FUJITSU

LIFEBOOK A1130

Operating Manual

Are there ...

... any technical questions or problems?

Please contact:

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

Latest information about our products, useful tips, updates etc. is available on our website: "http://ts.fujitsu.com"

Published by
Fujitsu Technology Solutions GmbH
A26391-K214-Z200-1-7619, Edition 1
2009/08

Produced by
XEROX Global Services

LIFEBOOK A1130

Operating Manual

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Innovative technology

... and ergonomic design make your device a reliable and convenient companion.

The device boots very quickly, is ready for immediate use and offers a particularly long operating time because of its high capacity battery.

With the user-friendly "BIOS Setup Utility" you can control your notebook's hardware and better protect your system against unauthorised access by using the powerful password properties.

Information on the connections and user components of your notebook can be found in "Ports and operational controls", Page 3.

Further information

The Windows drivers for your device can be found on our Internet website. The factory installation of your device does not support any other operating system. Fujitsu Technology Solutions accepts no liability whatsoever if any other operating system is used.

Software oriented components of these instructions refer to Microsoft products, if they come within the scope of the delivery.

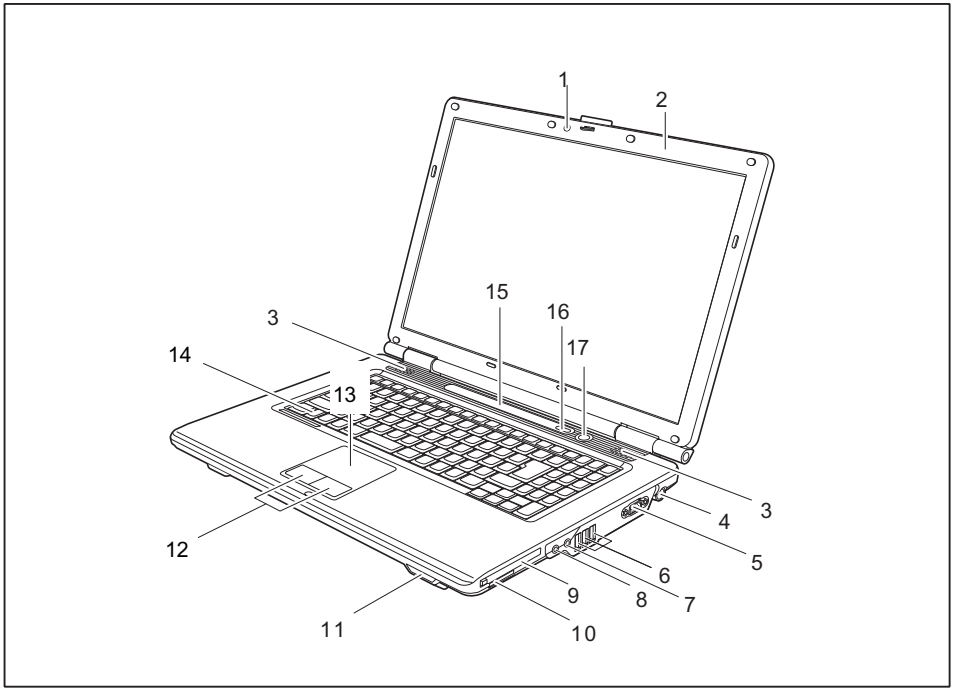
If you install other software products, pay attention to the operating instructions of the manufacturer.

Notational conventions

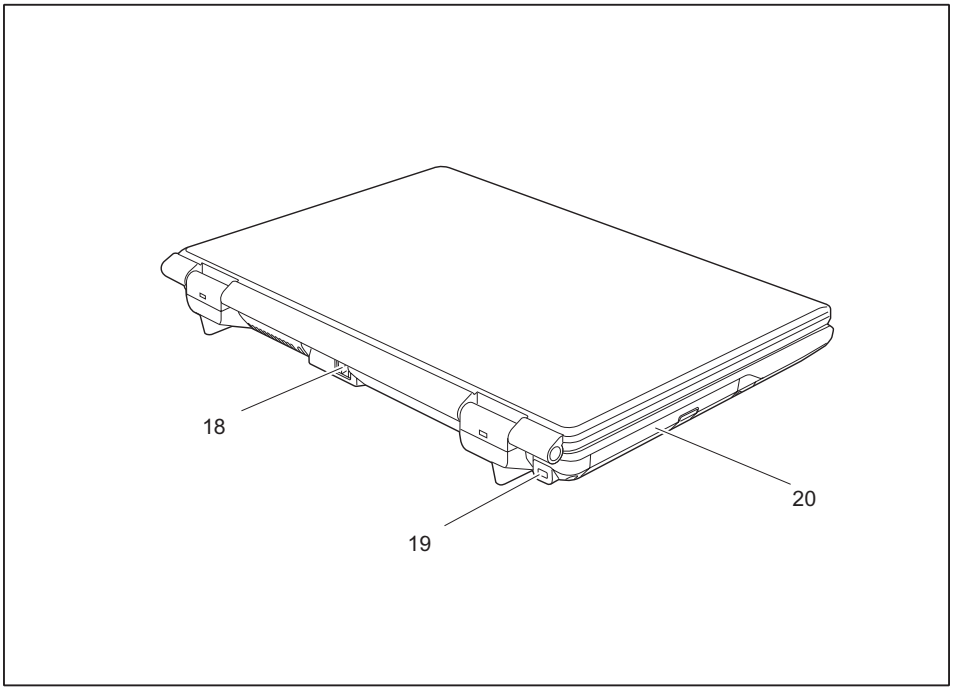
	Pay particular attention to text marked with this symbol. Failure to observe these warnings could pose a risk to health, damage the device or lead to loss of data. The warranty will be invalidated if the device becomes defective through failure to observe these warnings.
	Indicates important information for the proper use of the device.
►	Indicates an activity that must be performed
↳	Indicates a result
`This font`	indicates data entered using the keyboard in a program dialogue or at the command line, e.g. your password (**`Name123`**) or a command used to start a program (**`start.exe`**)
`This font`	indicates information that is displayed on the screen by a program, e.g.: `Installation is complete.`
This font	indicates • terms and texts used in a software interface, e.g.: Click on *Save* • names of programs or files, e.g. *Windows* or *setup.exe*.
"This font"	indicates • cross-references to another section, e.g. "Safety information" • cross-references to an external source, e.g. a web address: For more information, go to "http://ts.fujitsu.com" • Names of CDs, DVDs and titles or designations of other materials, e.g.: "CD/DVD Drivers & Utilities" or "Safety" Manual
Key	indicates a key on the keyboard, e.g: F10
This font	indicates terms and texts that are emphasised or highlighted, e.g.: **Do not switch off the device**

Ports and operational controls

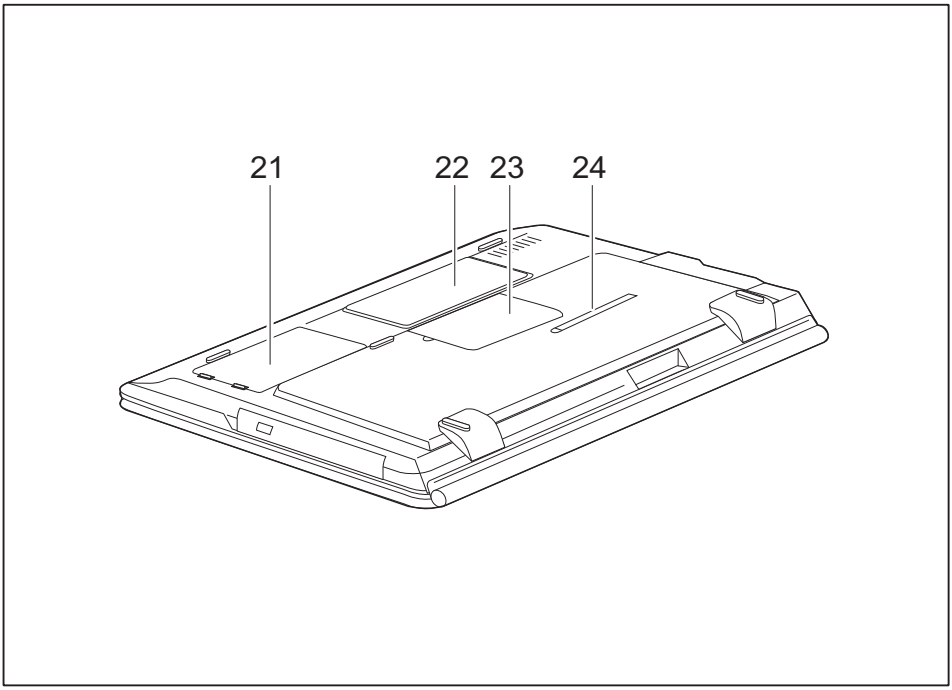
This chapter presents the individual hardware components of your device. It provides an overview of the device's displays and ports. Please familiarise yourself with these components before you start to work with the device.



1 = Webcam
2 = Microphone
3 = Loudspeakers
4 = DC input connector (DC IN)
5 = VGA monitor port
6 = USB ports
7 = Microphone port/Line In
8 = Headphone port
9 = ExpressCard slot
10 = Memory card slot
11 = ON/OFF switch for wireless components
12 = Touchpad buttons
13 = Touchpad
14 = Keyboard
15 = Status indicators
16 = Support button
17 = ON/OFF switch



18 = LAN port
19 = Kensington Lock device
20 = Optical drive



21 = Rechargeable battery
22 = Hard disk
23 = Memory service compartment
24 = Dust chamber cover

Important notes

This chapter contains essential safety information which must be followed when working with your notebook. Other notes also provide useful information which will help you with your notebook.

Safety notes

Please note the information provided in the "Safety" manual and in the following safety notes.

Please pay special attention to the sections in the manual marked with the symbol on the left.

When connecting and disconnecting cables, observe the relevant notes in this operating manual.

Read the information on the ambient conditions in the "Technical data", Page 59 and "First-time setup of your device", Page 9 before preparing your notebook for use and switching it on for the first time.

When cleaning the device, please observe the relevant notes in the section "Cleaning the notebook", Page 8.

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

Please refer to the notes in the chapter "Removing and installing components during servicing", Page 43.

This notebook complies with the relevant safety regulations for data processing equipment. If you have questions about using your notebook in a particular area, please contact your sales outlet or our Hotline/Help Desk.

Energy saving

Switch the notebook off when it is not in use. Switch off external, connected devices if you are not using them. If you use the energy saving functions, the notebook uses less energy. You will then be able to work for longer before having to recharge the battery.

Energy efficiency is increased and the environmental impact is reduced. You save money while protecting the environment.

Energy saving under Windows

► Make use of the power management features (see ""Using the power-management features", Page 29").

Travelling with your notebook

Please observe the points listed below when travelling with your notebook.

Before you travel

- ► Back up important data stored on your hard disk.
- ► Switch off the radio component for data security reasons. With data traffic via a wireless connection, it is also possible for unauthorised third parties to receive data.

Information on activating data encryption is provided in the documentation for your radio component.

- ► If you wish to use your notebook during a flight, first check with the flight attendants if it is OK to do so.

