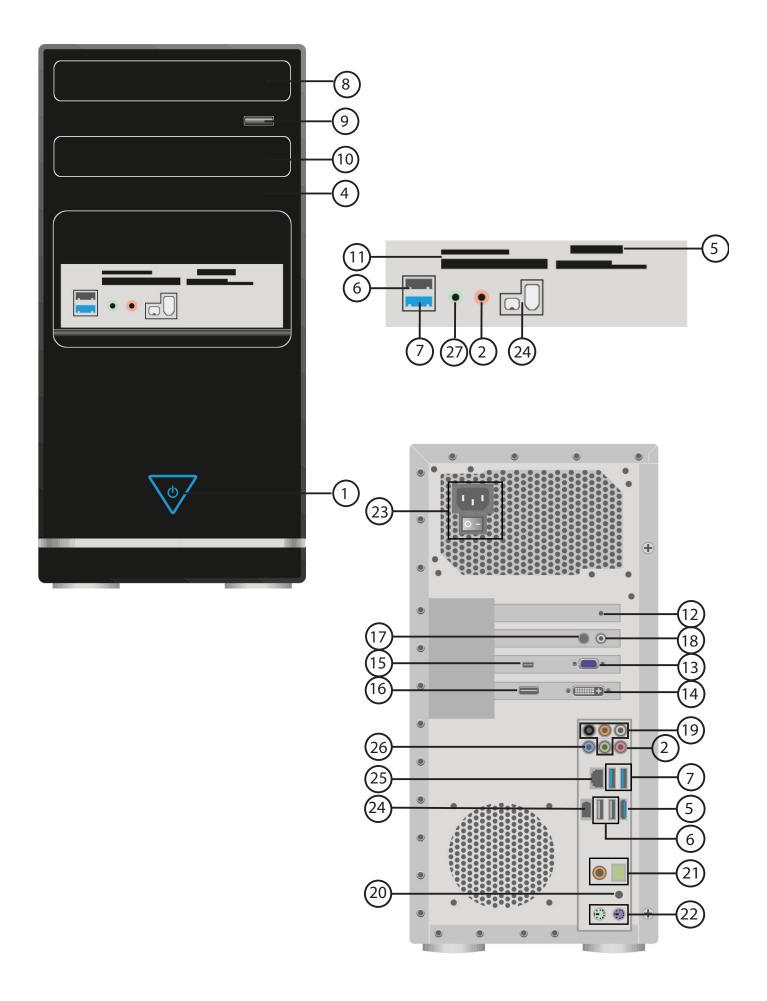
MEDION®

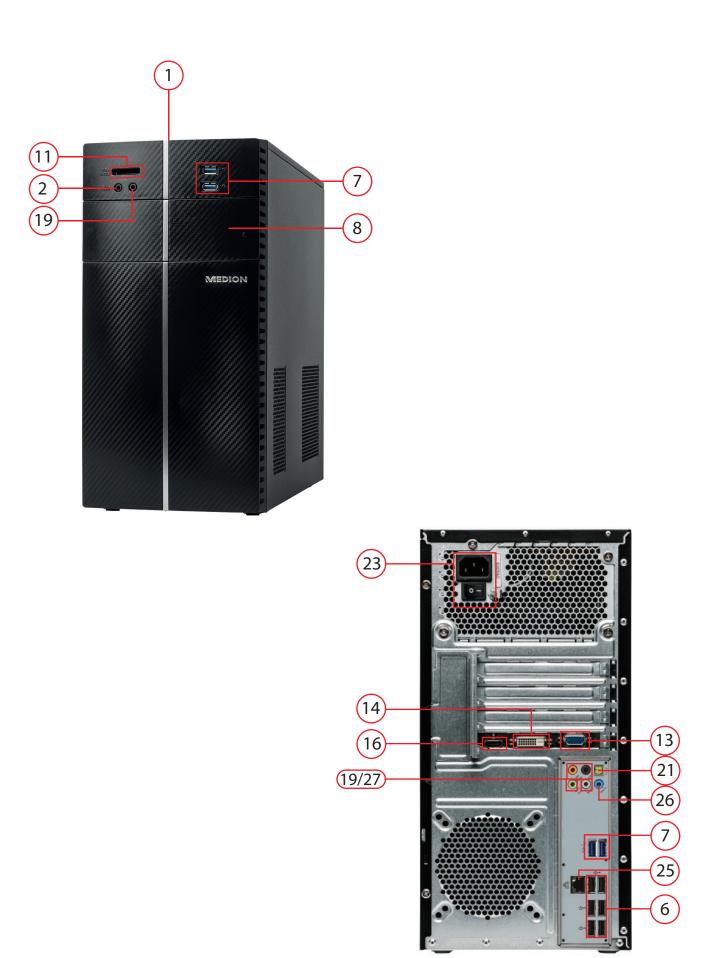
Operating instructions

Multimedia PC Multimedia PC M55/M56 High-performance PC X50/X51 High-performance PC X71 High-performance PC X75 All-in-One PC System 23" All-in-One PC System 19.5" X-PC

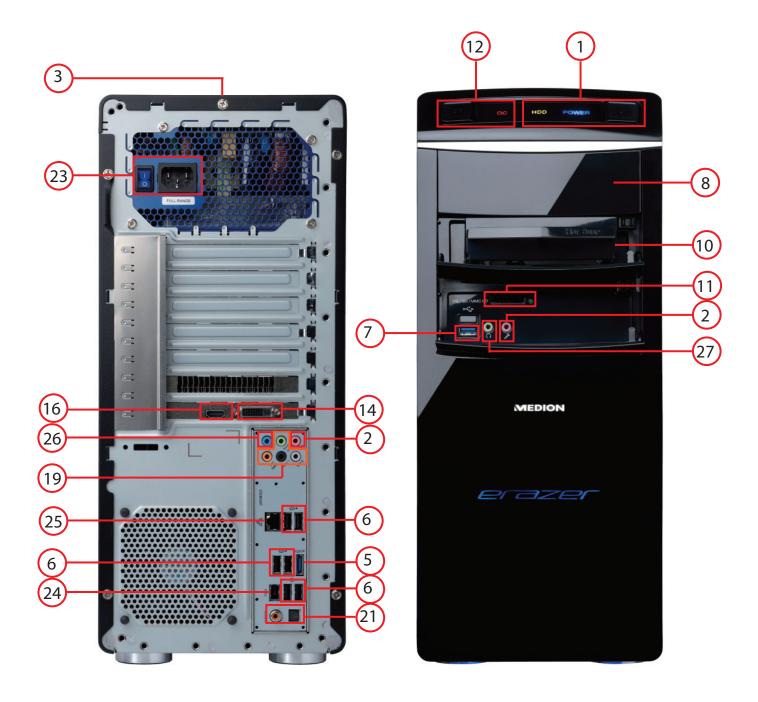
Multimedia PC



Multimedia PC M55 / M56



High-performance PC x50/X51



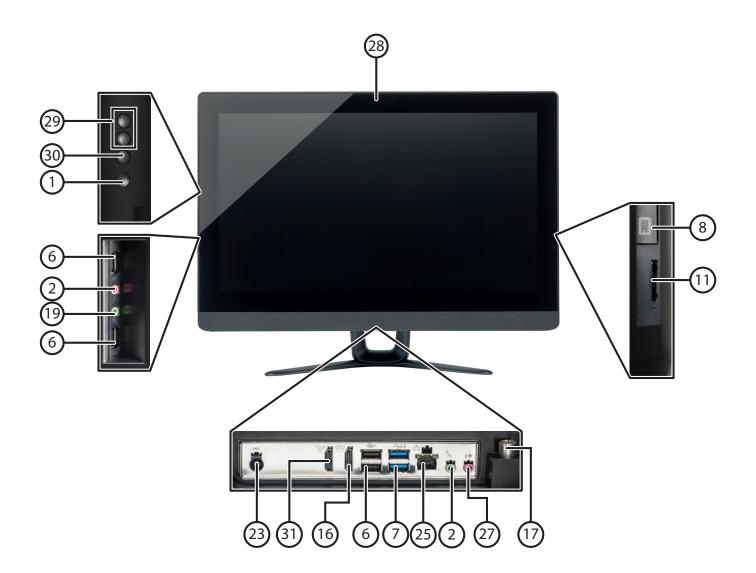
High-performance PC x71



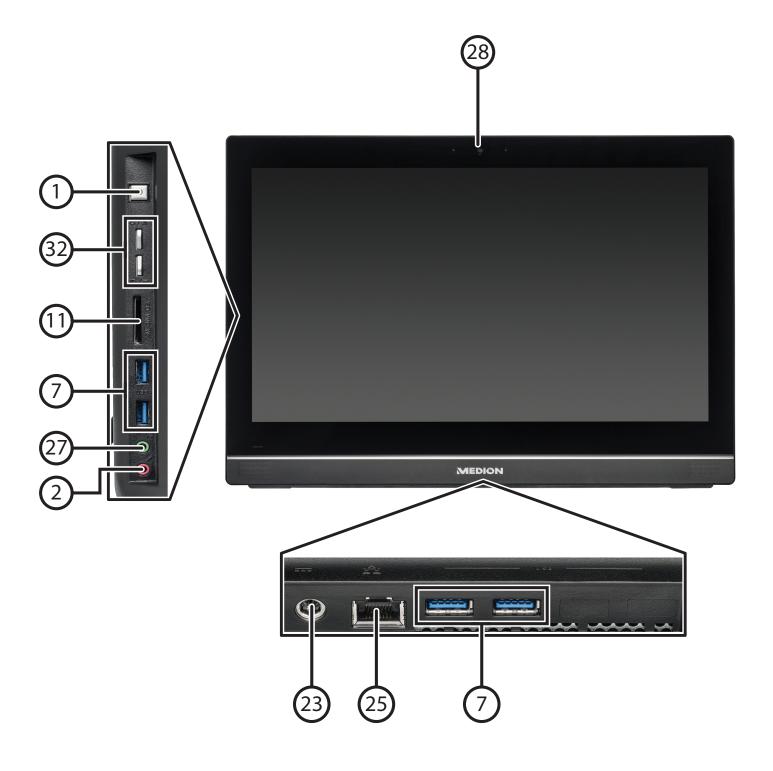
High-performance PC x75



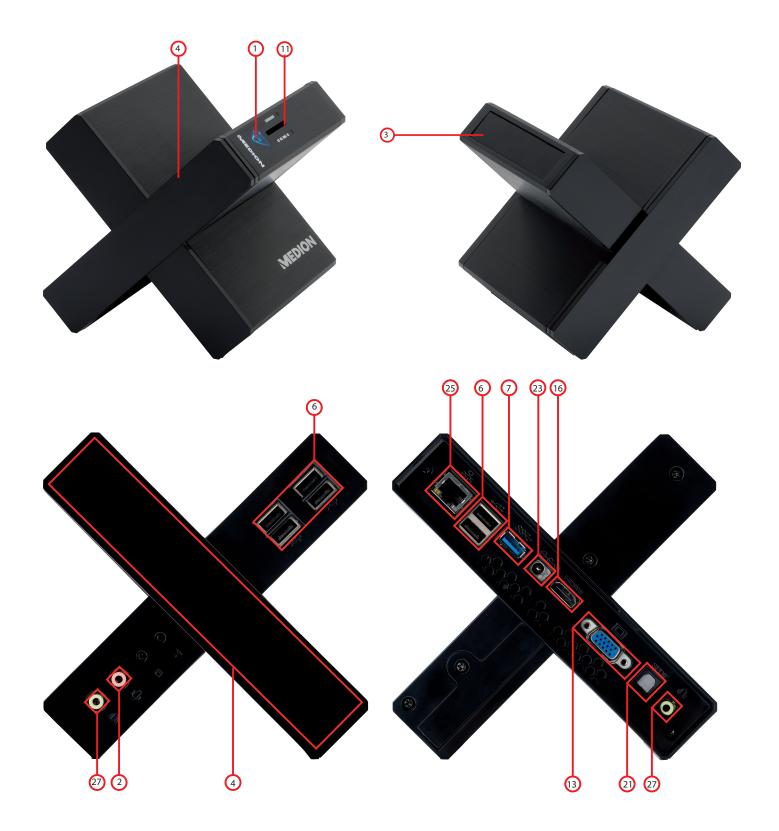
All-in-One PC System 23"



