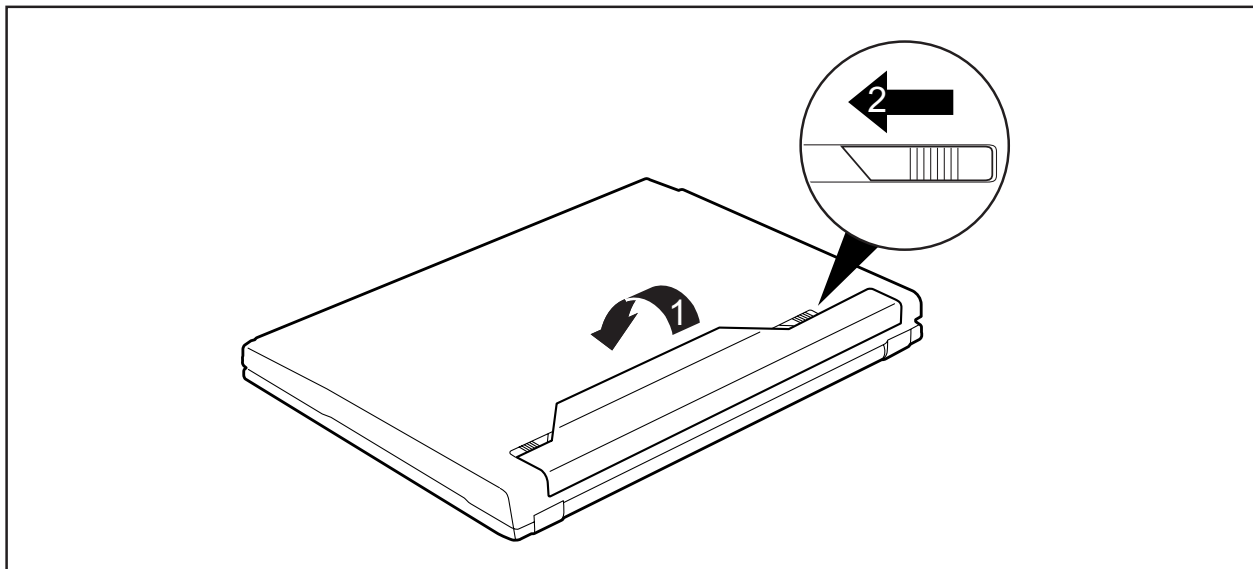
### Removing the battery

- ▶ Switch the notebook off and pull the power plug out of the mains socket.
- ▶ Close the LCD screen so that it locks into place.
- ▶ Disconnect all cables connected to the notebook.
- ▶ Turn your notebook over and place it on a stable, flat and clean surface. If necessary, lay an anti-slip cloth on this surface to prevent the notebook from being scratched.



- ▶ Slide the release button in direction of the arrow (1).
- ▶ Slide the battery lock (2) in the direction of the arrow as far as possible and hold it in place.
- ▶ Remove the battery from the battery compartment (3).

## Installing battery



- ▶ Position the battery at the edge.
- ▶ Push the battery into the battery slot until you feel it lock into place (1).
- ▶ Slide the release button in direction of the arrow (2).

## Removing and installing the air filter



Never run the notebook without an air filter. It could otherwise be damaged due to overheating.

Clean the existing air filter regularly. Dirty air filters will lead to an increased temperature inside the device. Operating temperatures which are too high can lead to loss of data and unreliable operation.

### Air filter removal

- ▶ Switch off your notebook and disconnect the power plug from the mains.
- ▶ Close the LCD screen so that it locks into place.
- ▶ Disconnect all cables connected to the notebook.
- ▶ Turn your notebook over and place it on a stable, flat and clean surface. If necessary, lay a non-slip cloth on this surface to prevent the notebook from being scratched.
- ▶ Remove the air filter from its slot (2).
- ▶ Clean the air filter with a dry brush.

## Install air filter



Make sure that the arrow (a) on the air filter points in the correct direction and that you reinsert the air filter with the same orientation that it had before the cleaning operation.

- ▶ Turn the notebook the right way up and place it on a flat surface.
- ▶ Reconnect the cables that you disconnected previously.

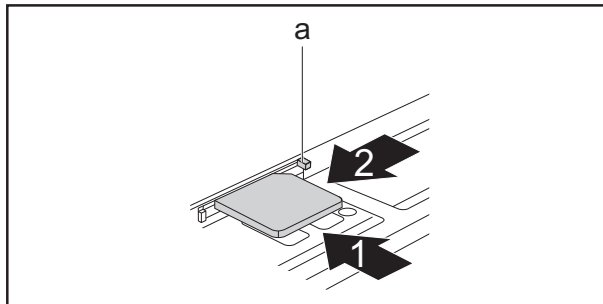
## SIM card



Follow the instructions supplied by the provider of the SIM card.