When travelling in other countries

- ► If you are travelling abroad, check that the mains adapter can be operated with the local mains voltage. If this is not the case, obtain the appropriate mains adapter for your notebook. Do not use any other voltage converter!
- ► Check whether the local mains voltage and the power cable are compatible. If this is not the case, buy a power cable that matches the local conditions.
- ► Enquire with the corresponding government office of the country you will be travelling in as to whether you may operate the radio component integrated in your notebook there (see also "CE marking", Page 60).
- ► If you use a modem, incompatibilities with the local telephone system may result. This may result in poor performance, or the modem may not work at all.

  Check whether you need a country-specific telephone adapter (available as an optional accessory).

Notebook: transporting

Protect the notebook from severe shocks and extreme temperatures (e.g. direct sunlight in a car).

- ► If your device has an optical drive, remove all data media (e.g. CD, DVD) from the drives.
- ► Switch the notebook off.
- ► Unplug the mains adapter and all external devices from the power socket.
- ► Disconnect the mains adapter cable and the data cables for all external devices.
- ► Close the LCD screen.
- ► To protect against damaging jolts and bumps, use a notebook carrying case to transport your notebook.

Cleaning the notebook

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

Only use cleaning products designed for computers. Normal household cleaners and polishes can damage the markings on the keyboard and the device, the paintwork or the notebook itself.

Ensure that no liquid enters the notebook.

The LCD screen very sensitive to scratches. Only clean the display surface with a very soft, slightly damp cloth.

- ► Switch the notebook off.
- ► In order to prevent accidentially switching the device on, remove the power cable from the mains adaptor and remove the battery (see "Removing and installing the battery", Page 24).

↳ The surface can be cleaned with a dry cloth. If particularly dirty, use a cloth which has been moistened in mild domestic detergent and then carefully wrung out.

To clean the keyboard and the touchpad, you can use disinfectant wipes.

Ensure that no liquid enters the device.

First-time setup of your device

Please read the chapter "Important notes", Page 6.

If your device is equipped with a Windows operating system, the necessary hardware drivers and supplied software are already pre-installed.

A system test is performed when your device is first switched on. Various messages can appear. The display may remain dark for a short time or may flicker.

Please follow the instructions on the screen.

NEVER switch off your device during the first-time setup process.

On delivery, the battery can be found in the battery compartment or in the accessories kit. The battery must be charged if you want to operate your device using the battery.

When used on the move, the built-in battery provides the device with the necessary power. You can increase the operating time by using the available energy-saving functions.

For instructions on how to connect external devices (e.g. mouse, printer) to your device, please refer to the operating manual for your device.

Unpacking and checking the device

Should you discover any damage that occurred during transportation, notify your local sales outlet immediately!

- ► Unpack all the individual parts.
- ► Check your device for any visible damage which may have occurred during transportation.

You may need the packaging in the future, if you need to transport your device.

Selecting a location

Select a suitable location for the device before setting it up. Follow the instructions below when doing so:

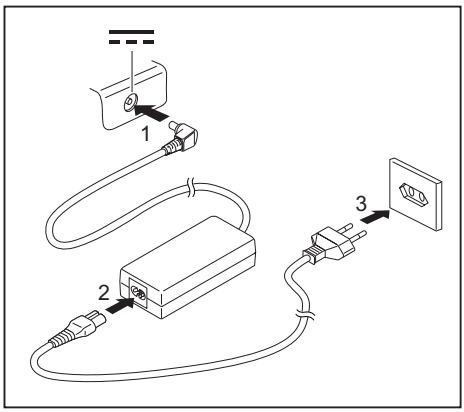
- Never place the device or the mains adapter on a heat-sensitive surface. The surface could be damaged as a result.
- Never place the device on a soft surface (e.g. carpeting, upholstered furniture, bed). This can block the air vents and cause overheating and damage.
- The underside of the device heats up during normal operation. Prolonged contact with the skin may become unpleasant or even result in burns.
- Place the device on a stable, flat, non-slippery surface. Please note that the rubber feet of the device may mark certain types of delicate surfaces.
- Keep other objects at least 100 mm away from the device and its mains adapter to ensure adequate ventilation.
- Never cover the ventilation slots of the device.
- Do not expose the device to extreme environmental conditions. Protect the device from dust, humidity, and heat.

Mains adapter connecting

Observe the safety precautions in the enclosed "Safety" manual.

The supplied power cable conforms to the requirements of the country in which you purchased your device. Make sure that the power cable is approved for use in the country in which you intend to use it.

The mains adapter's power cable should only be connected to a mains socket if the device is connected to the mains adapter.



► Connect the mains adapter cable (1) to the DC jack (DC IN) of the device.
► Connect the power cable (2) to the mains adapter.
► Plug the power cable (3) into a mains outlet.

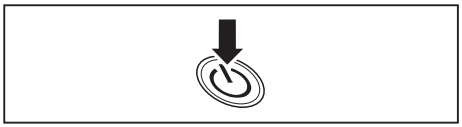
Switching on the device for the first time

The device must be supplied with power through the mains adapter during this process.

When you switch on the device for the first time, the supplied software is installed and configured. Because this procedure must not be interrupted, you should set aside enough time for it to be fully completed and connect the device to the mains using the mains adapter.

During the installation process, DO NOT restart the device unless you are requested to do so!

To make it easier to use your device for the first time, the operating system is pre-installed on the hard disk.



► Switch on your device.

► During installation, follow the instructions on screen.

↳ Consult the operating system manual if anything is unclear about the requested input data.

If a Windows operating system is installed on your device, you will find more information on the system and drivers, help programmes, updates, manuals etc. on the device or on the Internet under "http://ts.fujitsu.com/support".

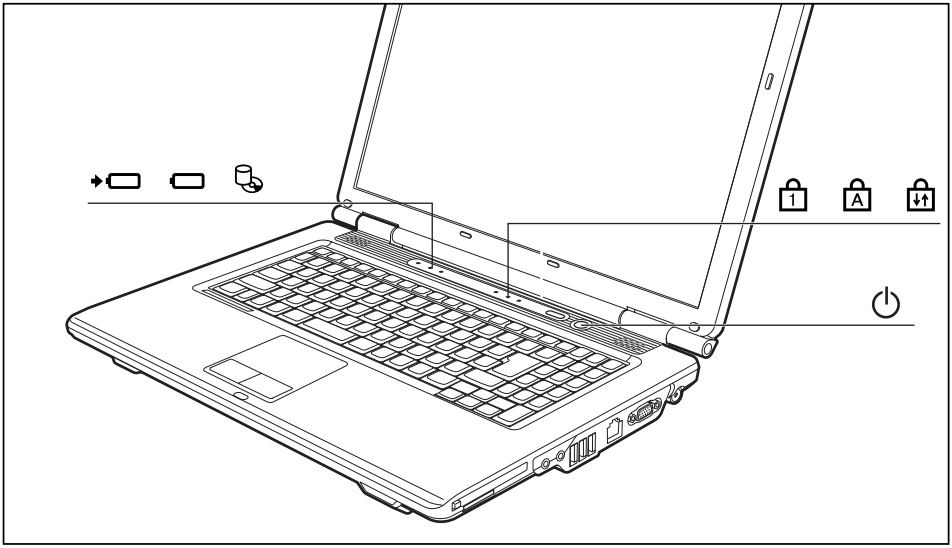
Working with the notebook

This chapter describes the basics for operating your notebook. Please read the chapter entitled "Connecting external devices", Page 39 for instructions on how to connect devices such as a mouse and a printer to the notebook.

Please refer to the notes in "Important notes", Page 6.

Status indicators

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



Power-on indicator/standby (status indicator and ON/OFF switch)

Battery charging indicator / Mains connection

Battery indicator

Drive indicator

Num Lock indicator

Caps Lock indicator

Scroll Lock indicator

Power-on indicator/standby (status indicator and ON/OFF switch)

- Indicator is illuminated: The notebook is switched on.
- Indicator flashes: The notebook is in standby mode.
- Indicator is off: The notebook is switched off.

Battery charging indicator / Mains connection

The state of charge of the battery is shown by the battery indicator.

- Indicator is illuminated (green): The battery is already fully charged or the mains adapter is connected but the battery is not installed.
- The indicator lights up orange: The mains adapter is connected and the battery is being charged.
- The indicator lights up orange: The mains adapter is connected but the battery cannot be charged (the battery is too hot or too cold for charging). The charging process will be resumed once the battery has returned to a permitted temperature.
- The indicator is not illuminated: The mains adapter is not connected.

Battery indicator

- Indicator is illuminated (green): The battery is charged to between 50% and 100% of its maximum capacity.
- The indicator lights up orange: The battery is charged to between 13% and 49% of its maximum capacity.
- The indicator lights up red: The battery is charged to between 0% and 12% of its maximum capacity.
- Indicator flashes red: An error has occured.

Drive indicator

Indicator is illuminated: One of the drives (e.g. hard disk, CD/DVD) is being accessed.

Num Lock indicator

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

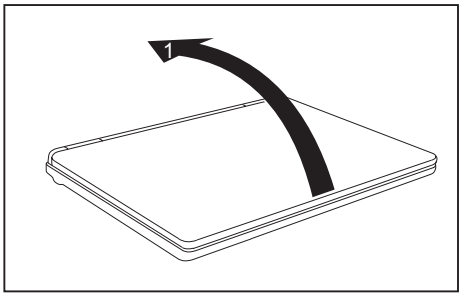
Caps Lock indicator

Indicator is illuminated: 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.

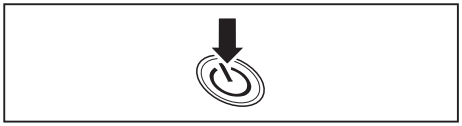
Scroll Lock indicator

Indicator is illuminated: the key combination Fn + Scr has been pressed. The effect that this key has varies between applications.

Switching on the notebook



► Open the LCD screen (1).

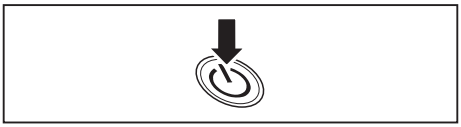


► Press the ON/OFF switch for about one second to switch the notebook on.

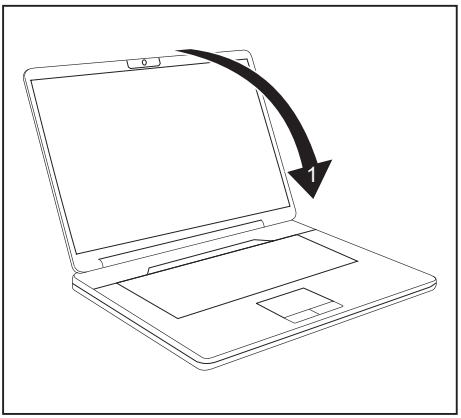
↳ The power-on indicator is lit.

Switching off the notebook

Save your data and close all applications before you switch off your device. Otherwise data might be lost.



- ► Shut down the operating system properly (in Windows via the *Start* menu by clicking *Start Symbol – Shut Down – Shut Down – OK*).
- ► If the notebook is not switched off automatically, press the ON/OFF switch for approx. five seconds.



- ► Close the LCD screen (1).