All-in-One PC System 19.5"



X-PC



Connections

- 1 On/off switch/operating mode
- 2 Microphone socket*
- 3 Slot for Medion HDDrive2Go super-speed external hard drive*
- 4 Front panel*
- **5** eSATA connection*
- 6 USB 2.0 ports*
- **7** USB 3.0 ports*
- 8 Optical drive
- 9 Optical drive eject button
- **10** Hot-swap mobile rack*
- **11** Card reader*
- **12** Overclocking button*
- **13** D-Sub VGA monitor connection*
- 14 DVI-I/DVI-D monitor connection*
- **15** Mini HDMI connection*
- **16** HDMI connection*
- 17 TV aerial socket (analogue & DVB-T)*
- 18 TV aerial socket (DVB-S)*
- **19** Speaker/headphones*
- 20 Clear CMOS*
- 21 Optical/coaxial digital S/PDIF audio output*
- **22** PS/2 connection
- 23 Power supply (mains cable socket & mains switch)
- 24 IEEE 1394 (FireWire)*
- 25 LAN network (RJ45)
- 26 Audio input (line In, music recording)
- 27 Headphone socket*
- 28 Webcam*
- **29** Brighter / darker*
- **30** Source Select / Display off*
- 31 HDMI IN port*
- 32 Volume buttons

*optional

Contents

1.	Abou	It these instructions	
	1.1.	Warning symbols and key words used in these instructions	4
	1.2.	Proper use	4
	1.3.	Declaration of conformity	5
2.	Safet	y instructions	5
	2.1.	Dangers for children and people with reduced ability to operate machinery	5
	2.2.	Operational safety	5
	2.3.	Never carry out repairs yourself	6
	2.4.	Data backup	6
3.	Packa	age contents	6
4.	Settir	ng up the PC	6
2. 3.	4.1.	Installation location	6
	4.2.	Environmental requirements	6
	4.3.	Ergonomics	7
5.	Conn	ecting	8
	5.1.	Connecting the cables	
	5.2.	Opening and closing the front panel (optional)	
	5.3.	Connecting the microphone (optional)	
	5.4.	Connecting SATA devices (optional)	9
	5.5.	Connecting USB devices (optional)	
	5.6.	Overclocking button (optional)	
	5.7.	Connecting a monitor (optional)	
	5.8.	Touch screen (optional)	10
	5.9.	Connecting devices using the mini-HDMI socket (optional)	
	5.10.	Connecting a HDMI device (optional)	
	5.11.	Connecting audio output / headphones / speakers	
	5.12.	Connecting PS/2 devices (optional)	
	5.13.	Connecting IEEE 1394 (FireWire) devices (optional)	
	5.14.	Connecting a network (LAN)	
	5.15.	Aerial socket for TV reception (optional)	
	5.16.	Analogue TV reception	
	5.17.	DVB-TTV reception	
	5.18.	DVB-S TV reception	
	5.19.	Connecting audio input/recording source	
	5.20.	Connecting power supply	
6.	First	use	
	6.1.	Starting up the PC	
7.		nouse	
8.		eyboard	
	8.1.	The Alt, Alt Gr and Ctrl buttons	
9.		ard drive	
	9.1.	Important directories	
	9.2.	Hot-swap mobile rack (optional)	
	9.3.	Connecting an external hard drive (optional)	
10.		ptical drive (optional)	
	10.1.	Load disc	
	10.2.	Playing/reading discs	
	10.3.	Blank CDs and DVDs	
11.		ard reader (optional)	
	11.1.	Inserting the memory card	
	11.2.	Removing memory cards	
12.	-	raphics system (optional)	
	12.1.		
13.		1394 (FireWire) (optional)	
	13.1.	Possible uses for IEEE 1394	
	13.2.	Technical specifications	
14.	O2R C	connection (optional)	19

15.	The TV card (optional)		
16.	Networking	20	
	16.1. What is a network?		
	16.2. Wireless LAN (wireless network) (optional)		
17.	Software	21	
	17.1. Getting to know Windows [®] 8		
	17.2. indows activation		
	17.3. Windows [®] 8 – What's New		
	17.4. Overview		
	17.5. Linking a user account to a LivelD	23	
18.	Control Panel	26	
	18.1. Control panel settings		
	18.2. Resetting the PC to its factory settings		
	18.3. UEFI firmware configuration		
	18.4. Clear CMOS (optional)		
	18.5. Windows [®] 8 – Help and support		
19.	FAQ – Frequently asked questions		
20.			
	20.1. First aid in the case of hardware problems		
	20.2. Find the cause		
	20.3. Faults and possible causes		
	20.4. Do you need more help?		
	20.5. Driver support		
	20.6. Transport		
	20.7. Cleaning and care		
21.	Upgrades/modifications and repairs		
	21.1. Information for service technicians		
	21.2. Information on laser radiation		
22.	Recycling and disposal		
	22.1. Handling batteries		
	22.2. FCC Compliance Statement		
23.	Legal Notice		
24.	Index		

Personal information

Please append the following to your proof of ownership:		
Serial numbers		
(e.g. Microsoft®)		
Purchase date, location		

You will find the serial number on the back of the PC. Where applicable, also copy the number on your warranty documents.

Target group

This operating manual is intended to be read by both first-time and experienced users. Regardless of any possible professional use, this PC is designed for use in a private household. The entire family will be able to enjoy the wide variety of applications it offers.

Quality

We select our components with a close eye to functionality, ease of use, safety and reliability. Thanks to our ideally balanced hardware/software concept we are able to offer you a state-of-the-art machine that you will enjoy whether you are working or at play. Thank you for purchasing our products. We are delighted to welcome you as our new customer.

Trademarks: **MS-DOS**[®] and **Windows**[®] are registered trademarks of the **Microsoft**^{*} corporation. Intel[®], the Intel[®] Logo, Intel Inside[®], Intel Core[®], Ultrabook[™], and Core Inside[®] are trademarks of Intel[®] Corporation in the U.S. and/or other countries. **HDMI** logo and the name High-Definition Multimedia Interface are registered trademarks of HDMI Licensing LLC. Other trademarks are the property of their respective owners.

1. About these instructions



Read these erating instructions carefully before using the device for the first time. Note the warnings on the device and in the operating instructions.

Always keep the operating instructions close to hand. If you sell the appliance or give it away, please ensure that you also pass on these instructions.

1.1. Warning symbols and key words used in these instructions

	DANGER! Warning of immediate risk of fatal injury!
	WARNING! Warning: possible mortal danger and/or serious irreversible injuries!
	CAUTION! Warning: possible light or moderate injuries!
	CAUTION! Please follow the guidelines to avoid injuries and/or property damage.
i	PLEASE NOTE! Additional information on using the device
i	PLEASE NOTE! Please follow the guidelines in the operating instructions.
	WARNING! Warning: danger of electric shock!
	WARNING! Warning: danger due to excessive volume!
•	Bullet point/information on operating steps and results
	Tasks to be performed

1.2. Proper use

This device is intended for the use, management and editing of electronic documents and multimedia content and is only intended for personal use, not industrial/commercial use.

Please note that we shall not be liable in cases of improper use:

- Do not modify the device without our consent and do not use any auxiliary equipment which we have not approved or supplied.
- Use only spare parts and accessories which we have supplied or approved.
- Follow all the instructions in these operating instructions, especially the safety information. Any other use is deemed improper and can cause personal injury or damage to the product.
- Do not use the device in extreme environmental conditions.

1.3. Declaration of conformity

The telephone is delivered with the following wireless features:

- Wireless LAN (optional)
- Keyboard (optional)
- Mouse (optional)

Medion AG hereby declares that product conforms to the following European requirements:

- R&TTE Directive 1999/5/EC
- Ecodesign Directive 2009/125/EC
- RoHS Directive 2011/65/EU.

Full declarations of conformity are available at www.medion.com/conformity.



2. Safety instructions

2.1. Dangers for children and people with reduced ability to operate machinery

- This device is not intended for use by people (including children) with reduced physical, sensory or mental abilities or for those without experience and/or knowledge, unless they are supervised by a person responsible for their safety or they have been instructed in its use.
- Children should be supervised to ensure that they do not play with the device. Children should not be allowed to use this device without supervision.
- Keep the device and its accessories out of reach of children.



Keep plastic packaging out of the reach of children. There is a risk of suffocation.

2.2. Operational safety

Please read this section carefully and follow all instructions provided. The instructions will help you to operate the PC reliably and help lengthen its service life.

- Never open the housing of the PC, battery or mains adapter! This could result in an electric shock or even ignite a fire which will damage your PC.
- Never open the housing of the PC! There is a risk of electric shock when the housing is open. Never operate the PC when the housing is open.
- The optical drives (CDRW, DVD, DVD-RW) are classified as laser class 1 equipment, as long as the housing of the optical drive has not been removed. Do not remove the cover of the drive because invisible laser radiation can escape.
- Do not insert anything into the PC through the slots and openings. This could result in an electrical short-circuit, an electric shock or even ignite a fire which will damage your PC.
- The slots and openings on the PC are for ventilation purposes. Do not cover these openings as this could cause the device to overheat. When setting up the PC, ensure a minimum clearance of 20 cm on all sides.
- Avoid exposing the device to water droplets or spray and do not place any water-filled containers such as vases – on the device. Liquids penetrating the device may impair the electrical safety of the product.
- Turn off the PC immediately/do not turn on the PC in the first place and contact the customer service department if ...
 - the mains cable or the attached plug is scorched or damaged. Replace defective mains adapters/ mains cables with original parts only. These parts should not be repaired under any circumstances.
 - the PC housing is damaged or liquid has penetrated it. Have the PC checked first by the customer service department. Otherwise, it may not be possible to safely operate the PC and there may be a risk to life due to electric shock.