## Inserting the SIM card

- ▶ Switch the notebook off and pull the power plug out of the mains socket.
- ▶ Close the LCD screen so that it noticeably locks into place.
- ▶ Disconnect all cables connected to the notebook.
- ▶ Turn your notebook over and place it on a stable, sturdy, flat surface. If necessary, lay a non-slip cloth on this surface to prevent the notebook from being scratched.
- ▶ Remove the battery (see Section ["Removing the battery", Page 17](#)).

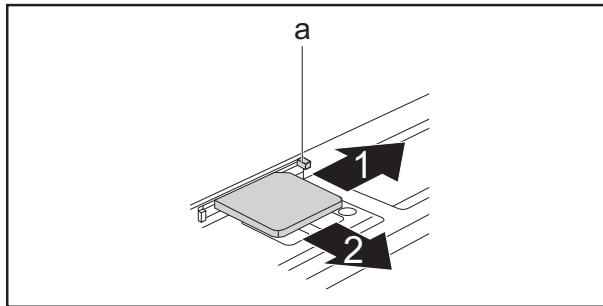


- ▶ Slide the SIM card into the slot (1) (with the contacts facing upwards) until it engages.
- ▶ Slide the clip (a) of the SIM card in the direction of the arrow (2).

- ▶ Reinstall the battery (see ["Installing battery", Page 18](#)).
- ▶ Turn the notebook the right way up and place it on a flat surface.
- ▶ Reconnect the cables that you disconnected previously.

## Removing a SIM card

- ▶ Switch the notebook off and pull the power plug out of the mains socket.
- ▶ Close the LCD screen so that it locks into place.
- ▶ Disconnect all cables connected to the notebook.
- ▶ Turn your notebook over and place it on a stable, flat and clean surface. If necessary, lay an anti-slip cloth on this surface to prevent the notebook from being scratched.
- ▶ Remove the battery (see Section ["Removing the battery", Page 17](#)).



- ▶ Slide the clip (a) of the SIM card in the direction of the arrow (1).
- ▶ Press on the edge of the SIM card so that it jumps up slightly out of the slot.
- ▶ Pull the SIM card out of the slot in the direction of the arrow (2).

- ▶ Reinstall the battery (see ["Installing battery", Page 18](#)).
- ▶ Turn the notebook the right way up and place it on a flat surface.
- ▶ Reconnect the cables that you disconnected previously.

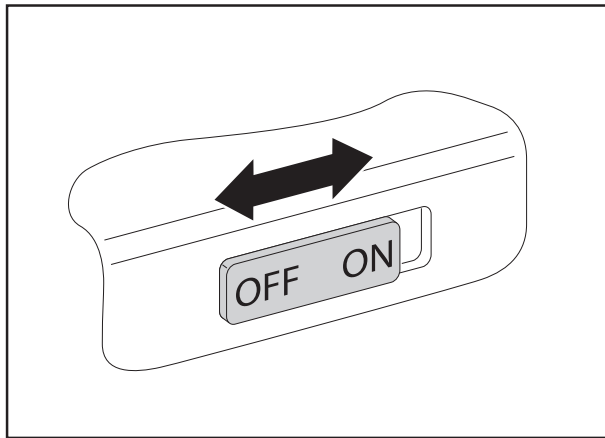
## Radio components: UMTS (optional)/wireless LAN/Bluetooth



The installation of a wireless LAN, Bluetooth or UMTS module not approved by Fujitsu Technology Solutions GmbH will void the approvals (CE!, FCC) issued for this device.

The modules for radio components are switched off during shipping.

### Switching the radio components on and off



- ▶ Slide the ON/OFF switch into the "ON" position to activate the radio components.
- or
- ▶ Slide the ON/OFF switch to the "OFF" position to deactivate the radio components.



The Bluetooth and UMTS modules and the wireless LAN transmission unit (antenna) will also be switched off when you switch off the radio components.

You can also deactivate the wireless components individually in the *BIOS Setup*. You must have assigned a supervisor password in order for this function to be available.

Pay attention to the additional safety notes for devices with radio components provided in the "Safety" manual.

Details on using Wireless LAN can be found the online help system included in the Wireless LAN software.

You can find more information on how to use Bluetooth on the CD you received with your Bluetooth software.

You can obtain more information on UMTS from your service provider.