Keyboard

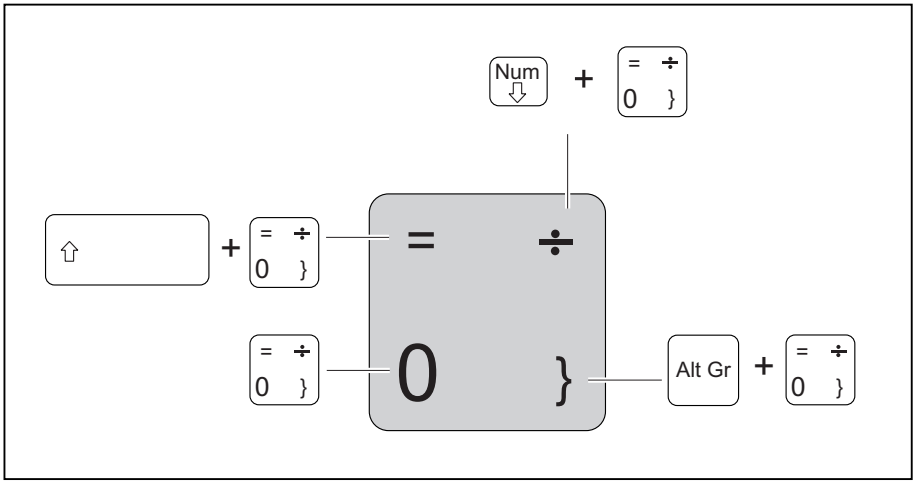
The keyboard of your notebook is subject to continuous wear through normal use. The key markings are especially prone to wear. The key markings are liable to wear away over the life of the notebook.

The keyboard has been designed to provide all the functions of an enhanced keyboard. Some enhanced keyboard functions are mapped with key combinations.

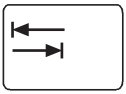
The following description of keys refers to Windows. Additional functions supported by the keys are described in the relevant manuals supplied with your application programs.

The figure below shows how to access the different characters on keys with overlaid functions. The example applies when the Caps Lock key has not been activated.

The illustrations shown below may differ from your actual device.



Backspace key
The Backspace key deletes the character to the left of the cursor.



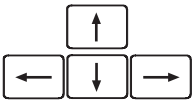
Tab key
The Tab key moves the cursor to the next tab stop.

Enter key (return)
The Enter key terminates a command line. The command you have entered is executed when you press this key.

Caps Lock key
The Caps Lock key activates the Caps Lock mode, and the corresponding icon is displayed in the Windows information area. In Caps Lock mode, all of the characters you type 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. To cancel the Caps Lock function, simply press the Caps Lock key again.

Shift key
The Shift key causes uppercase characters to appear. In the case of overlay keys, the character printed on the upper left of the key appears when that key is pressed.

Fn button
The Fn key enables the special functions indicated on overlay keys (see "Key combinations", Page 19).



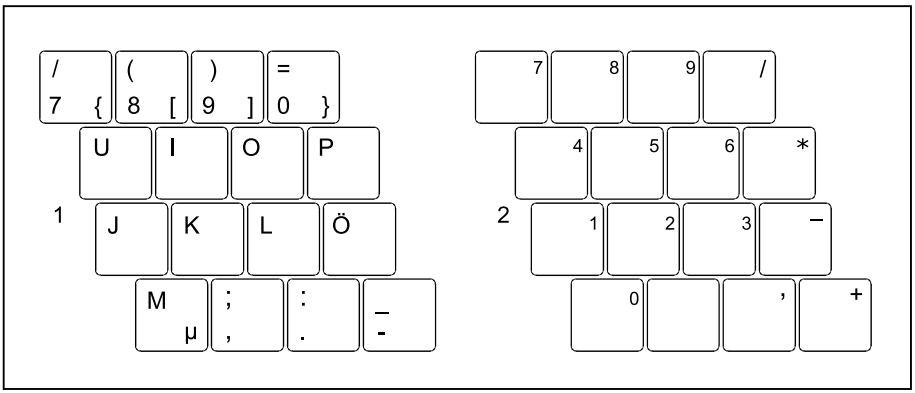
Cursor keys
The cursor keys move the cursor in the direction of the arrow, i.e. up, down, left, or right.

Start key
The Start key opens the Windows Start menu.

Virtual numeric keypad

To provide the convenience of a numeric keypad, your keyboard is equipped with a virtual numeric keypad. The special keys of the virtual numeric keypad are recognisable by the numbers and symbols printed in the upper right corner of each key. If you have switched on the virtual numeric keypad, you can output the characters shown on the upper right of the keys.

The keyboard layout shown below may differ from your actual device.



1 = Character valid when the Num key is not active

2 = Character valid when the Num key is active

Further information about the status indicators can be found in chapter "Status indicators", Page 13.

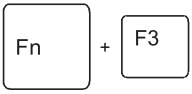
Key combinations

The following description of key combinations applies to Windows operating systems. Some of the following key combinations may not function in other operating systems or with certain device drivers.

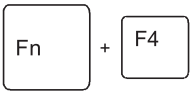
Other key combinations are described in the relevant manuals supplied with your application programs.

Key combinations are entered as follows:

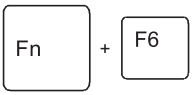
- ► Press the first key in the combination and keep it pressed.
- ► While holding the first key down, press the other key or keys in the combination.



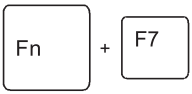
Switching the loudspeakers on and off
This key combination switches your notebook's loudspeakers off and on.



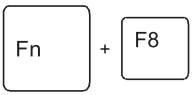
Switching the touchpad and touchpad buttons on/off
This key combination switches the touchpad and the touchpad buttons on or off.



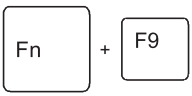
Decrease screen brightness
This key combination decreases the brightness of the screen.



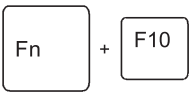
Increase screen brightness
This key combination increases the brightness of the screen.



Decrease volume
This key combination reduces the volume of the internal loudspeakers.



Increase volume
This key combination increases the volume of the internal loudspeakers.

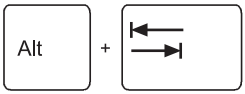


Toggle output screen
Use this key combination to select which screen(s) is/are used for display if an external monitor is connected.

Screen output is possible:

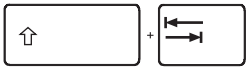
- only on the notebook's LCD screen
- on the LCD screen of the notebook and the external monitor at the same time
- only on the external monitor

  This setting is useful if you would like a high resolution and a high refresh rate on an external monitor.



Switch between open applications
Use this key combination to switch between several open applications.

Windows security/Task-Manager
This key combination opens the Windows security/Task-Manager window.



Back tab
This key combination moves the cursor back to the previous tab stop.

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

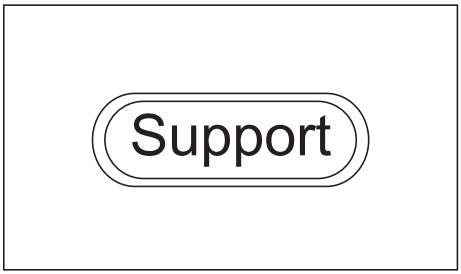
Country and keyboard settings

If you want to change the country and keyboard settings, proceed as follows:

► Enter the settings by clicking *Start – (Settings) – Control Panel – Time, Regional and Language Options*.

Support button

Your notebook is equipped with a Support button. You can press this button to automatically call up a previously defined application on your computer.



Programming the Support button

With the *Application Panel Setup* function of the *LifeBook Application Panel* software, you can assign various functions to the Support button.

When the notebook is first delivered, pressing the Support button causes support information to be displayed.

However, you can change the setting to any other application.

To change the application for the Support button, proceed as follows:

- ► Select *Start - Programs - LifeBook Application Panel*.
- ► Select the *Application Panel Setup* option.
- ↳ The *Application Panel Setup* function is displayed.
- ► Select the tab for the Support button.
- ► Select the *Application Registration* option.
- ► Select *Select from Start Menu*.
- ► Select the desired application and confirm by clicking *Next*, *Finish* and *OK*.
- ► Close the *LifeBook Application Panel* program by clicking *OK*.

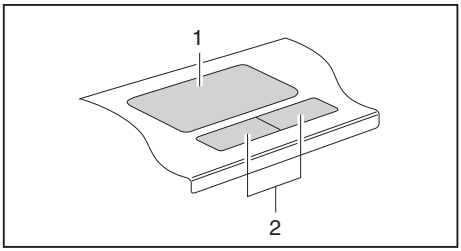
You can reprogram the Support button as often as you need.

Touchpad and touchpad buttons

Keep the touchpad clean. Protect it from dirt, liquids, and grease.

Do not use the touchpad if your fingers are dirty.

Do not rest heavy objects (e.g. books) on the touchpad or the touchpad buttons.



1 = Touchpad

2 = Touchpad buttons

The touchpad enables you to move the mouse pointer on the screen.

The touchpad buttons allow you to select and execute commands. They correspond to the buttons on a conventional mouse.

Using touchpad buttons

Moving the pointer

► Move your finger on the touchpad.

↳ The pointer will move accordingly.

Selecting an item

► Move the pointer to the item you wish to select.

► Tap the touchpad once or press the left button once.

↳ The item is selected.

Executing a command

► Move the pointer to the field you wish to select.

► Tap the touchpad twice or press the left button twice.

↳ The command is executed.

Dragging an item

► Select the desired item.

► Press and hold the left button and drag the item to the desired position with the finger on the touchpad.

↳ The item will be moved.

LCD screen

High-quality TFT displays are installed in notebooks from Fujitsu Technology Solutions GmbH. For technical reasons, TFT monitors are manufactured for a specific resolution. An optimal, clear picture can only be ensured with the correct resolution intended for the relevant TFT monitor. A monitor resolution which differs from the specification can result in an unclear picture.

The screen resolution of the LCD monitor of your notebook is optimally set at the factory.

Permanently unlit or lit pixels

The standard of production techniques today cannot guarantee an absolutely fault-free screen display. A few isolated constantly lit or unlit pixels may be present. The maximum permitted number of such faulty pixels is stipulated in the strict international standard ISO 13406-2 (Class II).

Example:

A LCD screen monitor with a resolution of 1024 x 600 has 1024 x 600 = 614 400 pixels. Each pixel consists of three subpixels (red, green and blue), so there are almost 1.8 million subpixels in total. According to ISO 13406-2 (Class II), a maximum of 2 pixels and 3 subpixels may be defective, i.e. a total of 9 defective subpixels. That is approximately 0.0005 % of the entire number of subpixels.

Background lighting

TFT monitors are operated with background lighting. The luminosity of the background lighting can decrease during the period of use of the notebook. However, you can set the brightness of your monitor individually.

Synchronising the display on the LCD screen and an external monitor

For more information, please refer to the chapter "Key combinations", Page 19 under "Display output, switch between".

Webcam

Your notebook is equipped with a webcam. Depending on the software used, you can use it to take pictures, record video clips or take part in web chats.

- The picture quality depends on the lighting conditions and the software being used.
- You can only operate the webcam with a particular application (e.g. an Internet telephony program or a video conferencing program which supports a webcam).
- When using the webcam the notebook support must not wobble.
- The webcam automatically adjusts itself to the current light level. For this reason the LCD screen may flicker while the light level is adjusted.