2.3. Never carry out repairs yourself



WARNING!

Never try to open or repair the device yourself. There is a risk of electric shock.

If there is a fault, contact the MEDION Service Centre or other suitable specialist workshop.

2.4. Data backup



CAUTION!

Back up your data to external storage media before each update. We do not accept any liability for claims for compensation arising from loss of data or any consequential loss or damage.

3. Package contents

Please check your purchase to ensure that all items are included. If anything is missing, please contact us within 14 days of purchase. Note down the serial numbers here.

The PC you have purchased includes the following components:

- PC and connection cable
- Windows keyboard and mouse (optional)
- OEM version of the operating system (optional)
- Documentation

DANGER!

Keep packaging material such as plastic film away from children. There is a risk of suffocation if used improperly.

4. Setting up the PC

Setting up your PC correctly goes a long way towards ensuring comfortable operation.

4.1. Installation location

- Keep your PC and all connected devices away from moisture and avoid dust, heat and direct sunlight. This will help to avoid malfunctions or damage to the PC.
- Place all devices onto a stable, flat and vibration-free surface and only operate them on this type of surface in order to prevent the PC malfunctioning.

4.2. Environmental requirements

- The PC can be operated at ambient temperatures of +10°C to +35°C and a relative humidity of 30%–70% (noncondensing).
- When switched off, the PC can be stored at temperatures from -20 °C bis 50 °C.
- Pull out the mains plug during thunder storms and, in particular, remove the aerial cable (if present). For extra safety, we recommend using an overvoltage protection device to prevent the PC from sustaining damage as a result of power surges or lightning strikes.
- After transporting the PC, wait until the device has reached ambient temperature before switching it on. Large changes in temperature or fluctuations in humidity can cause moisture build-up within the PC due to condensation. This can cause an electrical short circuit.

4.3. Ergonomics



PLEASE NOTE!

Avoid dazzle, reflections and strong bright-dark contrast in order to protect your eyes.

The monitor should never be placed next to a window because this is the brightest part of the room during daylight. This brightness can make it more difficult for the eyes to adjust to the darker monitor.

Always place the monitor so that the direction of vision is parallel to the window front (see image).

This parallel direction of vision should also be maintained in relation to any artificial lighting equipment. In other words, the same criteria and principles apply where the workspace is illuminated with artificial light.

Where it is not possible to position the monitor as described, the following measures may be useful:

- rotating, lowering or tilting the monitor;
- using slats or vertical blinds on the windows;
- using partitions or changing the direction of the light source.



PLEASE NOTE!

Take regular breaks when working at your monitor to prevent tenseness and fatigue.

Sitting for long periods without changing your position can be uncomfortable. To minimise the risks of physical discomfort or damage, correct posture is paramount.

- General Alter your position frequently (every 20–30 minutes) and take frequent breaks to avoid fatigue.
- **Back** When sitting at your workplace, the backrest of the office chair should be upright or tilted slightly backwards to supported your back.
- Arms Your arms and elbows should be relaxed and loose. Keep your elbows tucked in next to your body. Keep your forearms and hands almost parallel to the floor.
- Wrists When working with the keyboard, mouse or trackball, your wrists should be kept as straight as possible and should not be bent at an angle greater than 10°.
- Legs Your thighs should lie horizontally or be tilted slightly upwards. Your lower legs should kept at an angle of approximately 90° to your thighs. Your feet should rest flat on the floor. Where possible, use a footrest, otherwise, ensure that the seat is adjusted to the correct height before starting work.
- Head Your head should be kept straight or inclined slightly forward. Do not work with your head or upper body twisted.
- Hand rest area: 5–10 cm
- Viewing distance: 50 to 70 cm
- Leg room (vertical): 65 cm (min.)
- Leg room (horizontal): 60 cm (min.)
- The top line of the screen should be at eye height or a little below.



5. Connecting

For better orientation, please open out the left-hand inside cover page to fully display the diagrams showing the positions of the connections described.



PLEASE NOTE!

The devices listed are not necessarily supplied! The connections listed are optional and are not necessarily present on your PC.

5.1. Connecting the cables

Follow the instructions below to connect your PC correctly and safely:

- Position the cable so that it cannot be stepped on or tripped over.
- To avoid damaging the cable, do not place any objects on it.
- Do not expose plug connections to impacts/pressure, e.g. from lateral forces. This could cause internal and external damage to the device.
- Do not apply force when connecting cables and plugs and make sure that connectors are the right way round.
- When you disconnect a cable from your device, pull it out by holding the plug and not the cable.
- In order to prevent short-circuits and cable breaks, do not crush or bend cables.
- Connect peripheral devices, such as keyboards, mouse and monitor, etc., only when the PC is switched off to avoid damage to the PC or the devices. Some devices may also be connected while the PC is running. This is often the case for USB devices. In all cases, ensure that the information provided in the relevant operating instructions is observed.
- Maintain a distance of at least one metre from sources of high-frequency and magnetic interference (TV sets, loudspeakers, mobile phones, DECT telephones, etc.) in order to avoid malfunctions and data loss.
- Please note that only shielded cables that are shorter than 3 metres may be connected to the external interfaces of this PC. Please only use double-shielded cables for printer cable connections.
- Do not exchange the supplied cable for another one. Use only the supplied cable as this cable has been extensively tested in our laboratory.
- When connecting your periphery devices, also ensure that you only use the connection cables supplied with those devices.
- Ensure that all connection cables are connected to their corresponding periphery device to avoid any interference radiation. Disconnect any cables that are not required.
- The only devices which may be connected to the PC are those which meet the requirements set out in the EN60950 standard "Information Technology Equipment – Safety" or the EN60065 standard "Audio, video and similar electronic apparatus – Safety requirements".
- During the first few hours of use, new products may give off a characteristic but totally harmless smell. This is unavoidable and disappears over time.

To help reduce the amount of odour build-up, we recommend that you ventilate the room at regular intervals. We have taken appropriate measures during the development of this product to ensure that levels are well below legal limits.



PLEASE NOTE!

The devices listed are **not** necessarily supplied. You only need to connect those components you intend to operate on your PC. If you do not have the device described, you can skip the point in question or carry it out later, as required.

5.2. Opening and closing the front panel (optional)

Some connections are located behind the front panel. This offers the advantage of making it quick and easy to connect frequently used devices without having to turn the PC around. The closable panel also protects the connections.

5.3. Connecting the microphone (optional)

- Connect a microphone to the pink socket using a 3.5 mm mono jack plug.
- Position the microphone so that it does not point directly at the speakers. This prevents acoustic feedback (perceptible by a loud whistling).

5.4. Connecting SATA devices (optional)

eSATA stands for "external Serial ATA" and is a connection for external hard drives. Compared with the conventional USB standard, the transfer speed with an eSATA connection is higher than with external USB hard drives.



PLEASE NOTE!

In order to prevent damage to the contacts, make sure that the plug and the socket fit together perfectly. Due to its asymmetric form, the plug will only fit into the socket in one position.

• Plug the cable into the eSATA socket on the front of your PC.

5.4.1. Disconnecting SATA Devices

Before disconnecting a SATA hard drive from your PC, click the Safely remove hardware icon in the task bar below and then click on the hard drive to be removed.

5.5. Connecting USB devices (optional)

CAUTION!

Do not connect your USB devices until you have finished the initial setup of your new PC. This will prevent any unnecessary interference during the installation. These devices can generally be connected while the PC is running. Please refer to the operating manual for your peripheral device.

• The PC's USB voltage outputs are protected by a fuse (limited power source in accordance with EN60950). This ensures that peripheral devices connected using the sockets in question cannot be damaged in the event of a technical fault with the PC. You will usually have several connection sockets available that you can use as desired.



PLEASE NOTE!

In order to prevent damage to the contacts, make sure that the plug and the socket fit together perfectly. Due to its asymmetric form, the plug will only fit into the socket in one position.

Plug the device (printer, scanner, camera, etc.) into the appropriate socket.



PLEASE NOTE!

Where possible, always connect your devices to the same port that they were originally installed on. Otherwise they will be assigned a new ID and the drivers will need to be reinstalled.

5.6. Overclocking button (optional)

Your computer is delivered with an application that enables you to overclock the processor. This is useful if you want higher performance for certain applications, such as video editing or games.

Depending on your computer model, you enable overclocking...

- using the button in the MEDION[®] ERAZER[®] Control Center or
- using the OC switch on the computer's front cover.

Regardless of how you enable or disable overclocking, you will always need to **restart your computer**. When you launch the MEDION® ERAZER® Control Center, a corresponding notification will appear.



CAUTION!

Back up your data on external storage media after each update or change. We do not accept any liability for claims for compensation arising from loss of data or any consequential loss or damage.

5.6.1. Processor overclocking using the button in the MEDION® ERAZER® Control Center

- Launch the MEDION[®] ERAZER[®] Control Center by double-clicking the desktop shortcut.
- User Account Control will inform you that changes are being made to your computer. Confirm the query with Yes. You will see the program's main page with some information regarding your computer.
- Open the **OC Genie** tab.
- Click the **OC Genie** button to enable overclocking. A message prompts you to restart your computer.



PLEASE NOTE!

Your computer may be fitted with an OC switch on the front cover or on the back. If so, then this button has a purely informational purpose. Disable indicates that overclocking is disabled; if the button shows **Enable**, overclocking is enabled.

> To disable overclocking, click the **Enable** button and restart your computer.

5.6.2. Processor overclocking using the OC switch on the front cover



If your computer has an OC switch on its front cover, you simply need to press the switch in order to overclock the processor (the switch should click into position).

Restart your computer for the change to take effect. If you have launched the MEDION® ERAZER® Control Center, a corresponding notification will appear on the screen.

To disable overclocking, press the switch again and restart your computer.

5.6.3. Making settings in the MEDION® ERAZER® Control Center

After activating processor overclocking, you can make a number of settings using the MEDION[®] ERAZER[®] Control Center. For example, you can regulate the overclocking using the settings under **CPU Ratio/Tuning All Contacts**. After making a change, you will need to restart your computer.

PLEASE NOTE!

A warning will appear if you make settings that are not supported by your computer.

The MEDION[®] ERAZER[®] Control Center is also a monitoring tool that shows you information about the motherboard, memory and processor. The data provided is purely for information purposes and cannot be changed.

5.7. Connecting a monitor (optional)

Your PC is equipped with a VGA and/or a DVI connection.

PLEASE NOTE!