## Security functions

Your device enables you to protect your system and personal data in a number of ways against unauthorised access. By combining these options, you can achieve maximum protection for your system.



Bear in mind that improper use of security functions will mean that you will also be unable to access your system and your data. Therefore, please note the following information:

- Back up your data on external data carriers at regular intervals.
- You will need to assign passwords for some of the security functions. Please be sure to remember these passwords, as otherwise you will no longer be able to access your system.

We recommend that you make a note of the passwords and keep them in a safe place.

If you lose both the user and the admin passwords you will need to contact the help desk. The telephone numbers can be found on the supplied Help Desk list or on our website at ["http://ts.fujitsu.com/support/"](http://ts.fujitsu.com/support/). The service of deleting passwords is not covered by your warranty, and a charge will therefore be made for any assistance provided.

## Brief overview of security functions



Detailed information about the security equipment of your device can be found in the "Professional Notebook" manual, on the "Drivers & Utilities" CD/DVD or on our website at ["http://ts.fujitsu.com/support"](http://ts.fujitsu.com/support).

Security functions	Type of protection	Preparation
Kensington Lock	Mechanical	Fitting and locking the Kensington MicroSaver (accessory)
Fingerprint sensor (device-dependent)	Biometric	Installing the supplied fingerprint software
BIOS password protection	Password protection for <i>BIOS Setup</i> , operating system and hard disk with supervisor and user password. The passwords consist of a maximum of eight alphanumeric characters.	Specify at least one supervisor password in the <i>BIOS Setup</i> and activate the password protection for the operating system and hard disk as desired.
Boot from Removable Media	Prevents unauthorised booting of an operating system from external media (e.g. USB stick, USB CD-ROM drive etc.)	In the BIOS Setup go to the <i>Security</i> menu and edit the option <i>Boot from Removable Media</i> .
Owner Information	Displays Help Desk or Owner Information during the booting process	In the BIOS Setup go to the <i>Security</i> menu and edit the option <i>Owner Information</i> .
Virus Warning	This checks the boot sectors of the hard disk drive to see if any changes have been made since the previous system start-up.	In the BIOS Setup go to the <i>Security</i> menu and edit the option <i>Virus Warning</i> .
System Lock 2	The BIOS can only be called up with a SmartCard and PIN.	Assign a supervisor password in the BIOS and initialise the SmartCard.
SmartCard reader (device-dependent)	PIN and SmartCard protection for operating system	Install the corresponding software, e.g. <i>SmartCase Logon+</i> (accessory). Specify a password when using the <i>SmartCase Logon+</i> software.
Trusted Platform Module (device-dependent)	Identification and authentication of the notebook	Defining a supervisor password in the <i>BIOS Setup</i> and enabling the TPM ( <i>Security Chip</i> )

# Removing and installing components during servicing



Only qualified technicians should repair your notebook. Unauthorised opening or incorrect repair may greatly endanger the user (electric shock, fire risk) and will invalidate your warranty.

You may remove and install the components described in this chapter yourself after consulting the Hotline/Help Desk.



If you remove and install components without consulting the Hotline/Help Desk, then the warranty of your notebook will be voided.

## Notes on installing and removing boards and components

- Switch the notebook off and pull the power plug out of the mains socket.
- Always remove the battery.
- Take care when you use the locking mechanisms on the battery and any other component.
- Never use sharp objects such as screwdrivers, scissors or knives as leverage to remove covers.



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

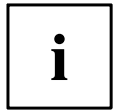
When handling boards fitted with ESDs, you must always observe the following points:

- 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.
- Remove the power plug from the mains supply before inserting or removing boards containing ESDs.
- Always hold boards with ESDs by their edges.
- Never touch pins or conductors on boards fitted with ESDs.



## Removing and installing memory modules

The notebook will not start without memory modules, as no fixed RAM is installed.



Your notebook supports dual channel DDR3 technology.

The dual channel DDR3 technology can only be used with two identical memory modules. When two different memory modules are installed, only "single channel" mode is supported. This reduces the performance of your notebook.

With a memory configuration of 4 GBytes, the visible and usable main memory may be reduced to 3 GBytes (depending on notebook configuration).

If you are asked by the Hotline/Help Desk to remove and install the memory modules yourself, proceed as follows:



Pay attention to the relevant safety notes provided in the "Important notes" chapter.

The notebook must be switched off when installing/removing the memory modules, it must not be in Suspend mode.

Only use approved memory expansion modules in your notebook (see Section ["Technical data", Page 31](#)).

Never use force when installing or removing memory modules.

Make sure that foreign objects do not fall into the memory expansion compartment.