Further information on use of the webcam and additional settings can be found in the help function of the program which uses the webcam.

You will software to test your WebCam or on the Internet at "http://ts.fujitsu.com/support".

Rechargeable battery

When not plugged into a mains socket, the notebook runs on its built-in battery. You can increase the life of the battery by caring for the battery properly. The average battery life is around 500 charge/discharge cycles.

You can extend the battery life by taking advantage of the available energy saving functions.

Charging, caring for and maintaining the battery

The notebook battery can only be charged, when the ambient temperature is between 5°C and max. 35°C.

You can charge the battery by connecting the notebook to the mains adapter (see "Mains adapter connecting", Page 10).

You can increase the life of your battery by allowing it to fully discharge before recharging it again. To do this, leave your notebook turned on when it is operated with the battery. Once the battery is running low you will hear a warning alarm. If you do not connect the mains adapter within five minutes of the warning alarm described above, your notebook will automatically switch off.

monitoring the battery charging level

Windows also has a "Battery status meter" in the taskbar for monitoring the battery capacity. When you place the mouse pointer on the battery symbol, the system displays the battery status.

Battery storage

Keep the battery pack between 0°C and +30°C. The lower the temperature at which the batteries are stored, the lower the rate of self-discharge.

If you will be storing batteries for a longer period (longer than two months), the battery charge level should be approx. 30 %. To prevent exhaustive discharge which would permanently damage the battery, check the level of charge of the battery at regular intervals.

To be able to make use of the optimal charging capacity of the batteries, the battery should be completely discharged and then fully recharged.

If you do not use the batteries for long periods, remove them from the notebook. Never store the batteries in the device.

Removing and installing the battery

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

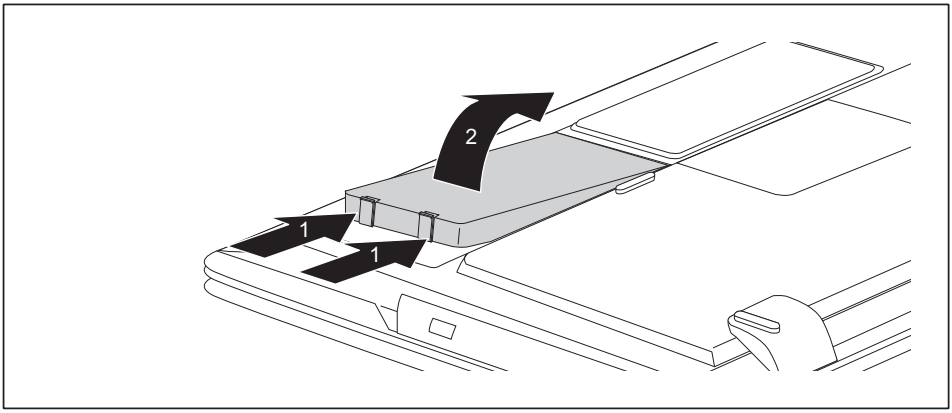
Never use force when fitting or removing a battery.

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

Never store a battery for longer periods in the discharged state. This can make it impossible to recharge.

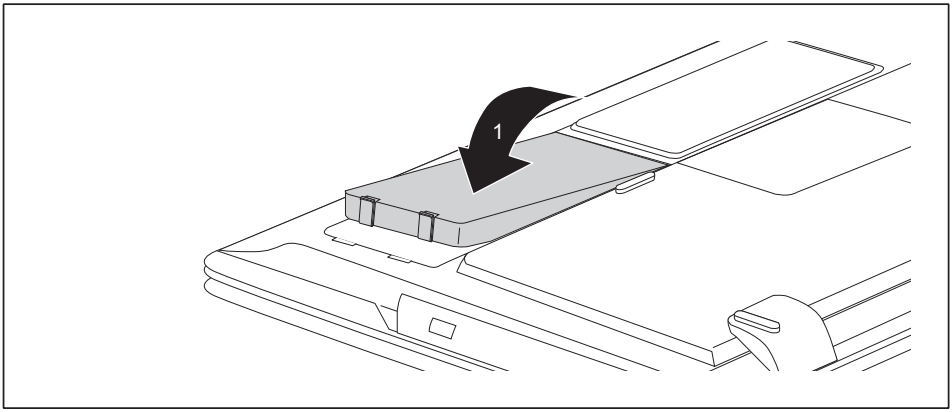
Removing a battery

► Prepare for removal, see chapter "Preparing to remove components", Page 44.



► Press the two unlocking levers (1).
► Remove the battery from the battery compartment (2).

Installing a battery



► Position the battery at the edge.
► Push the battery into the battery slot until you feel it lock into place (1).
► Complete the removal, see chapter "Finishing component removal", Page 50.

Optical drive

This product contains a light emitting diode, classified in accordance with IEC 8251:1993: LASER CLASS 1, and must therefore not be opened.

Handling data carriers

Observe the following guidelines when handling data carriers:

- Avoid touching the surface of a data carrier. Only handle data carriers by their edges.
- Always store data carriers in their cases. This will protect the data carrier against being covered in dust, scratched or damaged in any other way.
- Protect your data carriers against dust, mechanical vibrations and direct sunlight.
- Avoid storing a data carrier in areas subject to high temperatures or humidity.

You may use both 8-cm and 12-cm data carriers in the optical drive.

When using a data carrier of lesser quality, vibrations and reading errors may occur.

CD/DVD indicator

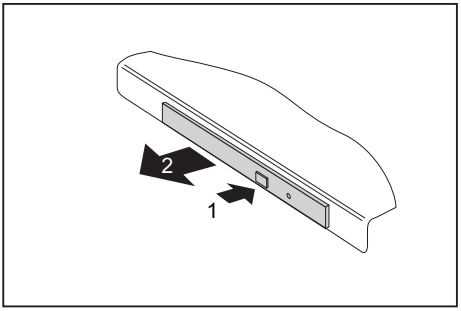
The CD/DVD indicator flashes when a data carrier is inserted. The indicator goes out when the drive is ready for reading. The indicator lights up when the drive is being accessed. You may only remove the data carrier when the indicator is unlit.

If the CD/DVD indicator does not go out after a data carrier has been inserted, but instead continues to flash, this means that the drive cannot access the data carrier.

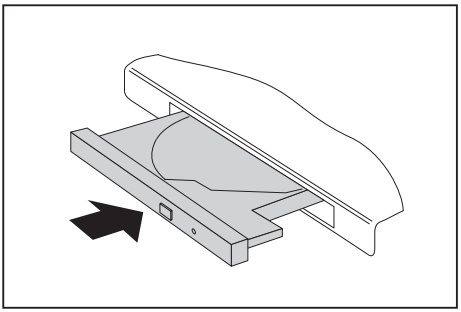
Either the data carrier is damaged or dirty or you are using a data carrier that the drive cannot read.

Inserting or removing a data carrier

The notebook must be switched on.



► Push the insert/eject button (1).
↳ The drive tray will open.
► Gently pull the drive tray (2) completely out.



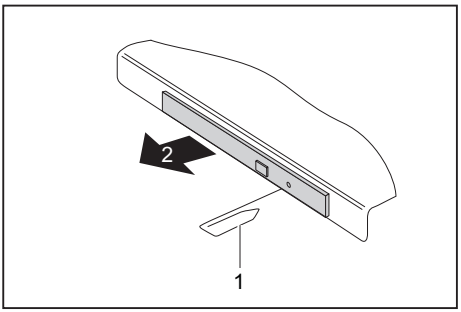
► Place the data carrier in the drive tray with the printed side facing upwards.

or

► Remove a data carrier that has been inserted.
► Push in the drive tray until you feel it lock into place.

Manual removal (emergency removal)

In the event of a power failure or damage to the drive, you can remove the data carrier manually.



► Switch your notebook off.
► Push a pen or a piece of wire (such as a paperclip) firmly into the opening (1).
↳ The drive tray is ejected. You can now pull the drive tray (2) out of the drive.

Removing and fitting the dust removal cover (ventilation slot cover)

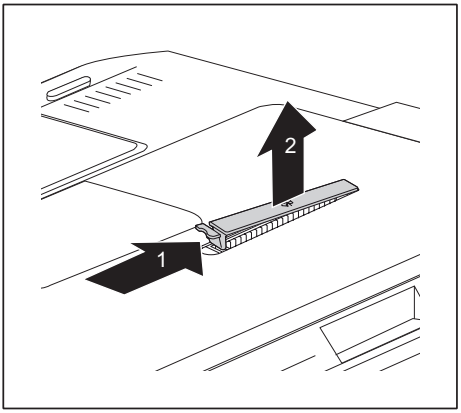
In order to ensure optimum cooling of the components in your notebook, you should periodically clean the ventilation slot of the heatsink.

This will ensure the optimum functionality of the fan. The best way to clean the cover is to use a small handheld suction cleaner.

If necessary, you can also use a dry brush to release dust from the ventilation slots.

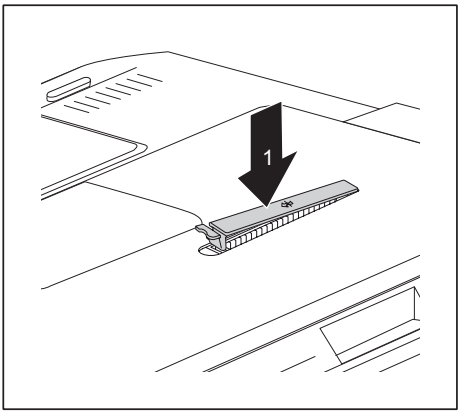
Be sure that you do not damage the ventilation blades in the process. Do not use any abrasives for cleaning purposes.

► Prepare for removal, see chapter "Preparing to remove components", Page 44.



► Press on the clip of the dust chamber cover (1) and remove it from its installation location (2).

► Clean the dust chamber with a dry brush.



► Insert the dust chamber at an angle into the slot (1) and ensure that you feel it click into place.

► Complete the removal, see chapter "Finishing component removal", Page 50.

Using the power-management features

The notebook uses less power when the available power-management features are used. You will then be able to work longer when using the battery before having to recharge it.

Power efficiency is increased and environmental pollution reduced. By choosing the best power options, you can make significant savings and at the same time help protect the environment.

When you fold down and close the LCD screen, depending on the setting in Windows, the notebook automatically enters a power saving mode.

We recommend the following settings:

Function	On external power	On battery power
Turn off monitor	After 10 minutes	After 5 minutes
Turn off hard disk(s)	After 15 minutes	After 10 minutes
Energy saving (S3)	After 20 minutes	After 15 minutes
Hibernate mode (S4)	After 1 hour	After 30 minutes

- ► Activate the power-management features with *Start – (Settings) – Control Panel – Mobile PC – Power Options*.
- ► Activate the screen saver by clicking *Start – (Settings) – Control Panel – Appearance and Personalization – Personalization – Change screen saver*.

or

- ► Right-click on the desktop. Switch on the screen saver by clicking *Personalization – Change screen saver*.

If you need further information about an option, you can get help with most settings by pressing F1 to open the Microsoft Help.