If your monitor has multiple inputs (e.g. VGA and DVI), only ever connect one data cable at a time (to prevent signal mapping problems).

To prevent damage to the contacts, ensure that the plug and socket fit together exactly. Due to its asymmetric shape, the plug will only fit into the socket in one position.

- Connect your monitor's data cable to the graphics connection on your PC. Remove the white protective ring (if present) on the monitor plug.
- Tighten the screws hand tight when connecting a VGA or DVI device to the monitor cable.

5.8. Touch screen (optional)

Your PC is supplied with a touch-sensitive screen. Please follow the instructions below in order to optimise its use:

5.8.1. Operation

- Do not touch the screen with sharp or pointed objects as these may damage the screen.
- Only touch the screen with a blunt implement or with your finger.

5.8.2. Cleaning

- Make sure that no water droplets remain on the display.
- Water can cause permanent discolouration.
- Clean the screen with a soft, lint-free cloth.
- Do not place the screen in strong sunlight or expose it to ultraviolet rays.
- Do not use solvents, corrosive agents or aerosol-based detergents to clean the product.
- Only ever use appropriate cleaners to wipe the display, e.g. glass cleaners or monitor cleaners (available from specialist retailers).

5.8.3. Touch screen gestures

These are the main gestures which allow you to run programs and access settings on your PC:

Diagram	Command	
	Swipe from the left edge towards the centre	Swipe from the left edge towards the centre of the screen to display the last app
	Swipe from the left edge towards the centre and back	Swipe from the left edge of the screen to the centre of the screen and back to the left edge again without letting go to display all the apps which are open
	Swipe from the right edge	 Swipe from the right edge of the screen to the centre of the screen to open the Charms bar
.	Zoom out	 Bring two fingers together on the touch screen
	Zoom in	 Spread two fingers apart on the touch screen
	Swipe down from the top edge	 Swipe down from the top edge of the Start screen to display the All Apps bar If you swipe down from the top edge of the screen in an open application then the menu for the application will be displayed
	Swipe in all directions	 You can move the screen up and down and to the left and right with one finger
	Hold down	 Press an app tile and hold it down to move the app to a new location. Press the top edge of an open app and hold it down to close it and drag the app to the bottom edge of the screen
	Tap / double-tap	 Tap on the required app to open it Double-tap in desktop mode to open an application

5.9. Connecting devices using the mini-HDMI socket (optional)

HDMI is an abbreviation for "High Definition Multimedia Interface", which is an interface for the fully digital transfer of audio and video data.

• You can connect output devices to this socket if they have a corresponding connection.

5.10. Connecting a HDMI device (optional)

HDMI is an abbreviation for "High Definition Multimedia Interface", which is an interface for the fully digital transfer of audio and video data.

• You can connect a TV, monitor or projector to this socket if it has a corresponding connection.

5.11. Connecting audio output / headphones / speakers

Connect active loudspeakers here for playback or an audio connection cable for recording. Read the operating instructions for your stereo system to see which input you need to use (usually Line in or Aux).

Plug the cable into the green socket on the back of the PC using the 3.5 mm stereo jack plug.

5.11.1. Connecting headphones

Connect **headphones/earphones** here.

Plug the cable into the green socket on your PC using the 3.5 mm stereo jack plug.



WARNING!

Excessive volume when using headphones or earphones can damage your hearing. Before pressing play, set the volume to the lowest setting. Start playback and increase the volume

to a comfortable level. Changing the basic settings of the equaliser can also increase the volume and thus cause permanent damage to your hearing. Changing the drivers, software, equaliser, operating system, etc., can also lead to an increase in the volume and thus cause permanent damage to your hearing.

Listening to a device at high volumes for an extended period via headphones/earphones can damage your hearing.

5.11.2. PCs with surround sound (optional)

Connect a surround sound system as follows:

- Plug the cable for the front speaker into the green socket labelled FS.
- Connect the speakers for the rear sound to the **RS** connection.
- Connect a central speaker or a subwoofer to the **CS** socket.
- Connect additional speakers for the rear sound area to the **SS** socket.
- A digital audio output (SPDIF) (optional) may be connected using an optical or coaxial cable.
- Plug an optical cable into the optical socket or a coaxial cable into the coaxial socket.
- Connect the other end of the cable to an audio device with a corresponding digital input.

5.12. Connecting PS/2 devices (optional)

If you wish to connect a USB mouse or USB keyboard, then connection of a PS/2 mouse or keyboard is not necessary.

- Connect the mouse cable to the green PS/2 port.
- Connect the keyboard cable to the blue PS/2 port.

5.13. Connecting IEEE 1394 (FireWire) devices (optional)



CAUTION!

Do not connect your IEEE 1394 devices until you have finished the initial setup of your new PC. This will prevent any unnecessary interference during the installation. These devices can generally be connected while the PC is running. Please refer to the operating manual for your peripheral device.

• The PC's IEEE 1394 voltage outputs are protected by a fuse (limited power source in accordance with EN60950). This ensures that peripheral devices connected using the sockets in question cannot be damaged in the event of a technical fault with the PC.



PLEASE NOTE!

In order to prevent damage to the contacts, make sure that the plug and the socket fit together perfectly. Due to its asymmetric form, the plug will only fit into the socket in one position.

• Connect the IEEE 1394 cable to your PC's IEEE 1394 port.

5.14. Connecting a network (LAN)

You can prepare your PC for network operation using the network socket.

A network cable usually has two RJ45 plugs meaning it does not matter which end is plugged into which socket.

- Plug one end of the network cable into the PC socket.
- Connect the other end to another PC or a hub/switch.

For more information see the chapter "Network Operation".

5.15. Aerial socket for TV reception (optional)

5.16. Analogue TV reception

• Connect the TV socket on your TV card to your terrestrial aerial or cable TV.

5.17. DVB-T TV reception

Where DVB-T and digital services are offered locally, you can make use of these services by connecting an appropriate aerial (not supplied).

• Connect a DVB-T aerial to the TV socket on your TV card.

5.18. DVB-S TV reception

You can watch television from your digital satellite system via the DVB-S socket.

• Connect your satellite system to the TV socket on your TV card.

5.19. Connecting audio input/recording source

This socket is used to connect external analogue audio sources (e.g. stereo system, synthesizer).

• Plug the connection cable into the light blue socket using the 3.5 mm stereo jack plug.

5.20. Connecting power supply

Finally, connect the power supply for your PC and the monitor.

- > Plug the power cable into the socket and connect it to your PC's mains cable socket.
- Please note the following safety advice:



DANGER!

Even when the mains switch is off, some components of the device are live. In order to disconnect the power to your PC or to completely isolate the device from voltage sources, remove the mains plug from the mains socket.

- The socket must be close to the PC and easy to access.
- Only operate the PC on earthed socket outlets of the household electricity network.
- Only use the mains connection cable supplied.
- For extra safety, we recommend using an overvoltage protection device to prevent your PC from sustaining damage as a result of power surges or lightning strikes.
- The standard PC mains adapter has an on/off switch. This can be used to turn the PC on or off. When the switch is at OFF (0), no power is being consumed.

Do not start up your PC yet!

• First read the next chapter for some helpful tips on initial operation.

6. First use

The operating system and all hardware drivers are already preinstalled. You do not need to run any of the discs supplied. For some programs (e.g. telephone CDs or encyclopaedias, it may be necessary to insert the relevant disc in order to call up the data saved on it. Where this is the case, the software will prompt you to do this.

Once all connections have been established and all necessary connections have been screwed tight, you can start up your PC:

6.1. Starting up the PC

- Switch the monitor on.
- Switch on the mains switch by moving it to position I. (Set this switch to **0** to disconnect the power supply).
- Press the On/Off switch once to turn on your PC. Your PC will now start up and run through the various startup steps.





There should be no bootable disk (e.g. the recovery disc) in the optical drive as this will prevent the operating system from being loaded from the hard drive.

The operating system is loaded from the hard drive. The loading process takes a little longer during the initial setup. Once all the necessary data has been entered, the operating system will be set up. The operating system is fully loaded once the Windows[®] 8 startup screen appears.



NOTE!

The initial installation may take a few minutes. Do not unplug the PC from the mains or switch it off during the initial installation. This may adversely affect the installation. Do not switch the PC off until after the installation has been completed successfully and the startup screen appears.

Follow the instructions on the screen. Step-by-step instructions will guide you through the process to be followed. The welcome procedure takes you through several screens and dialogues.

• Select your desired language and then the desired country.

Licence agreement

Please read through the licence agreement carefully. It provides important legal information about the use of your software product. To view the text in full, you must slide the scroll bar downwards using the mouse until you reach the end of the document. You accept the licence agreement by checking the **laccept the agreement** radio button. Only this entitles you to use the product in accordance with the terms and conditions.

After entering a computer name, you can connect your PC to the Internet immediately on the "**Wireless**" page (if you already have a WLAN system installed or have an access point).

If you choose to skip this point, you can connect to the Internet later via the Windows® 8 interface.

If you have already set up an Internet connection, you can now log in to your PC using a Microsoft account.

The Microsoft Store allows you to purchase new apps or update previously installed apps.

If you log in on a local account, you can set up a Microsoft account later at any time.

The following animated windows simply contain information about using the new Windows® 8 operating system.

No entries of any kind may be made during the animation.

The Windows® 8 interface appears after the login process.



PLEASE NOTE!

In the first few days following the initial installation, Windows may update and configure data (e.g. with new updates) which can result in delays in the PC shutting down and starting up. For this reason, do not switch the PC off prematurely. This may adversely affect the installation.

7. The mouse

In addition to the two buttons, the mouse also has a wheel. Turn or press the wheel to scroll through documents or Internet pages.



PLEASE NOTE!

The wheel can also be used as a button. The assignment depends on the application in question. In Word, for example, the cursor changes shape and the screen display scrolls up or down in the appropriate direction when the mouse is moved.

If the mouse pointer cannot be moved smoothly across the screen, please try using a different surface (mouse pad). Glass or metal surfaces may prove problematic.

8. The keyboard

This section contains useful information about using the keyboard.

8.1. The Alt, Alt Gr and Ctrl buttons

The **Alt** key is used in combination with other keys to perform particular functions. These functions are determined by the program being used. To enter a keyboard shortcut with the Alt key, press and hold down the Alt key while you press the other key. The **Alt Gr** key works in a similar way to the Alt key, but is used to obtain special characters. The **Ctrl** key (Control) performs program functions in the same fashion as the Alt key. Useful keyboard shortcuts (dependent on software):

Keyboard shortcut	Function and description
ALT + F4	Usually exits the selected program or closes the open window.
ALT + PRINT	Copies an image of the currently selected window to the Clipboard.
ALT CTRL + <	The backslash (\) is produced.
ALT GR + E	The euro symbol is produced.
ALT GR + 2	Produces an @ as required for e-mails.
CTRL + ALT + DELETE	Starts the "Windows Security" dialogue.