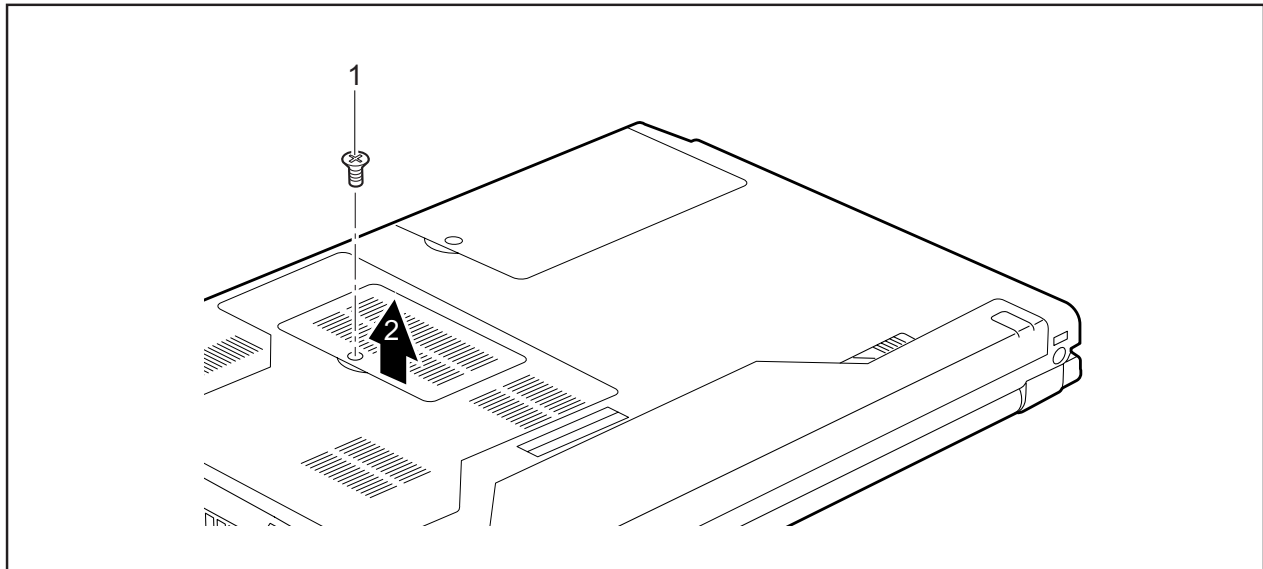


Individual components (e.g. the processor heat sink) can become very hot during operation. Therefore, we recommend that you wait one hour after switching off the notebook before removing or installing the memory modules. Otherwise, there is a risk of suffering burns!

As some non-ESD safe components are exposed, please observe the section ["Notes on installing and removing boards and components", Page 24](#).

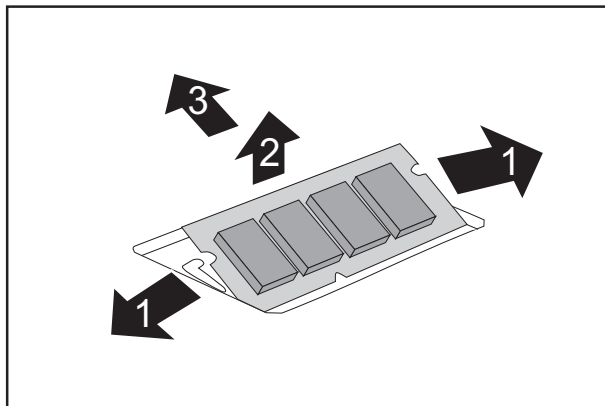
- ▶ Switch your notebook off and unplug the mains adapter from the mains outlet.
- ▶ Close the LCD screen so that it locks into place.
- ▶ Disconnect all cables connected to the notebook.
- ▶ Turn your notebook over and place it on a stable, flat and clean surface. If necessary, lay an anti-slip cloth on this surface to prevent the notebook from being scratched.
- ▶ Remove the battery (see ["Removing the battery", Page 17](#)).

## Removing cover



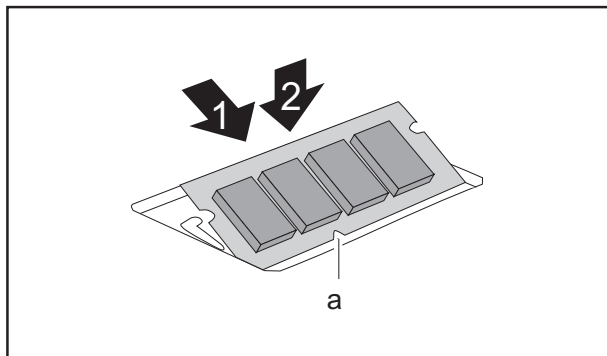
- ▶ Remove the screw (1).
- ▶ Pull the cover off the notebook (2).