When the notebook is in power-saving mode, the following must be remembered:

During power saving mode, open files are held in the main memory or in a swap file on the hard disk.

Never turn off your notebook while it is in a power saving mode. If the built-in battery is nearly flat, close the open files and do not go into power saving mode.

If you do not intend to use your notebook for a long period of time:

- ► Exit power saving mode if necessary via the mouse or keyboard or by switching on the notebook.
- ► Close all opened programs and completely shut down the notebook.

Memory cards

Your notebook is equipped with an integrated memory card reader.

Observe the manufacturer's instructions when handling the memory cards.

Supported formats

It supports the following formats:

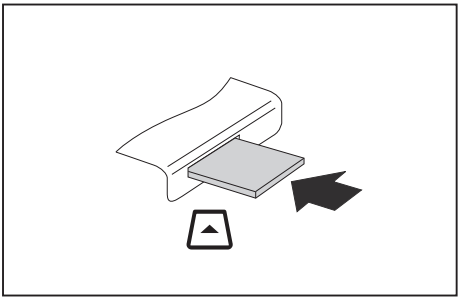
Without adapter:

- Secure Digital (SD™ card)
- SDHC

With adapter:

- miniSD
- MicroSD

Inserting the memory card



► Carefully slide the memory card into the slot. The label should be facing upward. Do not apply excessive force, as otherwise the delicate contact surfaces could be damaged.

↳ Depending on the particular type used, the memory card may protrude slightly from the slot.

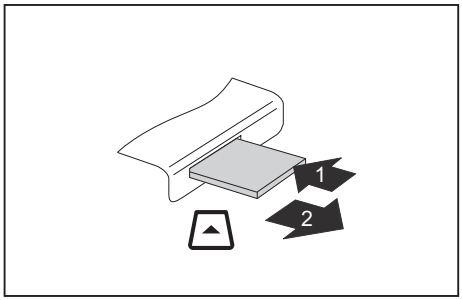
Removing the memory card

In order to protect your data, always follow the correct procedure for removing the card outlined below.

You can stop the memory card via the corresponding icon in the task bar:

- ► Left-click on the icon.
- ► Select the card you want to stop and remove.
- ► Press the Enter key.

↳ Wait for the dialogue box which tells you that it is now safe to remove the memory card.



- ► On devices with card locking: Press on the storage card (1).

↳ The storage card is released and can now be removed.

- ► Pull the storage card out of the slot (2).

ExpressCards

An ExpressCard slot enables operation of an ExpressCard/34 or ExpressCard/54.

Consult the documentation supplied by the ExpressCard's manufacturer and follow the instructions provided.

Never use force when installing or removing an ExpressCard.

Make sure that no foreign objects enter the ExpressCard slot.

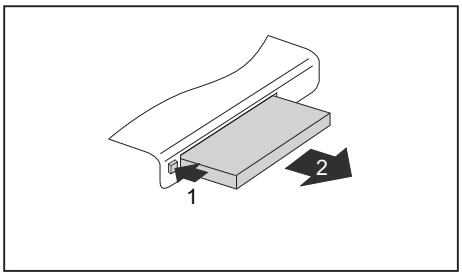
Removing the ExpressCard

In order to protect your data, always follow the correct procedure for removing the ExpressCard outlined below.

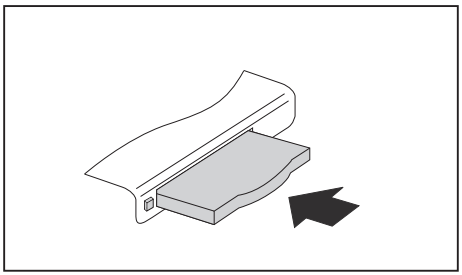
You can stop the ExpressCard using the corresponding symbol in the task bar:

- ► Left click on the icon to safely remove hardware, located in the taskbar.
- ► Select the ExpressCard you want to stop and remove.
- ► Press the "Enter" key.

↳ Wait for the dialogue box which tells you that it is now safe to remove the ExpressCard.



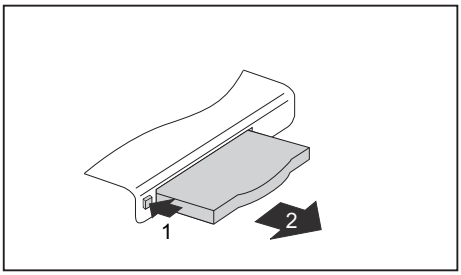
- ► If the eject button is lowered, you must first cause the eject button to release from the notebook casing. To do this, press the eject button until it pops out. Press the eject button (1) so that the ExpressCard entends somewhat from the notebook.
- ► Pull the ExpressCard out of the slot (2).



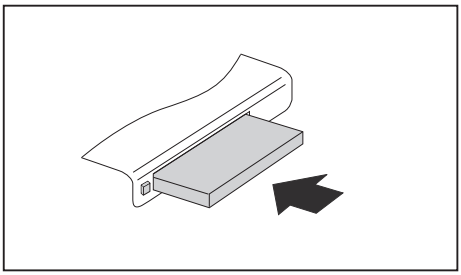
- ► Insert the placeholder for the ExpressCard into the slot guide.
- ► Carefully slide the placeholder for the ExpressCard as far as it will go into the slot. Do not use excessive force.

Inserting the ExpressCard

Keep the placeholder for the ExpressCard in a safe place. If you decide to remove the ExpressCard again you will need to insert the placeholder for the ExpressCard into the slot again. This prevents foreign objects from getting into the ExpressCard slot.



- ► If the eject button (1) is recessed, press it once so that it disengages. Now press the eject button again so that the placeholder protrudes slightly from the notebook.
- ► Pull the placeholder for the ExpressCard out of the slot (2).



- ► Insert the card into the slot guide with the connection contacts first.
- ► Gently push the ExpressCard into the slot either until it will go no further or you feel it engage. Do not use excessive force.

  Depending on the particular type used, the ExpressCard may protrude slightly from the ExpressCard slot.

Please refer to the documentation for the ExpressCard for driver installation instructions.

Loudspeakers and microphones

Information on the exact position of the speakers and microphone can be found in "Ports and operational controls", Page 3.

Please refer to chapter "Key combinations", Page 19 for information on setting the volume and also enabling/disabling the loudspeakers using key combinations.

If you attach an external microphone, the built-in microphone is disabled.

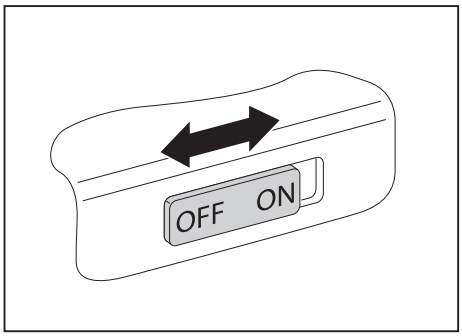
When you connect headphones or external speakers, the built-in speakers are disabled.

Information on connecting headphones and a microphone can be found in "Connecting external devices", Page 39.

Wireless LAN/ Bluetooth (device-dependent) / UMTS (device-dependent)

The installation of a radio component not approved by Fujitsu Technology Solutions GmbH will invalidate the certifications issued for this device (CE).

Switching the wireless 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.

If you switch off the radio components, the wireless LAN transmission unit (antenna) and, if present, the Bluetooth and UMTS module will also be switched off.

You can also deactivate the wireless components individually in the *BIOS Setup*. For this to occur, you must either not have assigned a supervisor password or if a supervisor password has been assigned, you must know this password.

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

Details on using Wireless LAN can be found in 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.

Setting up WLAN access

- Requirement: A WLAN must be available and you must have the corresponding access information.

Information on configuring the WLAN access can be found in the documentation for your operating system.

Access via UMTS

You can purchase the accessories for UMTS reception from your retailer or your Fujitsu Technology Solutions dealer.

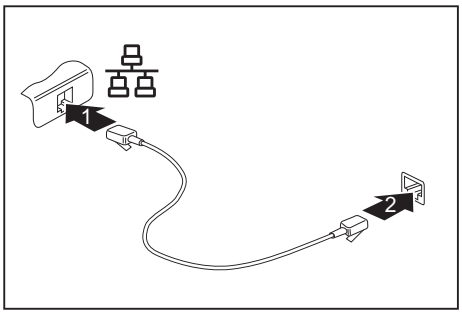
You will find information on establishing the connection with the UMTS network in the documentation for the hardware used.

You can connect your device with the Internet via UMTS. To do this, use one of the following types of connection:

- a USB dongle (a USB stick with your mobile phone provider's SIM card)
- UMTS ExpressCard (for inserting in the ExpressCard slot of your device)
- mobile end-device (e.g. mobile phone with Bluetooth or cable connection)

Ethernet and LAN

The internal network module of your notebook supports Ethernet LAN. You can use it to establish a connection to a local network (LAN = Local Area Network).



- ► Connect the network cable to the LAN port of the notebook (1).
- ► Connect the network cable to your network connection (2).

Your network administrator can help you to configure and use the LAN connections.

The network cable is not included in the delivery scope. This type of cable can be obtained from a specialist dealer.

Security functions

Your notebook has several security features that you can use to secure your system from unauthorised access.

This chapter explains how to use each function, and what the benefits are.

Please remember that in some cases, for example, forgetting your password, you may be locked out and unable to access your data. Therefore, please note the following information:

- Make regular backups to external storage devices such as external hard drives, CD or DVD disks.
- Some security functions need you to choose passwords. Make a note of the passwords and keep them in a safe place.

If you forget your passwords you will need to contact the help desk. Deletion or resetting of passwords are not covered by your warranty and a charge will be made for assistance.

Configuring password protection in BIOS Setup Utility

Before using the various options for password protection in the *BIOS Setup utility* to increase data security, please observe the following:

Make a note of the passwords and keep them in a safe place. If you forget your supervisor password you will not be able to access your notebook. Passwords are not covered by your warranty and a charge will be made for assistance.

Your password can be up to eight characters long and contain letters and numbers. No distinction is made between uppercase and lowercase.

Protecting BIOS Setup Utility (supervisor and user password)

If you have opened these operating instructions on the screen, we recommend that you print out the following instructions. Because you cannot call the instructions onto the screen while you are setting up the password.

You prevent unauthorised use of the *BIOS Setup Utility* with both the supervisor and the user password. The supervisor password gives you access to all functions of the *BIOS Setup Utility*, while the user password only provides some of the functions. You can only set a user password if a supervisor password has already been assigned.

Please refer to the """Settings in BIOS Setup Utility", Page 51 section for a description of how to call up and operate the *BIOS Setup Utility*.

Setting supervisor and user password

► Start the *BIOS Setup Utility* and go to the *Security* menu.
► Select the *Set Supervisor Password* field and press the Enter key.
↳ With *Enter new Password*: you are asked to enter a password.
► Enter the password and press the Enter key.
↳ *Confirm new Password* requires you to confirm the password.
► Enter the password again and press the Enter key.
↳ *Changes have been saved* is a confirmation that the new password has been saved.
► To set the user password, select *Set User Password* and proceed exactly as when configuring the supervisor password.
↳ If you do not want to change any other settings, you can exit *BIOS Setup Utility*.
► In the *Exit* menu, select the option *Save Changes & Exit*.
► Select *Yes* and press the Enter key.
↳ The notebook will be rebooted and the new password will come into effect. It will now be necessary to first enter your supervisor or user password in order to open the *BIOS Setup Utility*. Please note that the user password only provides access to a few of the BIOS settings.