(Country-specific deviations are possible)

9. The hard drive

The hard drive is your main memory medium and combines high storage capacity with rapid data access. Your PC is supplied with an OEM version^{*} of the Microsoft Windows[®] operating system which supports all of the PC's performance features. We have configured your PC's hard drive so that you will be able to work with it optimally without having to install any additional drivers yourself.

The Windows[®] operating system requires part of the capacity to manage the hard drive therefore the hard drive's full capacity is not available. This explains any differences between the UEFI display and the operating system display. The PC's operating system, other applications and security data are located on the hard drive, therefore the full capacity is already reduced.



PLEASE NOTE!

Never try to switch off the PC while it is accessing the hard drive as this can result in data loss.

The first partition (**C:**\) contains the operating system, the applications and the "Documents" folder for the configured user. The second partition (**D:**\) is used for the data backup and also contains drivers (**D:\Drivers**) and utilities (**D:\Tools**) for your PC.



PLEASE NOTE!

The startup files for system restoration and the Windows[®] 8 installation files are located in non-rewritable partitions. These partitions are not visible and cannot be deleted.

9.1. Important directories

We have listed the most important directories below and described their contents.



CAUTION!

Do not delete or modify these directories or their content otherwise data may be lost or system functionality may be impaired.

C:\

The C: drive root directory contains important files required for Windows[®] startup. On delivery these files are hidden for security reasons.

C:\Programs

As the name suggests, software programs install the files required for running the application into this directory.

C:\Windows

The main Windows directory. The operating system saves its files here.

D:\Drivers

You will find all the (preinstalled) drivers required for your PC in this folder.

D:\Tools

Here you will find additional programs and other documentation for your PC.

D:\Recover

Here you will find the recovery files that can be used to restore your PC to its factory settings.

9.2. Hot-swap mobile rack (optional)

You can connect an additional external hard drive using the hot-swap mobile rack.



PLEASE NOTE!

Please note that only the above-mentioned mobile rack may be used.

9.3. Connecting an external hard drive (optional)

Your PC has a slot which allows you to connect the MEDION HDDrive2Go super speed external hard drive quickly and easily via the USB 3.0 port.

As with a USB memory stick, the connection can be made while the operating system is running. The hard drive is then automatically detected as removable storage and is assigned a drive letter.



PLEASE NOTE!

Please note that only the above-mentioned Medion hard drive may be plugged into the hard drive slot. This slot is only compatible with the Medion HDDrive 2 Go super speed hard drives. All other former generation HDDrive 2Go hard drives cannot be used!

Medion HDDrive 2Go super speed hard drives are not supplied.

As soon as the hard drive is plugged into the hard drive slot, your PC will recognise it as removable storage.



CAUTION!

To protect the connections, the plugs are fitted with dust covers which must be removed prior to use. When not in use, the covers must always be refitted.

The Medion HDDrive 2Go super speed hard drive is available in the following sizes:

- Medion HDDrive 2Go super speed 6.35 cm/2.5" USB 3.0 hard drive and
- Medion HDDrive 2Go super speed 8.89 cm/3.5" USB 3.0 hard drive.

10. The optical drive (optional)

10.1. Load disc

CAUTION!

Do not use scratched, broken, dirty or poor quality discs. Do not stick protective film or other adhesive labels to the discs. The high speeds in the drive can cause these to break destroying your data and damaging your device. Inspect discs carefully before inserting them. If damage or dirt is visible, do not use the disc. Damage caused by faulty media is not covered under warranty and repairs will be chargeable.

- Press the eject button on the optical drive to open the drawer.
- Insert the disc into the drawer, label up, so that it lies flat.
- Check that the disc can turn freely and then carefully slide the drawer back into the optical drive until it clicks into place. On delivery, your optical drive is assigned the drive letter "E". You can easily access the data on your discs using Windows Explorer (**Computer**). Run Windows Explorer using the shortcut on the taskbar or by simultaneously pressing the Windows key and the "E" key. When accessing DVD videos (or audio and video files on conventional data CDs), the preinstalled media player is used automatically.
- If you wish to remove a disc, press the eject button.



CAUTION!

Do not try to remove the disc from the drive while the PC is accessing the optical drive.

10.1.1. Removing the disc

- To remove the disc, press the eject button again.
- Take the disc out and place it in a CD case.
- Close the drive again.

10.2. Playing/reading discs



PLEASE NOTE!

Many discs run automatically when they are inserted. This depends on the operating system and the relevant settings.

Your PC is capable of playing audio CDs, DVD movies or data discs from the optical drive.

Once a disc has been loaded, a dialogue box opens containing various playback options. Normally, there will be a number of different options available.

Playback of DVD film titles includes decoding MPEG2 video, digital AC3 audio data and decoding CSS-protected content. CSS (sometimes also referred to as Copy Guard) is the name of a data protection program used by the film industry to protect against illegal copying. Among the many controls for CSS licensees, the most important of the playback restrictions involve country-specific content. To make it easier to create geographically separate film releases, DVD titles are coded for specific regions. Copyright laws required that each DVD film be limited to a specific region (usually the region where it is sold). DVD film versions can be published in multiple regions but CSS rules require that each CSS decoder system may only be used for one region.



CAUTION!

The region setting can be changed up to five times via the viewing software before the last setting becomes permanent. If you then wish to change the region setting again, this must be carried out by the manufacturer. Any shipping and configuration costs must be borne by the user.

10.3. Blank CDs and DVDs

Normal CDs are pressed by a glass master and then sealed. With blank discs, digital information is burned onto them using the drive's laser. They are therefore more sensitive then conventional discs.

Because of this, it is essential to avoid, particularly in the case of unused blanks:

- exposure to direct sunlight (UVA/UVB radiation)
- scratches and damage
- extreme temperatures

10.3.1. Important information about high-resolution video formats (optional)

Depending on the model, your system may come with a Blu-ray drive.

The Blu-ray drive uses a technology that supports high-resolution video formats. You can still play the following media using your drive:

- Audio CDs
- CD-R
- CD-RW
- DVD+R/DVD-R
- DVD+RW/DVD-RW

To be able to play back the new video format and new media (Blu-ray discs), the following prerequisites must also be met:



PLEASE NOTE!

Windows Media Player does not support any high-resolution video formats.

- The playback software must be updated via the Internet at regular intervals to ensure it can always play back the latest titles. The update intervals will be specified by the software providing there is an Internet connection.
- When connecting to a digital output sources (e.g. TFT monitor or LCD TV), the connections (DVI or HDMI) must support the **HDCP** standard. You can find this information in the operating instructions for your output device.

11. The card reader (optional)

If your PC has a card reader, you can also use the card types below as follows:

Card type	Connection contacts	
SD (Secure Digital)	pointing downwards	
MMC (MultiMediaCard)	pointing downwards	
Memory stick	pointing downwards	
Memory Stick Pro	pointing downwards	

When inserting the memory cards, ensure that the contacts are pointing in the right direction, as specified in the list below. Inserting a card incorrectly may damage the card reader and/or the card.

11.1. Inserting the memory card



PLEASE NOTE!

The memory cards can only be inserted in one direction. Please observe the instructions in the section above.

• Slide the card in as far as it will go.

When a card is inserted into a slot, it will be assigned a free drive letter* by the system (as long as it is removable storage).

11.2. Removing memory cards

• Pull the card out of the slot and store it properly.

12. The graphics system (optional)

12.1. Appearance and customisation

This program gives you the option of customising the appearance on your monitor. This includes the background image, the screensaver and other settings for your monitor and your graphics card. The program can be started as follows:

• Right-click on the Windows desktop and left-click on Personalise.

or

- Via Settings, Personalisation, Display by double-clicking with the left mouse button.
- Move the mouse pointer into the top right or bottom corner of the display and click 😟 Settings.
- Then click **Personalisation**.
- First select the **Display** option from the dialogue box.

	Display	
🌀 ⋺ 🕆 👚 K Control P	anel + Appearance and Personalization + Display	Settings
Control Panel Home	Change the size of all items	
Adjust resolution Adjust brightness	You can make text and other items on the desktop bigger by choosing one of these options. To temporarily enlarge just part of the screen, use the <u>Magnifier</u> tool.	Control Panel
Calibrate color Change display settings Project to a second screen	Smaller - 100% (default) Medium - 125%	Personalization
Adjust ClearType text	○ Larger - 150%	PC info
	Custom sizing options	Help
	Change only the text size Instead of changing the size of everything on the desktop, change only the text size for a specific item.	
	Title bars v 11 v Bold	
	Apply	
		*
		Available 67 Brightness
See also		Notifications Power Keyboard
Personalization Devices and Printers		Change PC settings

TThe following settings options are available:

- Resoluton settings
- Brightness settings
- Colour calibration
- Display settings
- Display on second monitor
- Customise ClearType text

The sound system

The external audio connections can be configured so that you can connect a surround sound system. If you wish to change the default volume, click the loudspeaker icon in the task bar.



WARNING!

Excessive volume when using headphones or earphones can damage your hearing. Before pressing play, set the volume to the lowest setting. Start playback and increase the volume to a comfortable level. Changing the basic settings of the equaliser can also increase the volume and thus cause permanent damage to your hearing. Changing the drivers, software, equaliser, operating system, etc., can also lead to an increase in the volume and thus cause permanent.

Listening to a device at high volumes for an extended period via headphones/earphones can damage your hearing.

13. IEEE 1394 (FireWire) (optional)

The IEEE 1394 connection, also known as iLink[®] or FireWire, is a serial bus standard for the rapid transfer of digital TV/video, PC and audio data.

13.1. Possible uses for IEEE 1394

- Connection of digital entertainment devices, such as: set top boxes, digital video recorders and camcorders, digital versatile discs (DVDs), televisions, etc.
- Multimedia applications and video editing.
- Input and output devices such as printers, scanners, etc.

13.2. Technical specifications

- Depending on the application, the maximum data transfer rate is 100, 200 or 400 Mbit/s which represents a data throughput of up to 50 MB per second.
- The devices can be connected and removed while the machine is running (hot plugging).
- The standardised cable (shielded twisted pair STP) contains 6 wires. Two wires are used for power (8 V to 40 V, 1.5 A max.) and can be used for the external power supply. The four signal wires are used to transfer data and control information. Many devices do not need power via the cable so four pin plugs are used.
- The voltage output in the 6-pin IEEE 1394 connection is protected by a fuse (limited power source in accordance with EN60950).

14. USB connection (optional)

The universal serial bus is a standard for connecting input devices, scanners and other peripherals. The USB 3.0 ports are fully backwards compatible.



PLEASE NOTE!

Where possible, always connect your USB devices to the same port that they were originally installed on. Otherwise they will be assigned a new ID and the drivers will need to be reinstalled.

Devices connected directly to the USB BUS may not draw more than 500 mA. The voltage output is protected by a fuse (limited power source in accordance with EN 60950). If the devices require a higher output, then it will be necessary to purchase a hub (distributor/booster).