## Removing memory modules



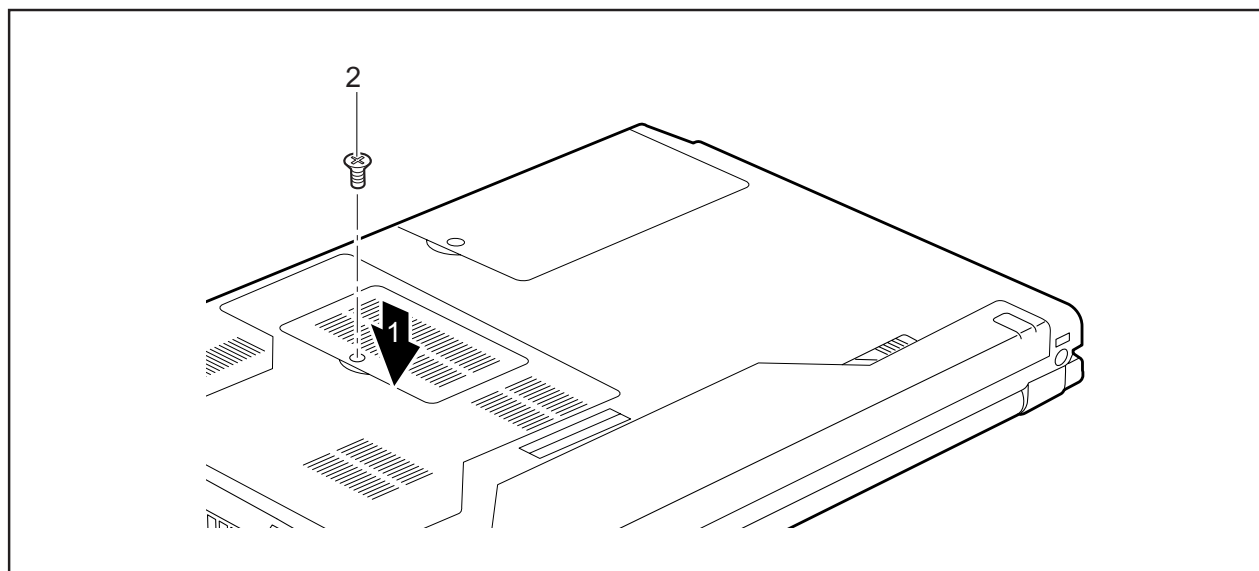
- ▶ Carefully push the two mounting clips outwards (1).
- ↳ The memory module snaps upwards (2).
- ▶ Pull the memory module out of its slot in the direction of the arrow (3).

## Installing a memory module



- ▶ Insert the memory module with the contacts and the recess (a) facing the slot (1).
- ▶ Carefully push the memory module downwards until you feel it click into place (2).

## Attaching the cover



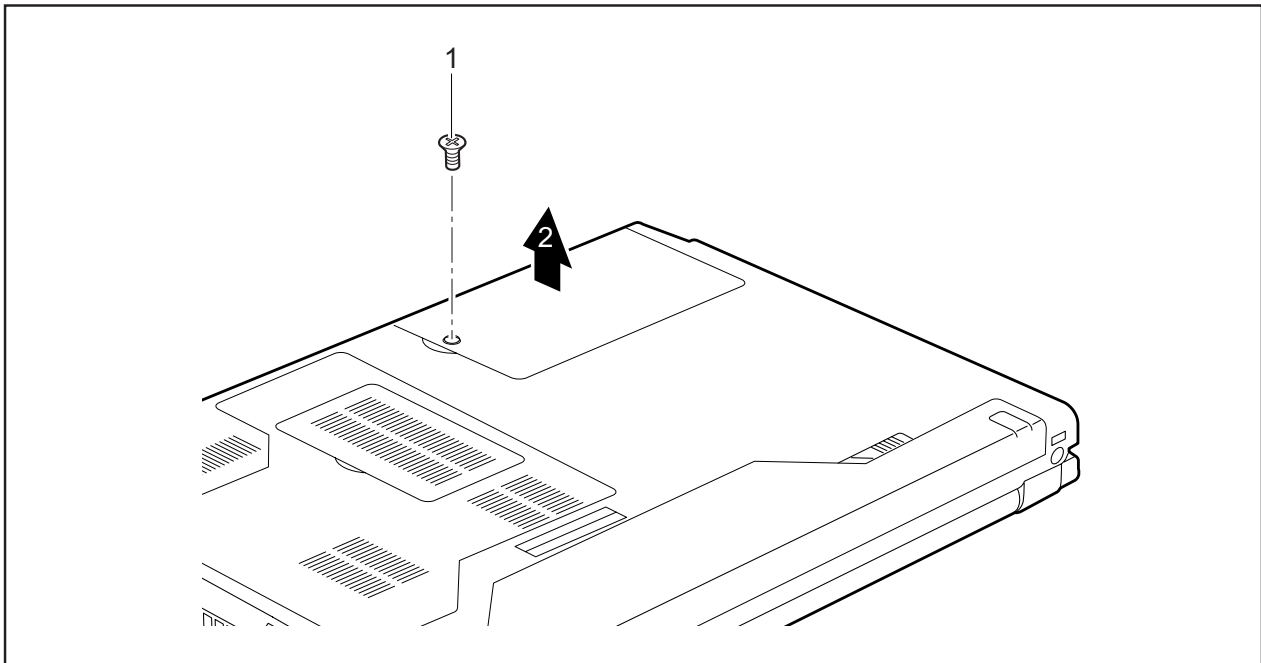
- ▶ Place the cover in the correct mounting position (1).
- ▶ Fasten the cover with the screw (2).
- ▶ Re-installing the battery (see ["Installing battery", Page 18](#)).
- ▶ Turn the notebook the right way up and place it on a flat surface.
- ▶ Reconnect the cables that you disconnected previously.