Changing the supervisor or user password

You can only change the supervisor password when you have logged into the *BIOS Setup Utility* with the supervisor password.

► Call the *BIOS Setup Utility* and go to the *Security* menu.
► When changing the password, proceed exactly as for password assignment.

Removing passwords

To remove a password (without setting a new password) perform the following steps:

► Start the *BIOS Setup Utility* and go to the *Security* menu.
► Highlight the *Set Supervisor Password* or *Set User Password* field and press the Enter key.
↳ You will be requested to enter the current password by the *Enter Current Password* prompt.
You will be requested to enter a new password by the *Enter New Password* prompt.
► Press the Enter key twice.
► In the *Exit* menu, select the option *Save Changes & Exit*.
► Select *Yes* and press the Enter key.
↳ The notebook will now reboot with the password removed.
Removing the supervisor password simultaneously deactivates the user password.

Password protection for booting of the operating system

With the supervisor password you have set in the *BIOS Setup Utility* (see section "Setting supervisor and user password", Page 37), you can also prevent booting of the operating system.

Activating system protection

► Start the *BIOS Setup Utility* and go to the *Security* menu.
► Select the *Password on Boot* option and press the Enter key.
► Select *Enabled* and press the Enter key.
► Select the *Save Changes & Exit* option under *Exit*.
↳ The notebook will reboot. You will be prompted to enter your password (the supervisor password).

Deactivating system protection

► Start the *BIOS Setup Utility* and go to the *Security* menu.
► Select the *Password on Boot* option and press the Enter key.
► Select the *Disabled* option and press the Enter key.
↳ If you do not want to change any other settings, you can exit *BIOS Setup Utility*.
► Select the *Save Changes & Exit* option under *Exit*.
↳ The notebook will reboot. The system is no longer password-protected.

Connecting external devices

Always refer to the safety information provided in "Important notes", Page 6 before connecting or disconnecting any devices to or from your notebook.

Always read the documentation supplied with the device you wish to connect.

Never connect or disconnect cables during a thunderstorm.

Never pull at a cable when disconnecting it. Always grasp the plug.

Follow the steps below in order, when connecting or disconnecting devices to your notebook:

With some devices such as USB devices, it is not necessary to switch off the notebook and the device before connecting/disconnecting. For more information about whether or not devices need to be switched off, please refer to the documentation supplied with the external device.

Some of the external devices require special drivers (see the operating system and external device documentation).

Connecting devices to the notebook

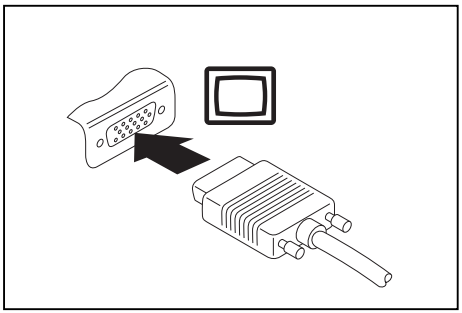
1. Turn off your notebook and all external devices.
2. Unplug your notebook and all devices from the mains sockets.
3. Connect the cables for your external devices following the instructions.
4. Plug all power cables into the mains sockets.

Disconnecting devices from the notebook

1. Turn off your notebook and all external devices.
2. Unplug your notebook and all devices from the mains sockets.
3. Disconnect the cables for your external devices following the instructions.

Connecting an external monitor

You can connect an external monitor to the analogue VGA monitor connection of the notebook. Screen output is limited to a maximum of two screens at any one time (see "Key combinations", Page 19, section "Toggle output screen").



Analogue VGA monitor connection socket

- ► Switch off the notebook and the external monitor.
- ► Connect the data cable of the external monitor to the monitor port of the notebook.
- ► First switch on the external monitor and then the notebook.

Using the Fn + F10 key combination, you can toggle back and forth between the external monitor and the notebook's LCD screen.

You can display the same picture on the external monitor and the notebook LCD screen simultaneously.

Setting the refresh rate for your external monitor

If the refresh rate set is too high, the monitor may be damaged. Please see the documentation included with your monitor for the maximum possible refresh rate.

By setting the optimum refresh rate you will avoid screen flicker.

- ► Set the appropriate refresh rate for the type of monitor connected.
- ► Select *Startsymbol – (Settings) – Control Panel – Appearance and Personalization – Personalization: Adjust screen resolution*.

or

- ► Right-click on the desktop. Under *Personalization – Display Settings*, choose screen type 1 or 2.
- ► Select *Advanced Settings – Monitor*.
- ► Select *Screen Refresh Rate* to choose the optimum refresh rate for the connected monitor type.
- ► Click *Apply* and *OK*.

Connecting USB devices

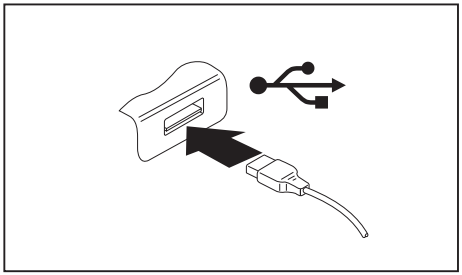
On the USB ports you can connect external devices that also have a USB port (e.g. a printer, a scanner or a modem).

USB devices are hot-pluggable. This means you can connect and disconnect devices while your operating system is running.

USB 1.x has a maximum data transfer rate of 12 Mbit/s.

USB 2.x has a data transfer rate of up to 480 Mbit/s.

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 a USB port of the notebook.

Device drivers

USB devices will be automatically recognised and installed by your operating system.

How to remove USB devices correctly

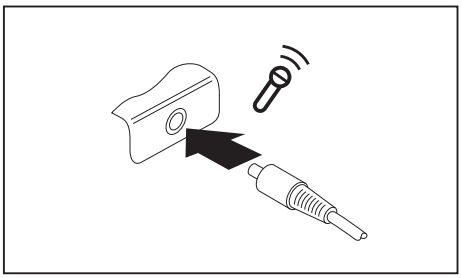
Always correctly remove the device according to the rules described below, to ensure that none of your data is lost.

- ► Left click on the icon to safely remove hardware, located in the taskbar.
- ► Select the device which you want to shut down and remove.
- ► Press the Enter key.
- ↳ Wait for the dialogue box which tells you that it is now safe to remove the device.

Connecting external audio devices

Microphone port / Line In

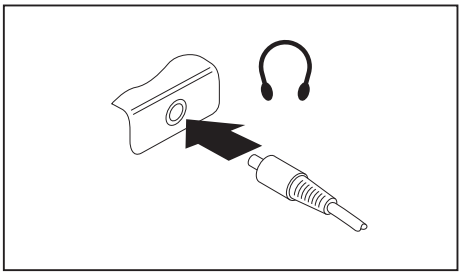
The microphone port/Line In allows you to connect an external microphone, a MiniDisc player, MP3 player, CD player or a tape deck to your notebook.



- ► Connect the audio cable to the external device.
- ► Connect the audio cable to the microphone port/Line In of the notebook.

Headphone port

You can connect headphones or external loudspeakers to your notebook via the headphone port.



- ► Connect the audio cable to the external device.
- ► Connect the audio cable to the headphone port of the notebook.
- ↳ The internal loudspeakers are disabled.

i

If you purchase a cable from a retailer, please note the following information:

The headphone port on your notebook is a "3.5 mm jack socket".

If you want to connect headphones or a speaker you will need a "3.5 mm jack plug".

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.

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.

Preparing to remove components

If you are going to remove or change system components, prepare for the removal as follows:

Please observe the safety information in chapter "Important notes", Page 6.
Remove the power plug from the mains outlet !

► Switch the device off.

The device must not be in energy-saving mode !

► Close the LCD screen.
► Remove all the cables from the device.
► Turn the device over and place it on a stable, flat and clean surface. If necessary, lay an anti-slip cloth on this surface to prevent the device from being scratched.
► Remove the battery (see "Removing a battery", Page 25).

Installing and removing memory expansion

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

Please observe the safety information in chapter "Important notes", Page 6.

The notebook must be switched off when installing/removing memory modules and it must not be in one of the power saving modes.

Only use memory expansion modules that have been approved for your notebook (see "Technical data", Page 59).

Never use force when installing or removing a memory extension.

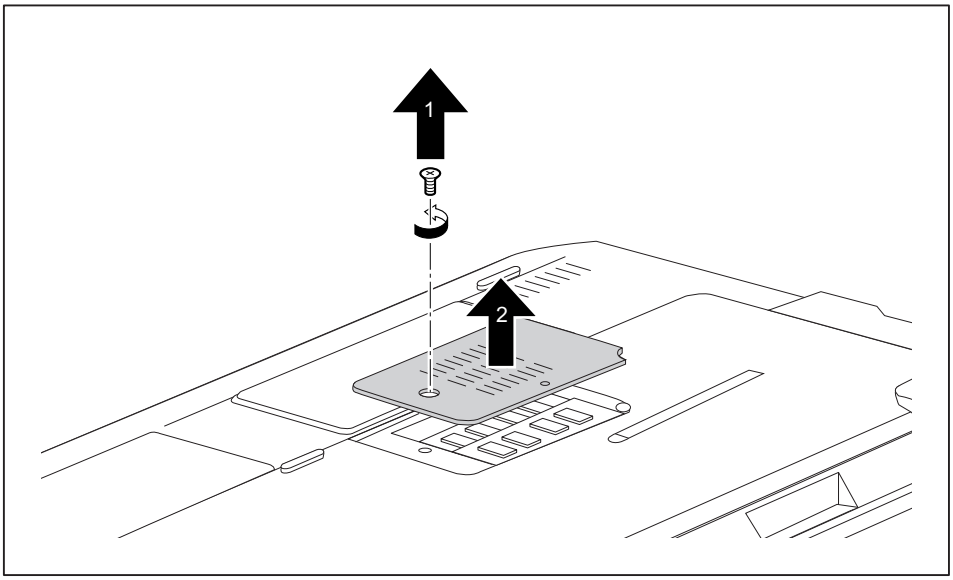
Make sure that foreign objects do not fall into the memory extension compartment.

The memory module is located underneath the service compartment. You must open the service compartment to remove or install a memory module. Once you have removed the cover, the various components are exposed. These components should be removed and replaced only by authorised specialists. Therefore, be sure to observe the following:

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 memory modules. Otherwise, there is a risk of suffering burns!

As some components are exposed that are sensitive to static electricity, please take note of chapter "Notes on installing and removing boards and components", Page 43.

Removing a cover

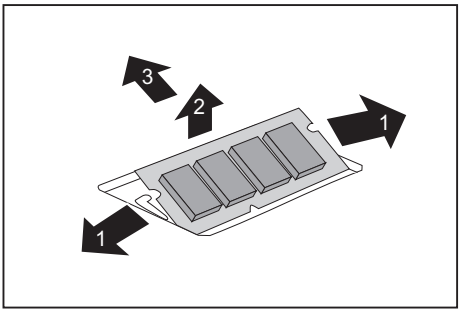


► Remove the screw (1).