15. The TV card (optional)

To receive a TV signal using the TV tuner, an analogue aerial, DVB-T aerial or a digital SAT^{*} system must be connected.



CAUTION!

Disconnect the aerial when the device is not being used, especially during thunderstorms. This will protect your device from possible lightning strikes.

Audio or video recordings require a lot of memory (up to approx. 2.4 GB/hour). Back up any nonnecessary files onto external media such as CD-Rs or hard drives.

16. Networking

Your PC is provided with a Fast Ethernet-Network connector.

16.1. What is a network?

We talk about a network when several PC's are connected to one another.

This allows users to transfer information and data from PC to PC and to share their resources (printers, modem and drives). Here are a few concrete examples:

- In an office messages are exchanged by e-mail and appointments are managed centrally.
- Users share one printer on the network and back up their data to a central computer (server).
- Two or more PCs are connected to one another to play network games or exchange data.

16.2. Wireless LAN (wireless network) (optional)

Your PC is equipped with WLAN. The components (module, aerials) are already built into your PC and enabled. You can disable this function using the Windows[®] device manager if required.

Wireless LAN enables you to establish a network connection to a corresponding remote station.

16.2.1. Security notice



CAUTION!

Do not operate your PC's wireless LAN function in areas where there are radio-sensitive devices (e.g. in hospitals, etc.). If you are unsure whether the use of these devices will result in damage or interference, disable this option.

16.2.2. Requirements

A so-called LAN access point can be used as a remote station. An access point is a radio-transmitting device that communicates with your PC and controls access to the connected network. LAN access points are frequently found in large offices, airports, train stations, universities and Internet cafés. They provide access to particular services and networks or to the Internet. Access permissions are generally necessary and often result in usage charges. Access points often have built-in DSL modems. These so-called routers establish the connection to the existing DSL Internet connection and the wireless LAN. A connection can also be established without an access point to another end device with wireless LAN functionality. Without a router, however, the network is restricted to those devices directly connected to it.

The wireless network connection works in accordance with the IEEE 802.11n standard^{**} and is compatible with the IEEE 802.11b/g standard. Other standards (802.11a etc.) are not supported.

If encryption is used for the transfer, the same procedure must be used for all devices. Encryption is a procedure to protect the network from unauthorised access.

The transfer speed can vary depending on the distance and the number of users accessing the remote station.

^{*} The optional SAT socket on your PC is a DVB-S2 socket for high-resolution satellite TV reception. This only enables playback of released and unencrypted programs.

^{**} To make use of the full performance, a WLAN router compatible with the 802.11n standard is required.

17. Software

This section deals with the subject of software. We distinguish here between the **operating system**, the **software** (the applications), the **Windows activation** and the **UEFI firmware configuration**.



PLEASE NOTE!

The current Windows family currently includes Windows 8 and Windows 8.1. Windows 8.1 is the first update of the Windows 8 generation.

17.1. Getting to know Windows[°] 8

Windows[®] 8, the new operating system from Microsoft, contains a series of innovative functions and new technologies that your PC uses to work quickly and reliably, and is also easy to use.

17.2. Windows activation

To protect against software piracy, Microsoft has introduced product activation. The Windows[®] 8 version installed on your PC/ supplied with the PC must be activated to enable use of all Windows[®] 8 functions.

To do this, you require simply an Internet connection. The activation process is fully automatic; no personal data will be transmitted.

If no Internet connection is available, select telephone activation as follows:

- Move the mouse pointer into the top right or bottom corner of the display and click Settings.
- Next, click Change PC settings.
- Select the Activate Windows item.
- Now click **Activate by phone**.
- Click **Next** after choosing your country.
- Call one of the specified hotlines on the telephone and read out the column of figures displayed when prompted to do so.
- You will then be given a confirmation ID over the telephone. Enter this in the empty field and click **Activate**.



PLEASE NOTE!

If you have not activated Windows[®] 8, not all functions will be available to you under PC settings. A watermark will also continue to be displayed at the bottom right on the traditional desktop.

17.3. Windows[®] 8 – What's New

17.3.1. Microsoft account

A Microsoft account is an e-mail address and password for logging in to Windows. You may use any e-mail address. We recommend using the address you use to communicate with friends and log into your favourite web sites, however. The Microsoft account also allows you to purchase or download apps from the Store and install them on up to five devices.

Once you have logged on to your PC using a Microsoft account, you also have access to the various services and programs provided by Microsoft.

- The contact information and status updates for your friends from services such as Hotmail, Facebook, Twitter and LinkedIn will be updated automatically as soon as you run these services using your Microsoft account.
- You can also access and share your photos, documents and other files via SkyDrive, Facebook and Flickr.
- Your personal settings, including designs, language settings, Internet favourites and apps will be synchronised with each PC running Windows[®] 8 that you log on to.
- You can obtain Apps from the Windows Store. You can use these on any PC running Windows 8 that you log on to.

If you wish to create a Microsoft account in Windows® 8, proceed as following:

- Move the mouse pointer into the top right or bottom corner of the display and click Settings.
- Click Change PC settings > Users > Switch to a Microsoft account.

17.3.2. Taskbar (Desktop mode)

You can start programs from the taskbar at the bottom of the screen and switch between programs already running. In Windows® 8 you can place any program onto the taskbar, so that you can always open it with a single click. You can also rearrange the icons on the taskbar by simply clicking on them and dragging them to the desired position. Move the mouse pointer over the icons and thumbnails of each file or each window open in that program will be displayed. If you move the mouse pointer over the thumbnail, a full screen preview of the window in question appears. When you move the mouse pointer away from the thumbnail again, the full screen preview closes.

17.3.3. Jump lists

Jump lists offer a practical way of calling up recently opened files. To display the recently used files, simply right-click on the application icon in the taskbar. Thus if you right-click on the Word icon, the recently used Word documents are displayed. You can also easily place other files you wish to have easily to hand in the jump list so that they are always displayed. This allows you to access documents that you use frequently in just a few mouse clicks.

The jump lists for certain programs such as Windows[®] Media Player can be populated in advance with frequently used commands. Thus, for example, you will see options to play all music or to reopen the last playlist in the jump list for Windows[®] 8 Media Player.

The frequently visited and last visited websites are displayed in the jump list for Internet Explorer. This therefore allows you to quickly access commands for certain programs that could previously only be called up from the program itself, such as the command to compose a new e-mail message.

17.3.4. Improved desktop

Windows[®] 8 simplifies working with windows on the desktop. You therefore have more intuitive options for opening and closing, changing sizes and rearranging.

Windows[®] 8 makes completing everyday tasks even simpler. The locking function (snaps) makes it easier to compare two open windows, for example. You do not need to manually adjust the size of the opened windows for the comparison. Simply drag the window to one of the screen margins using the mouse and it will fill half of the screen.

Click the window's title bar, "shake" it and all other opened windows are displayed as icons on the task bar. "Shake" the window once more and the other windows are displayed again.

17.3.5. Better device management

Windows® 8 allows you to connect, manage and use all devices via the central "Devices" function.

All devices are shown in a central location.

With the new "Device Stage" technology, however, Windows® 8 goes one step further with device management. Device Stage helps you when using all compatible devices that are connected to the computer. Thanks to Device Stage you can now display the device status and perform frequently used commands within a single window. Here you will even find images of the devices so you can easily see which devices are connected. The device manufacturers can even adjust Device Stage. For example, if your camera manufacturer releases an updated version of Device Stage, you can see details such as the number of photos on the camera and get links to useful information when you connect the camera to your PC.

17.3.6. Home Group

With home network groups, a Windows[®] 8 function, connecting home computers is child's play. A home network group is set up automatically when you connect the first PC running Windows[®] 8 to the home network. Adding additional PCs running Windows[®] to the home network group can be done very quickly. You can specify precisely what should be shared on each PC with all other PCs in the home network group. Sharing files on the various home PCs – and on many other devices – is then as easy as if all the data were located on a single hard drive. Thus, you can save digital photos on the computer in the study and then access them easily on a laptop in any other room. Similarly, the printer in the study is automatically shared among all PCs in the house once they are part of the home network group.

17.4. Overview

The greatest innovation in Windows[®] 8 is the Start screen. This key element replaces the Start menu in Windows[®] 8. Here you can run all the main programs and services.

As with previous versions, operation is by inputting commands using the mouse or keyboard.

The Start screen can be opened at any time using the 🕮 (**Win**) key. This key also allows you to switch back and forth between the Start screen and an active application. To switch to an application other than the last one opened, press the **Win+Tab** keyboard shortcut.

A key element of the Start screen is the tiles which each represent an application or function. They are shown in blocks and you can define the number of blocks and their columns yourself.

Drag & drop the tiles to the desired position using the mouse.

17.4.1. Logging in to Windows

To be able to work with Windows[®] 8, you must set up a Windows[®] 8 user account.

- Move the mouse pointer into the top right or bottom corner of the display, move the mouse down and click 🖾 Settings.
- Next, select Change PC settings.
- Open the **Users** category.
- Select Add a user, to set up additional user accounts.

Windows[®] 8 allows you to log in to Windows using 3 different login procedures. Windows[®] 8 gives you the choice of standard login by **password**, a **PIN** or an **image code** To set up a **PIN** or **image code**, you must first have set up a password for Windows.

17.4.2. Setting up a password for Windows

- Move the mouse pointer into the top right or bottom corner of the display and click 🖾 Settings.
- Next, click **Change PC settings**.
- Select the **Users** item.
- Click **Change your password** and follow the instructions.

17.4.3. Setting a PIN for Windows

- Move the mouse pointer into the top right or bottom corner of the display and click Settings.
- Next, click **Change PC settings**.
- Select the **Users** item.
- Click Create a PIN and follow the instructions.

17.4.4. Setting up an image code for Windows

- Move the mouse pointer into the top right or bottom corner of the display and click Settings.
- Next, click **Change PC settingsn**.
- Select the **Users** item.
- Click **Create a picture password** and follow the instructions.



PLEASE NOTE!

The image code login has been specially designed for touch screen devices. In devices without a touch screen, use the mouse instead of finger movements or gestures. To be able to use the Microsoft Store you need to log in using a Microsoft account.

17.5. Linking a user account to a LiveID

You can link your user account to a LiveID. This enables you to log in to any computer or mobile device connected to the Internet using your LiveID.

- Move the mouse pointer into the top right or bottom corner of the display, move the mouse down and click 🖾 Settings.
- Next, select Change PC settings.
- Open the **Users** category.
- Select Switch to a Microsoft account.
- Now enter your Windows Live ID e-mail address. If you have not yet created a Windows Live ID account or added an e-mail address to your Windows Live ID account, you can create and edit your Windows Live ID account at http://www. windowslive.com/.
- Follow the instructions on the screen to complete the link.