## Hard disk

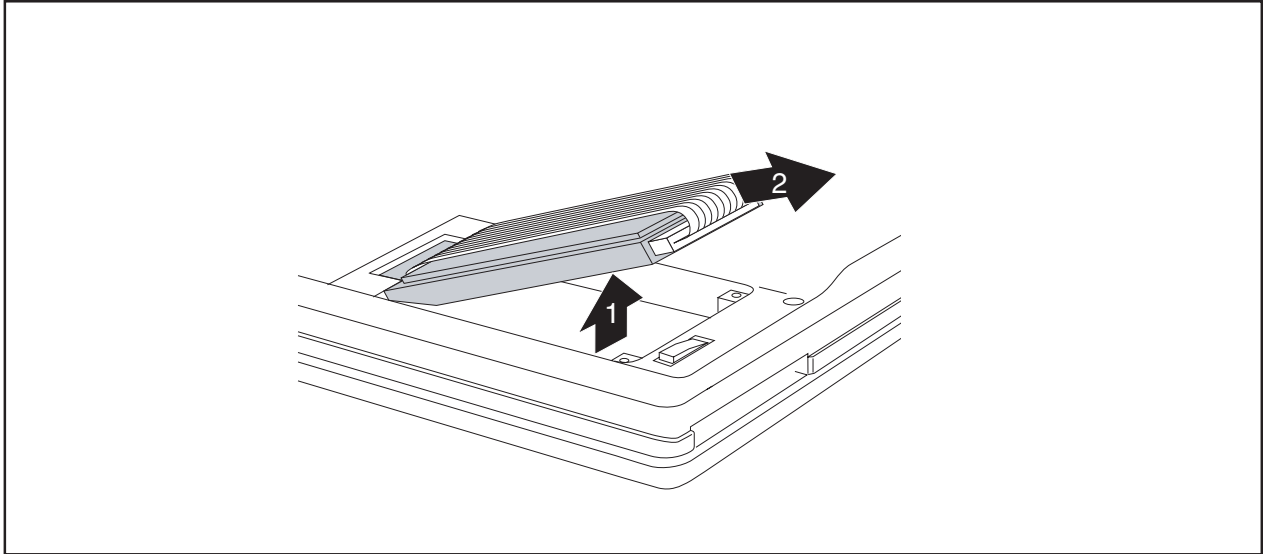
The hard disk is the most important storage medium of your notebook. You can work considerably faster and more efficiently if you copy applications and files from CDs to your hard disk.

### Removing the hard disk

- ▶ Switch off your notebook and disconnect the power plug from the mains socket.
- ▶ Close the LCD screen so that it locks into place.
- ▶ Disconnect all cables connected to the notebook.
- ▶ Turn your notebook over and place it on a stable, sturdy, flat surface. If necessary, lay a non-slip cloth on this surface to prevent the notebook from being scratched.
- ▶ Remove the battery (see ["Removing the battery", Page 17](#)).