Keep the screws in a safe place. If you are removing more than one component at the same time, store the screws for the individual components separate from each other. If you install the wrong screws, components may be damaged.

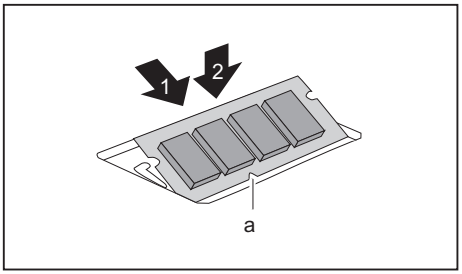
► Lift the cover off the notebook (2).

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).

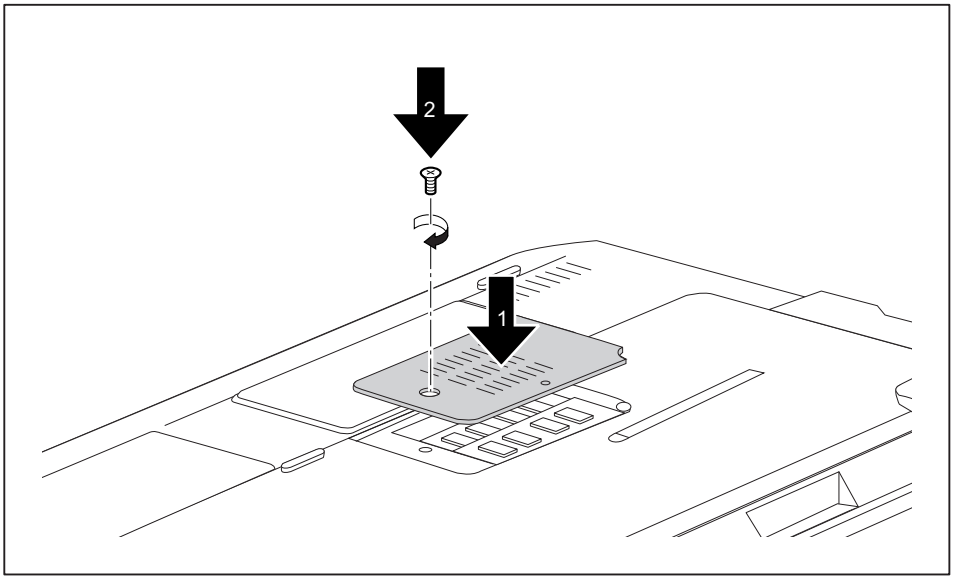
Installing a memory module



► 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).

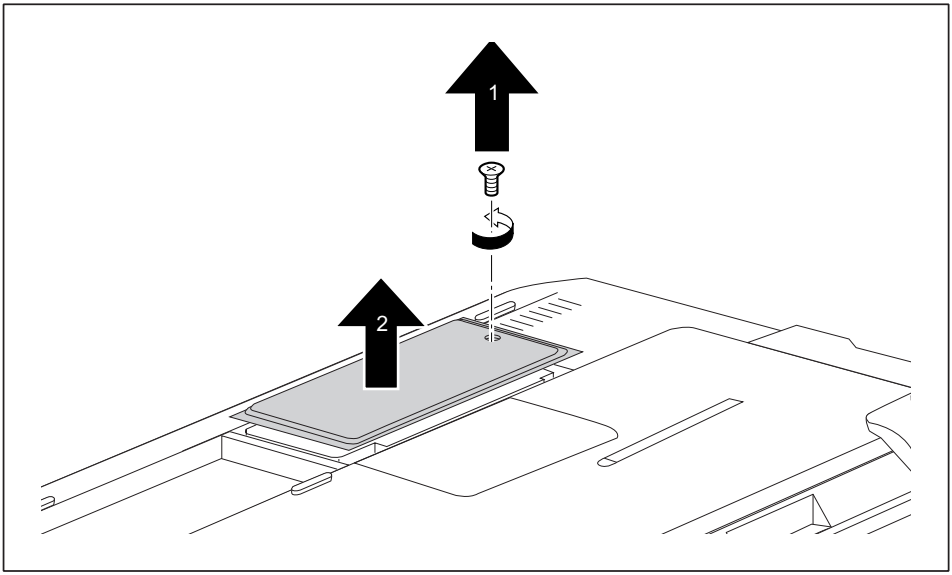
If you remove more than one component at the same time, keep the screws for the individual components separate from each other and make sure that you use the correct screws. If you install the wrong screws, components may be damaged.

► Tighten the screw (2).

Removing and installing the hard disk

Removing a cover

► Remove the battery (see Chapter "Removing a battery", Page 25).

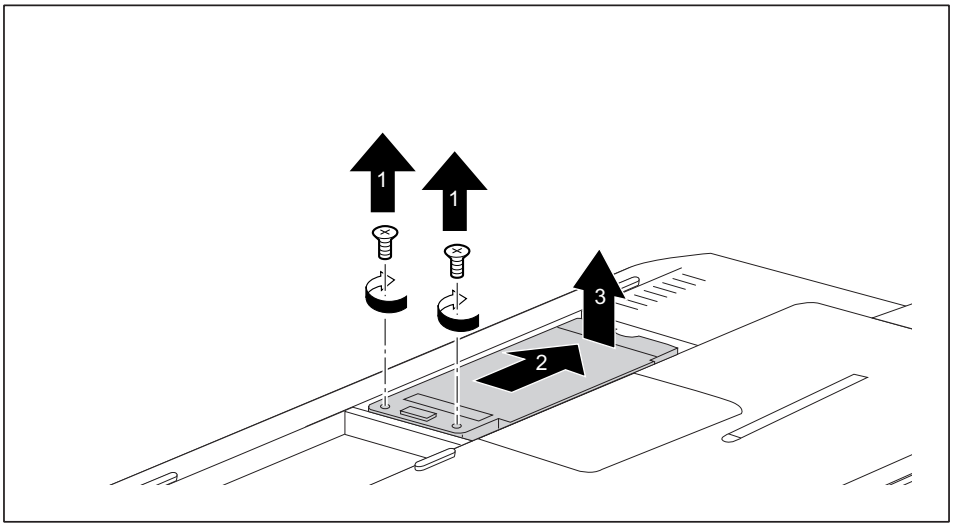


► Remove the screw (1).

Keep the screws in a safe place. If you are removing more than one component at the same time, store the screws for the individual components separately from each other. If you install the wrong screws, components may be damaged.

► Lift the cover off the notebook (2).

Removing a hard disk



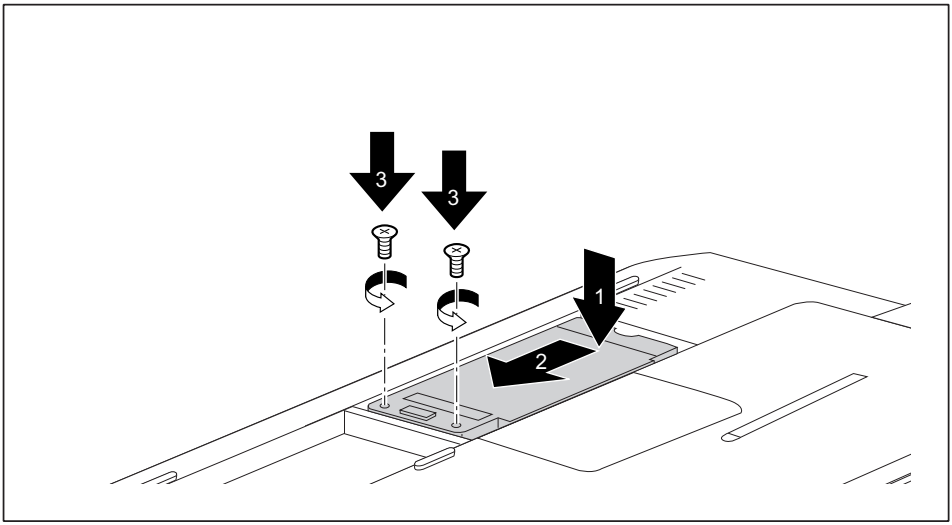
► Remove the screws (1).

Keep the screws in a safe place. If you are removing more than one component at the same time, store the screws for the individual components separately from each other. If you install the wrong screws, components may be damaged.

► Push the hard disk in the direction of the arrow (2) until the contacts disengage.
► Remove the hard disk from the hard disk compartment (3).

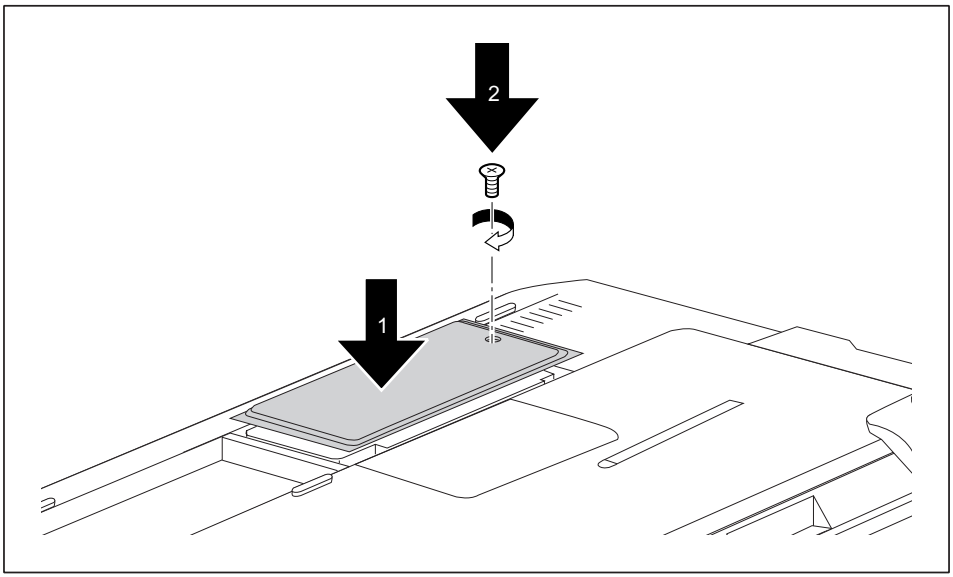
Installing a hard disk

If you are installing more than one component at the same time, keep the screws for the individual components separately from each other and make sure that you use the correct screws. If you install the wrong screws, components may be damaged.



- ► Place the hard disk into the hard disk compartment (1).
- ► Push the hard disk in the direction of the arrow (2) until the contacts engage.
- ► Fasten the screws (3).

Attaching the cover



► Place the cover in the correct mounting position (1).

If you remove more than one component at the same time, keep the screws for the individual components separately from each other and make sure that you use the correct screws. If you install the wrong screws, components may be damaged.

► Tighten the screw (2).
► Insert the battery (see Chapter "Installing a battery", Page 25).

Finishing component removal

After you have removed or changed the system components as you required, please prepare your device for operation again as follows:

► Install the battery again (see "Installing a battery", Page 25).
► Turn the notebook the right way up again and place it on a flat surface.
► Reconnect the cables that you disconnected before.

Settings in BIOS Setup Utility

The *BIOS Setup Utility* allows you to set the system functions and the hardware configuration for the notebook.