17.5.1. Windows[®] 8 Start screen

Once the operating system is running, you will see the new Windows® 8 Start screen.



(Image similar)

Windows [®] 8 App	Windows [®] 8 apps are executable programs.	
Desitor	The "Desktop" tile opens the traditional Windows display.	
Internet Explorer	The Internet Explorer tile launches Internet Explorer	



PLEASE NOTE!

Apps are applications that are displayed on a desktop with a program thumbnail. The app thumbnails are bigger than the standard tiles.

17.5.2. Windows[®] 8 Desktop

This image shows a symbolic representation of additional programs.



(Image similar)

Information such as the following may be displayed here for example:

Classic desktop apps	Desktop apps are applications that are displayed on a desktop with a program thumbnail. The app thumbnails are bigger than the standard tiles.	
	The classic "Power Recover" desktop app launches the system recovery program.	
Microsoft Office.	The classic "Microsoft Office" desktop app launches the Microsoft Office program.	

Windows [®] 8 apps from third-party suppliers	These Windows [®] 8 apps are executable programs from third-party suppliers.
PowerDVD	This Windows [®] 8 app launches the "PowerDVD" program.
YouCam	This Windows [®] 8 app launches the "YouCam" program.

17.5.3. Working with Windows[®] 8 and classic apps

Menu	Instructions
Opening an app	 Click the desired app with the left mouse button.
Closing an app	PLEASE NOTE! Not all apps need to be closed! Windows closes unused apps automatically.
	 Press the Alt+F4 keyboard shortcut. Click on the top edge of the running app and drag the app down to the edge of the display.
Displaying all apps	 Right-click on the Start screen. Click All apps in the bottom right hand corner of the display.
Linking apps to the Start screen	 Right-click on the Start screen. Click All appss in the bottom right hand corner of the display. Right-click on the desired app to highlight it. Click Pin to Start in the bottom left hand corner of the display.
Linking apps to the taskbar	 Right-click on the Start screen. Click All apps in the bottom right hand corner of the display. Right-click on the desired app to highlight it. Click Pin to Taskbar in the bottom left hand corner of the display.
Installing an app	 Run the Shop app. Search for the desired app and click Install. The app will now be downloaded and installed in the background.
Uninstalling an app	 Right-click on the Start screen. Click All apps in the bottom right hand corner of the display. Right-click the desired app. Click Deinstallieren at the bottom edge of the display. PLEASE NOTE! Not all apps can be uninstalled. If the Uninstall option is not displayed, this app
	can not be uninstalled.
Running apps as administrator (only possible with desktop apps)	 Right-click the desired app. Now click Run as administrator on the bottom edge of the display.
Running an app in a new window (only possible with desktop apps)	 Right-click the desired app. Click Open new window at the bottom edge of the display.
Searching for apps	 Move the mouse pointer into the top right-hand corner of the display, move the mouse down and click Search. Enter the name of the app.
Arranging apps	 Click and hold the left mouse button down on the desired app and drag it to the desired position.
Selecting multiple apps	Right-click the desired apps.

17.5.4. Using the search function

Use the search function to find individual tasks, settings or apps quickly.

- Move the mouse pointer into the top right or bottom corner of the display and click **Search**.
- Enter the name of the app or file and select an entry from the results list on the left-hand side of the display.

The search results are arranged by **apps**, **settings** and **files**. Select the (**Apps**, **Settings** or **Files**) category that contains the desired file.

18. Control Panel

The Control Panel allows you to customise the Start interface.

- Move the mouse pointer to the top right or bottom corner of the display and click 🖾 Settings.
- Next, click Change PC settings.

Menu	Instructions
Activate Windows	 Activate Windows by telephone or over the Internet.
Personalise	 Set the background image for the lock screen and the Start screen here. Select a profile image here.
User	 Create and update user accounts here. Set or modify the PIN or image code.
Notifications	 Set the various program instructions to On or Off here.
Search	 Define the settings for the search function here. Define the app the search function should work with here.
Share	 Define the settings for the share function here. Define the apps to be shared here.
General	 Configure the general settings for time zone, spell checking, language and memory here. Reinstall the operating system without losing personal user data or key basic settings. Restore your PC to its factory settings. Perform a reboot with a CD inserted.
Privacy	Configure the security settings for apps, accounts and Windows [®] 8 here.
Devices	 Install additional external connected devices here, e.g. joystick or USB speakers. Enable or disable Download over metered connections. This function prevents drivers for newly added devices being searched for and downloaded via the Internet.
Wireless	 Enable or disable flight mode here. Enable or disable the integrated WLAN function here.
Ease of Access	Customise the contrast, mouse pointer and tab bar to your requirements here.
Sync your settings	 Configure synchronisation of your PC with the connected network. Configure here whether or not an online synchronisation should also be performed with payable networks.
HomeGroup	Here you will see the home network group and the apps and files shared within it.
Windows Update	 Allow Windows to search the Internet for any necessary Windows updates.

18.5.1. Windows[®] 8 power on/off functions

The new Windows® 8 allows you to restart your PC, put it into **Sleep** mode or shut it down.

Changes can be made to the **Sleep** settings at any time in the power options.

In **Sleep Mode** the content of your PC's RAM is preserved while practically all other components of your PC are disabled or their power consumption reduced to a minimum.

Restart	 Move the mouse pointer into the top right or bottom corner of the display, move the mouse down and click Settings. Now click Power and select Restart. Your PC will now restart.
Sleep	 Move the mouse pointer into the top right or bottom corner of the display, move the mouse down and click Settings. Now click Power and select Sleep. Your PC will now switch to sleep mode.
Shut down	 Move the mouse pointer into the top right or bottom corner of the display, move the mouse down and click Settings. Now click Power and select Shut down.

18.1. Control panel settings

You can change Windows[®] 8 settings using the control panel. These settings control virtually everything about how Windows[®] 8 appears and functions and enable you to customise Windows[®] 8 to meet your requirements.

When the control panel is run for the first time, some of the most frequently used control panel elements are displayed grouped together by category.

If you require additional information about a control panel element in the category view, you must hold the mouse pointer over the icon or category name and read the text shown there.

To run one of these elements, click on the associated icon or category name.

A list with executable tasks and a selection of individual control panel elements opens for some of these elements. To launch the control panel, proceed as follows:

- Move the mouse pointer into the top right or bottom corner of the display and click **Search**.
- Enter **System control** in the search field.
- Click on **System control**.

18.2. Resetting the PC to its factory settings

In the event of problems with the installation or other software problems which make it necessary to reinstall the software, Windows® 8 offers three options for reinstalling Windows® 8 on your PC.

First ensure that you have backed up all important data and programs.

18.2.1. Running system restore

• After restarting, press the F11 key or start up the PC with the F11 key held down to launch **PowerRecover**.

or

Click the **PowerRecover** Windows[®] 8 desktop app to run the program from the Windows[®] 8 desktop.

You will be offered 3 possible options:

- Burn drivers and tools on an optical disc Create a support disc
- **Refresh your PC without affecting your files** Update your PC without deleting your data.
- Restore
 Choose between two recovery options:
 - **Restore to HDD no backup of user data** All data on the PC will be permanently deleted. The factory settings will be restored.
 - **Restore to HDD with backed up user data** The factory settings will be restored and all user data under C:\USER will be backed up.



PLEASE NOTE!

Always perform any type of recovery using mains power.

CAUTION!

The recovery process takes a long time when you select the option to back up user data. Only the data located in the folder C:\USER will be backed up. All other data will be deleted. Therefore, always regularly carry out a data backup onto an external data medium. We do not accept any liability for claims for compensation arising from the loss of data or any consequential damages incurred.

• Click **Next** and follow the on screen instructions to restore the factory settings.

18.3. UEFI firmware configuration

he UEFI firmware configuration (the basic hardware configuration of your system) offers you numerous configuration options for operating your PC.

For example, you can modify the operating mode for interfaces, security features or power supply management.



CAUTION!

The PC has already been configured by the manufacturer to ensure optimum operation. Please only change settings where strictly necessary and if you are familiar with the configuration options.

18.3.1. Executing the UEFI firmware configuration

You can only run the configuration program upon system startup. If the PC has already been started, shut down Windows® and restart it.

Before the PC reboots, press the "**Del**" key and hold it down until the message "**Entering Setup**" appears.

18.4. Clear CMOS (optional)



PLEASE NOTE!

If, contrary to expectations, you have changed settings that result in the PC becoming unstable, you can delete the CMOS memory using the Clear CMOS button and restore UEFI to its factory settings.

18.5. Windows[®] 8 – Help and support

Here you will find a comprehensive collection of instructions, help sections and troubleshooting suggestions.

This help covers the entire spectrum of the Windows operating system.

It is recommended for both beginners and experts. The information is subdivided into topics and can be printed out or bookmarked. Start as follows:

- Move the mouse pointer into the top right or bottom corner of the display, move the mouse down and click 🖾 Settings.
- Now click on **Help**.
- Choose the topic you are interested in.

19. FAQ – Frequently asked questions

Do I need to install the discs supplied?

– No All programs are preinstalled. The discs are provided as backup copies only.

Where can I find the necessary drivers for my PC?

- The drivers can be found in the second hard drive partition in the
 - Drivers and Tools folders.

What is Windows activation?

- You will find a relevant section in these operating instructions containing detailed information on this topic.

How do I activate Windows?

- Windows is activated automatically as soon as an Internet connection is established.

How do I activate Windows without an Internet connection?

- Windows can also be activated over the telephone. Follow the instructions in the **Windows Activation** section to activate Windows by telephone.

When is restoring factory settings recommended?

- This method should only be selected as a last resort. Read about the alternatives in the **System Recovery** section.

How do I perform a data backup?

 Perform a backup or backup synchronisation of selected data onto external media to familiarise yourself with the technology. A backup is of no use if you are unable to recover the data or if the medium is faulty or is no longer available.

Why do I need to reinstall my USB device even though I have already done it?

- If the device is not operated on the same USB port as the one it was installed in, it automatically receives a new identifier. The operating system then treats it like a new device and tries to reinstall it.
- Use the installed driver or connect the device to the port on which it was originally installed.

20. Customer service

20.1. First aid in the case of hardware problems

Malfunctions can sometimes have quite trivial causes, but they may also be the result of defective components. We have included a brief troubleshooting guide below which may help to solve any problems.

If these tips don't do the trick, then we'll be more than pleased to help you out. Just give us a call!

20.2. Find the cause

Start by carefully checking all the cable connections. If the indicator lamps are not on, ensure that the PC and all peripheral devices are connected to the power supply.

- Check the plug, power cable and all switches in the socket circuit.
- Turn off the PC and check all cable connections. If the PC is connected to peripheral devices, check all cable connections. Do not swap around the cables for the various devices, even if they look alike. The polarity of the various cables may be different. Once you have ensured that the device is powered and all connections are intact, then switch the PC back on.