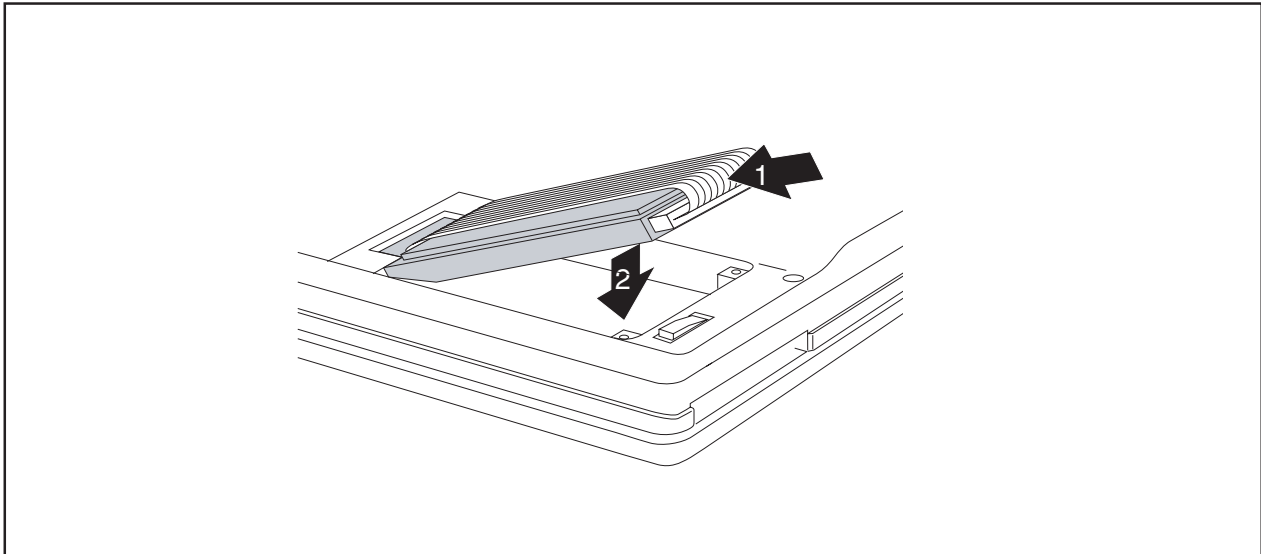
- ▶ Remove the screw (1).
- ▶ Lift the cover off the notebook (2).



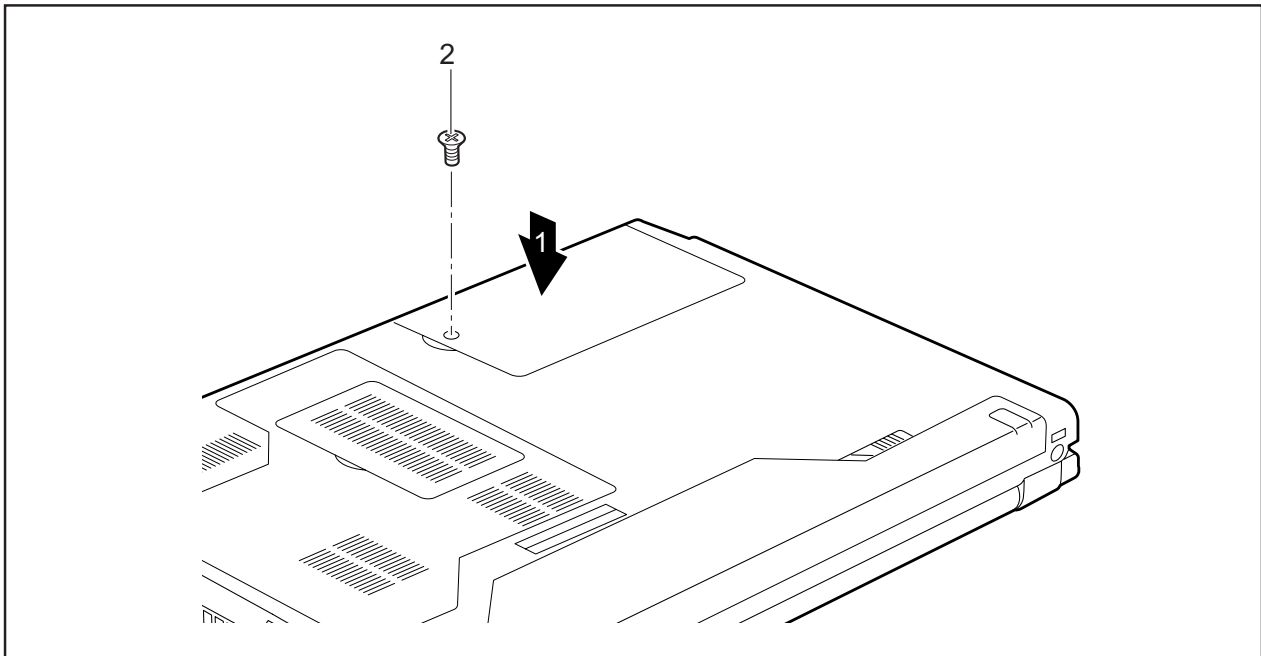
- ▶ Carefully lift the hard disk out of the hard disk compartment (1).
- ▶ Disconnect the hard disk connector from the hard disk (2).