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

The *BIOS Setup Utility* program contains the following menus:

About	Displays information relating to the BIOS, processor and notebook
System	Advanced system settings
Advanced	Configuration of various hardware components, such as mouse, keyboard, processor
Security	Password settings and security functions
Boot	Configuration of the start-up sequence
Exit	Exits the *BIOS Setup Utility*

Starting the BIOS Setup Utility

► Reboot the notebook (switch off/on or reboot the operating system).

↳ The following or a similar display appears on the screen at start-up:

```
<F2> BIOS Setup <F12> Boot Menu
```

► Press the function key F2.

► If a password has been assigned, enter the password and press the Enter key.

If you have forgotten the password, contact your system administrator or contact our customer service centre.

The *BIOS Setup Utility* starts.

Operating BIOS Setup Utility

Press the F1 key to display help on the operation of *BIOS Setup Utility*. The description of the individual settings is shown in the right-hand window of the *BIOS Setup Utility*.

With the F9 key you can load the default settings of the *BIOS Setup Utility*.

► Use the cursor keys ← or → to select the menu you wish to access to make changes.

↳ The menu is displayed on the screen.

► Select the option you want to change with the cursor keys ↑ or ↓.

► Press the Enter key.

► Press the ESC key to exit the selected menu.

► For future reference, make a note of the changes you have made (for example, in this manual).

Exiting BIOS Setup Utility

You need to select the desired option in the *Exit* menu and activate it by pressing the Enter key:

Exit Saving Changes - save changes and exit BIOS Setup Utility

► To save the current menu settings and exit the *BIOS Setup Utility*, select *Exit Saving Changes* and *Yes*.

↳ The notebook is rebooted and the new settings come into effect.

Exit Discarding Changes – Discard changes and exit BIOS Setup Utility

► To discard the changes, select *Exit Discarding Changes* and *Yes*.

↳ The settings in place when *BIOS Setup Utility* was called remain effective. *BIOS Setup Utility* is terminated and the notebook is rebooted.

Load Setup Defaults – Copy Standard Entries

► To copy the standard entries for all menus of the *BIOS Setup Utility*, choose *Load Setup Defaults* and *Yes*.

Discard Changes – Discard changes without exiting the BIOS Setup Utility

► To discard the changes you have made, select *Discard Changes* and *Yes*.

↳ The settings in place when *BIOS Setup Utility* was called remain effective.
You can now make additional settings in the *BIOS Setup Utility*.

► If you want to exit*BIOS Setup Utility*with these settings, select *Exit Saving Changes* and *Yes*.

Save Changes - save changes without exiting the BIOS Setup Utility

► To save the changes, select *Save Changes* and *Yes*.

↳ The changes are saved. You can now make additional settings in the BIOS Setup Utility.

► If you want to exit BIOS Setup Utility with these settings, choose *Exit Saving Changes* and *Yes*.

Save Changes and Power Off

► To save the changes and switch off your device, select *Save Changes and Power Off* and *Yes*.

↳ The changes are saved. Your device is shut down.

Troubleshooting and tips

Refer to the safety information in the "Safety" manual when connecting or disconnecting cables.

If a fault occurs, try to correct it as described. If you fail to correct the problem, proceed as follows:

- ► Make a note of the steps and the circumstances that led to the fault. Also make a note of any error messages displayed.
- ► Switch the notebook off.
- ► Contact the Hotline/Help Desk.

You can find the telephone numbers in the help desk list. Please have the following information ready when you call:

- The model name and serial number of the notebook. The serial number is located on a sticker on the underside of the notebook.
- Notes of any messages that appear on the screen and information on acoustic signals.
- Any changes you have made to the hardware or software since receiving the notebook.
- Any changes you have made to the *BIOS Setup* settings since receiving the notebook.
- Your system configuration and all peripheral devices connected to your system.
- Your sales contract.

Our notebooks have been designed primarily with mobile applications in mind. This means that considerable effort has been made to optimise components and equipment in terms of weight, space and energy requirements. Depending on the particular configuration you have purchased, it is possible that functionality may be slightly reduced compared to a desktop PC if you are running processor-intensive gaming software, e.g. games with intensive 3D graphics. Updating your hardware with drivers which have not been approved by Fujitsu Technology Solutions may result in performance losses, data losses or malfunction of the equipment. A list of approved drivers and current BIOS versions can be downloaded from: "http://ts.fujitsu.com/support/downloads.html"

Help if problems occur

Should you at any time have a problem with your computer that you can't solve yourself, in many cases you can quickly solve it by using the *SystemDiagnostics* program which is pre-installed on your computer.

The *SystemDiagnostics* program is already installed on devices which were delivered with a Windows operating system.

- ► To start the *SystemDiagnostics* program, click on *Startsymbol - Program - Fujitsu - SystemDiagnostics*.
- ► If a problem is found during a test run, the *SystemDiagnostics* program outputs a code (e.g. DIFS-Code YXXX123456789123).
- ► Make a note of the output DIFS code and the identity number of your device. The identity 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"). When you do this, please have ready the identity number and serial number of your system and the DIFS code.

Restoring the hard disk contents under Windows

You can reinstall the operating system with the "Windows Recovery CD" and the "Drivers & Utilities" CD/DVD.

The instructions are provided on the case of the Recovery CD.

During the reinstall process your personal files and any installed programs will be deleted. We advise you to backup your files to an external hard drive, or CD / DVD disk before you start.

- ► Switch the notebook on.
- ↳ The following display briefly appears on the screen during start-up:
  <ESC>Diagnostic screen <F12>Boot Menu <F2>BIOS Setup
- ► When this message appears, press the function key F12.
- ► Insert the "Windows Recovery CD" into the optical drive.
- ► Select *CD-ROM* and press the Enter key.
- ► Follow the instructions on the screen.
  After the installation you must install all the drivers again. Some installed hardware components will not be correctly supported until this has been done.
- ► Insert the "Drivers & Utilities" CD/DVD into the optical drive. The CD starts automatically.
- ► Click on the *Desk Update* button.
- ► Select *Automatic driver installation (Express)* and click on *Start installation*.
- ► Follow the instructions on the screen.
- ► Restart your notebook when the driver installation is completed.

The notebook's date or time is incorrect

Cause	Troubleshooting
Time and date are incorrect.	► With the *BIOS-Setup-Utility*, you can set the date and time in the *main* menu.

If the date and time are repeatedly incorrect when you switch on the notebook, the built-in battery that supplies the internal clock has failed.

► Please contact your sales outlet or our hotline/help desk.

When certain characters are entered on the keyboard, only numerals are written

Cause	Troubleshooting
The virtual numeric keypad of your device is activated, see "Virtual numeric keypad", Page 18	► Press the key combination Fn + Num.

The notebook's LCD screen remains blank

Cause	Troubleshooting
Monitor is switched off.	► Press a key or touch the touchpad.
External monitor or television set connected.	► Press the key combination to switch the screen output, see "Key combinations", Page 19.

The LCD screen is difficult to read

Cause	Troubleshooting
Reflected glare	► Turn the notebook or alter the tilt of the LCD screen. ► Increase the brightness of the screen.

The external monitor remains blank

Cause	Troubleshooting
Monitor is switched off.	► Switch the external monitor on.
Power saving has been activated (monitor is blank).	► Press any key to continue.
Brightness is set to dark.	► Adjust the brightness of the monitor.
Screen output is set to the notebook's LCD screen	► Press the key combination to switch the screen output, see "Key combinations", Page 19.
The external monitor's power cable or data cable is not connected properly.	► Switch off the external monitor and the notebook. ► Check whether the power cable is plugged properly into the external monitor and into the power socket. ► Check whether the data cable is properly connected to the notebook and the external monitor (if it is plugged in with a connector). ► Switch on the external monitor and the notebook.

The external monitor is blank or the image is unstable

Cause	Troubleshooting
The wrong external monitor has been selected or the wrong screen resolution has been set for the application program.	► Terminate the application program in Windows by pressing Alt + F4. If the fault persists after closing the program, use the key combination for switching the screen output (see "Key combinations", Page 19) to switch over to the notebook's LCD screen. Change the following setting: ► Set the screen resolution: Select the required resolution with *Startsymbol – (Settings) – Control Panel – Appearance and Personalisation – Personalization: Adjust the screen resolution as required*. ► Select monitor: Right-click on the desktop. Under *Personalization – Display Settings* choose screen 1 or 2 and under *Advanced Settings – Monitor* choose the correct monitor.

The notebook cannot be started

Cause	Troubleshooting
The battery is not installed correctly.	► Switch the notebook off. ► Check whether the battery is installed correctly in its compartment. ► Switch the notebook on.
The battery is dead.	► Charge the battery. **or** ► Insert a charged battery. **or** ► Connect the mains adapter to the notebook.
The power adapter is not connected correctly.	► Switch the notebook off. ► Check whether the mains adapter is connected correctly to the notebook. ► Switch the notebook on.

The notebook stops working

Cause	Troubleshooting
Notebook is in energy saving mode.	► Leave energy saving mode.
An application programme has caused the malfunction.	► Close the application program or restart the notebook (by restarting the operating system or switching the device off and back on again).
The battery is dead.	► Charge the battery. **or** ► Insert a charged battery. **or** ► Connect the mains adapter to the notebook.

The printer does not print

Cause	Troubleshooting
The printer is not switched on.	► Make sure that the printer is switched on and ready for operation (refer to the documentation supplied with the printer).
The printer is not connected correctly.	► Check that the data cable connecting the notebook to the printer is properly connected.
The printer driver is faulty or not correctly installed, or it is the wrong printer driver.	► Check that the data cable connecting the notebook to the printer is properly connected. ► Check whether the correct printer driver is loaded (refer to the printer documentation).

The radio connection to a network does not work

Cause	Troubleshooting
The wireless component is disabled.	► Switch the radio components on (see "Switching the wireless components on and off", Page 34).
The wireless component is enabled. Despite this, the wireless connection to a network does not work.	► Check whether the radio connection is switched on via the software. ► Further information on using the radio component can be found in the help files.

Technical data

LIFEBOOK A1130

Ambient conditions	
Environment class 3K2	DIN IEC 721
Mechanical class 7M2	DIN IEC 721
Temperature:	
Operation	5 °C ... 35 °C
Transportation	-15 °C ... 60 °C
Operating temperature	5 °C – 35 °C
Dimensions	
Width x depth x height (front/back)	370 mm x 265 mm x 42.0 mm (min.) - 46.9 mm (max.)
Weight (including 6-cell rechargeable battery)	approx. 2.85 kg

The data sheet for the device provides further technical data. You will find the data sheet on your device or on the Internet under "http://ts.fujitsu.com/support".

Mains adapter

Electrical data	
Primary	80 W
Rated voltage	100 V – 240 V (automatic)
Rated frequency	50 Hz – 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.

Manufacturer’s notes

Disposal and recycling

Information about this subject can be found on your notebook or on our Internet pages.

Declarations of Conformity

The "Declarations of Conformity" concerning the device can be found at our Internet address: "http://ts.fujitsu.com".

Fujitsu Technology Solutions hereby declares that your device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

CE marking

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	Luxembourg
Malta	The 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.

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