20.3. Faults and possible causes

The screen is black.

- Check that the PC has not gone into hibernation.
- Cards in the card reader are assigned a different drive letter after rebooting.
- This can happen when the card reader updates its slot during system start up. New IDs may then be assigned which can lead to different drive letters for some cards.
- No data can be read by the optical drive.
- Check whether the disc has been inserted correctly.

Mouse does not work.

- Check the cable connection.
- Insufficient hard disk space.
- Audio or video recordings require a lot of storage space (up to approx. 1.2 GB/hour) Backup any unnecessary files to CD-Rs, DVDs or other external media, e.g. the **MEDIONHDDrive 2Go super speed** hard drive.

The PC does not boot.

If all the cable connections are correct, try resetting the PC mains adapter. (optional) Set the power switch on the back of the PC to the 0 position (OFF). Then hold down the main switch on the front for 10 seconds. Wait another 5 seconds and restart the PC.

Apps (e.g. the weather app) can not be displayed as live tiles.

• Check the date, time zone and time.

20.4. Do you need more help?

You've checked through the suggestions in the previous section and you're still having problems with your device? Then call the hotline in the country where you purchased your PC. You can find the relevant telephone numbers on the inside cover of these operating instructions.

We will try to help you over the telephone. Before contacting us, however, prepare the following information:

- Have you made any upgrades or modifications to the initial configuration?
- What peripheral devices do you use?
- What messages, if any, appear on the screen?
- What software were you using when the problem occurred?
- What steps have you already taken to try and rectify the problem?

20.5. Driver support

The system has been thoroughly and successfully tested with the installed drivers in our test laboratory. It is normal in the computer sector, however, for the drivers to need updating from time to time.

This is because there may be compatibility problems with other components (programs, devices) which have not yet been tested. You can find current drivers on the Internet at the following address: www.medion.com.

20.6. Transport

Please observe the following when transporting your PC:

• In order to avoid any transport damage, pack the PC away its original packaging.

20.7. Cleaning and care

By observing the following instructions, you can extend the operating life of your PC:



CAUTION!

None of the parts inside the housing require cleaning or maintenance.

- Always unplug the device and disconnect all cables before cleaning. Clean the PC with a damp, lint-free cloth.
- Dust can clog up the vents which can lead to overheating and malfunctions. At regular intervals (approx. every 3 months), check that the vents are providing a sufficient level of air circulation. Use a vacuum cleaner to remove the dust from the vents. If your device regularly attracts a lot of dust, then we also recommend that the interior of the PC housing is cleaned by a specialist.
- > Do not use solvents, corrosive or aerosol detergents.
- Do not use CD-ROM cleaning discs or similar products that clean the lens of the laser to clean your optical drive (CD/DVD). The laser does not need cleaning.

21. Upgrades/modifications and repairs

Upgrades and modifications to your PC should only be carried out by qualified specialists. If you do not possess the required qualifications, have the work carried out by a suitably qualified service technician. Please contact your customer service if you have technical problems with your PC.

If a repair must be carried out, please contact only our authorised service partners.

21.1. Information for service technicians

Disconnect all electricity and connection cables before opening the housing. If the PC is not disconnected from the power supply before opening, there is a risk of electric shock. There is also a risk of components being damaged. Internal components in the PC can be damaged by electrostatic discharge (ESD). Carry out repairs, as well as system upgrades and modifications, at an ESD workplace. If such a workplace is not available, wear an antistatic cuff or ensure you are touching an earthed, metallic object. We will charge for any repairs to damage caused by incorrect handling.

Only use original replacement parts.



CAUTION!

A lithium battery is located on the motherboard. This battery must not be charged. In addition, it must not be subjected to high temperatures or fire. Keep children away from the battery. If the battery is improperly replaced, there is a danger of explosion. Replace the batteries only with the same or equivalent type (CR 2032). Batteries are hazardous waste and must be disposed of properly.

21.2. Information on laser radiation

- The PC may contain laser equipment classified as laser class 1 to laser class 3b. The device set-up fulfils the requirements of laser class 1.
- By opening the housing of the optical drive, you will have access to laser equipment classified up to laser class 3b.

The following should be observed when removing and/or opening this laser equipment:

- The integrated optical drive contains no parts that require repair or maintenance.
- Repairs to the optical drive should only be carried out by the manufacturer.
- Do not look directly into the laser beam, even when using optical instruments.
- Do not expose the laser beam. Avoid exposing your eyes or skin to the laser beam either directly or through scattered laser radiation.

22. Recycling and disposal

If you have any questions about disposal, please contact your sales agent or our service centre.

🛶 / Device



At the end of its life, the device should not be disposed of in household rubbish. Enquire about the options for environmentally friendly and appropriate disposal.

– / Batteries

Do not dispose of used or defective batteries in the household rubbish! They should be taken to a collection point for used batteries.



Packaging

Your device has been packaged to protect it against transportation damage. Packaging is raw material and can be re-used or added to the recycling system.

22.1. Handling batteries

Batteries may contain combustible materials. If not handled correctly batteries can leak, become very hot, ignite or even explode, which could damage your appliance and/or your health. It is very important that you follow the instructions below:

- Keep batteries away from children. Contact your doctor immediately if a battery is swallowed.
- Never charge batteries (unless they are designed to be recharged).
- Never discharge the batteries by means of high power output.
- Never short-circuit the batteries.
- Never expose the batteries to excessive heat such as sunlight, fire or similar.
- Do not dismantle or deform the batteries. You could injure your hands or fingers or battery fluid could come into contact with your eyes or skin. If this happens, rinse the affected areas immediately with plenty of clean water and contact your doctor immediately.
- Avoid heavy impacts and vibrations. Always observe the correct polarity. Make sure that the plus (+) and minus (-) poles are correctly inserted to avoid short circuits.
- Do not mix up new and old batteries or different types of batteries. This could cause your device to malfunction. In addition, the weaker batteries would discharge too much.
- Remove spent batteries from the device immediately.
- Remove the batteries from the device if you do not intend to use it for a long period of time.
- Replace all of the old batteries in a device with new batteries of the same type.
- Cover the contacts of the batteries with sticky tape if you want to store or dispose of them.
- Before inserting the batteries, check that the contacts in the device and on the batteries are clean and, if necessary, clean them.
- Do not dispose of used batteries in the household rubbish! Please protect our environment and dispose of batteries in the correct manner. If you have any questions, please ask your dealer or our customer service department.

22.2. FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment gener-ates, uses, and can radiate radio frequency energy and, if not installed and used in accor-dance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Shielded interface cables, if any, must be used in order to comply with the emission limits.

23. Legal Notice

Copyright © 2014 All rights reserved. This operating manual is protected by copyright. Mechanical, electronic and any other form of reproduction is prohibited without the written permission

Mechanical, electronic and any other form of reproduction is prohibited without the written permission of the manufacturer.

Copyright is owned by the company:

Medion AG Am Zehnthof 77 45307 Essen Germany

Subject to technical and optical changes as well as printing errors.

The operating manual can be reordered via the service hotline and is available for download via the service portal at www. medion.com/gb/service/start/.

You can also scan the QR code above and download the operating manual onto your mobile device via the service portal.



24. Index

Batteries		
Battery disposal		
Better device management	22	
° C		
Cabling	8	
CD-ROM		
Cleaning		
Cleaning agents		
Connecting		
Audio input	13	
Audio output	11	
IEEE 1394 (FireWire)	12	
LAN	12	
Microphone		
Monitor	10	
Overclocking button		
PS/2 mouse		
Recording sources	13	
Speakers	11	
Control panel		
Data protection		
Devices	26	
General		
Home network group		
Notifications	26	
Search	26	
Sharing	26	
SimplifiedOperation	26	
Synchronise settings	26	
User	26	
WindowsActivate	26	
Windows Update	26	
Wireless	26	
Customer service		
D		
Declaration of conformity	5	
Directories	15	
Disc drive	16	
Driver support		
Ε		
Environmental temperature	6	
F		
Factory settings	27	
System restore using Cyberlink PowerRecover		
G	-,	
Graphics card	18	
Graphics system	18	
Н	10	
Hard disk	15	
Hard drive	15	
Hardware problems	29	
Help and support		
Home Group		
	22	
Initial operation	13	
Installation location		
	6	

В

Jump lists			
Laser radiation			
Logging in to Windows	30 22		
Linking a user account to a LivelD			
Setting a PIN for Windows			
Setting up an image code for Windows			
Setting up a password for Windows	23 23		
	23		
Maintenance	30		
Mouse	14		
Multi-card reader	14		
Memory Stick	18 18		
Memory Stick Pro			
MMC	18		
Removing memory cards	18		
SD	18		
N			
Network			
LAN access point	20		
What is a network?	20		
Wireless LAN	20		
Networking	20		
0			
Operating safety	. 5		
Operation			
Keyboard	14		
Mouse	14		
Optical drive	16		
Р			
Power supply	13		
R			
Repairs	30		
Restarting	27		
S			
Safety			
Batteries	31		
Safety instructions			
Cabling	. 8		
Connecting	. 8		
Power supply	13		
Tower suppry	27		
Saving energy			
	30		
Saving energy			
Saving energy Service engineers	. 6		
Saving energy Service engineers Setting up the PC	. 6		
Saving energy Service engineers Setting up the PC Sleep Software	. 6		
Saving energy Service engineers Setting up the PC Sleep Software Getting to know Windows [®] 8	. 6 27		
Saving energy Service engineers Setting up the PC Sleep Software Getting to know Windows® 8 Windows® 8 – What's New	6 27 21		
Saving energy Service engineers Setting up the PC Sleep Software Getting to know Windows® 8 Windows® 8 – What's New Windows activation	6 27 21 21 21		
Saving energy Service engineers Setting up the PC Sleep Software Getting to know Windows® 8 Windows® 8 – What's New	6 27 21 21		
Saving energy Service engineers Setting up the PC Sleep Software Getting to know Windows® 8 Windows® 8 – What's New Windows activation Sound system T	6 27 21 21 21		
Saving energy Service engineers Setting up the PC Sleep Software Getting to know Windows® 8 Windows® 8 – What's New Windows activation Sound system Transport	6 27 21 21 21 19 29		
Saving energy Service engineers Setting up the PC Sleep Software Getting to know Windows® 8 Windows® 8 – What's New Windows activation Sound system T	6 27 21 21 21 21 19		
Saving energy Service engineers Setting up the PC Sleep Software Getting to know Windows® 8 Windows® 8 – What's New Windows activation Sound system Transport Troubleshooting U	6 27 21 21 21 19 29		
Saving energy Service engineers Setting up the PC Sleep Software Getting to know Windows® 8 Windows® 8 – What's New Windows activation Sound system Transport Troubleshooting	6 27 21 21 21 19 29 29		

J

W

4
5
3
4
0
7
7
7
7
7
7
5