## Installing the hard disk

- ▶ If necessary, attach the shock absorber kit to the underside of the new hard disk.



- ▶ Attach the hard disk connector to the hard disk (1).
- ▶ Carefully put the hard disk into the hard disk compartment (2).



- ▶ Place the cover in the correct mounting position (1).
- ▶ Fasten the cover with the screw (2).
- ▶ Install the battery again (see ["Installing battery", Page 18](#)).
- ▶ Turn the notebook the right way up and place it on a flat surface.
- ▶ Reconnect the cables that you disconnected previously.

# Technical data

## Notebook



In one of the two slots, memory modules must only be removed or installed by an authorised technician.

<b>General</b>	
Processor	Intel Core2 Duo
Main memory	Max. 8 GB 2 slots - maximum of 4GB DDR3 512 MByte, 1 GByte, 2 GByte or 4 GByte DDR3 SDRAM SO-DIMM module
Optional modules	<ul style="list-style-type: none"> <li>• DVD/CD-R/RW drive</li> <li>• DVD Super Multi Drive</li> <li>• Second battery</li> <li>• Blind insert (weight saver)</li> </ul>
<b>Electrical data</b>	
Safety standards complied with	CE, CE!, Energy Star, EN55022, EN55024, EN301489, EN300328, EN301893, EN50371, UL NoA / CB
Protection class	II
Maximum power draw □(with the notebook switched on and the battery charging)	80 W
<b>LCD screen</b>	
Screen size (diagonal, device-dependent)	14.1 inch WXGA (Wide XGA) or 14.1 inch WXGA+ (Wide XGA+)
Max. resolution (device-dependent)	1280 x 800 / 16 million colours or 1440 x 900 / 16 million colours
<b>Graphics card</b>	
Chip	Intel GM45
Video memory (VRAM)	Shared memory
<b>Audio</b>	
Sound chip	ALC262
<b>Input devices</b>	
Keyboard	86 keys
Touchpad	1 touchpad, 2 touchpad buttons, fingerprint sensor or scroll bar

<b>Slots</b>	
SmartCard slot	1 x
ExpressCard slot	1 x ExpressCard/34 or ExpressCard/54
Memory card slot	1 x MS / SD card
SIM card slot	1 x
<b>Ports and interfaces</b>	
Monitor port	15-pin socket
LAN port	Socket, RJ45
Microphone port	3.5 mm mono mini-jack
Headphones port	3.5 mm stereo mini jack
Modem port	Socket, RJ11
Docking port	100-pin
USB port	3 x USB 2.0
Robson memory (optional)	Half-size
WLAN	Intel PRO/Wireless 5300 or LiteOn/Atheros WN6302A (device-dependent)
Bluetooth	EYTF3CSTT (BT V2.0)
UMTS (optional)	Full-size
<b>Ambient conditions</b>	
Environment class (3K2)	DIN IEC 721
Mechanical class (7M2)	DIN IEC 721
Temperature	
Operation	5 °C ... 35 °C
Transportation	-15 °C ... 60 °C
<b>Dimensions</b>	
Width x Depth x Height (front/back)	334 mm x 242 mm x 31/36 mm
Weight (depending on configuration)	Approx. 2.3 kg



The data sheet for this notebook contains further technical data. The data sheet can be found on your notebook or on the Internet at ["http://ts.fujitsu.com"](http://ts.fujitsu.com) or on the supplied "Drivers & Utilities" CD/DVD.

## Battery

	<b>6-cell rechargeable battery 1</b>	<b>6-cell rechargeable battery 2</b>
Rated voltage	10.8 V	10.8 V
Rated capacity	56.2 Wh	41 Wh



The operating time depends on the device equipment, the active applications and the energy saving settings.



---

## Mains adapter

### Primary

Rated voltage	100 V to 240 V (automatic)
Rated frequency	50 Hz to 60 Hz (automatic)

### Secondary

Rated voltage	19 V
Max. rated current	4.22 A

An additional mains adapter or power cable can be ordered at any time.

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