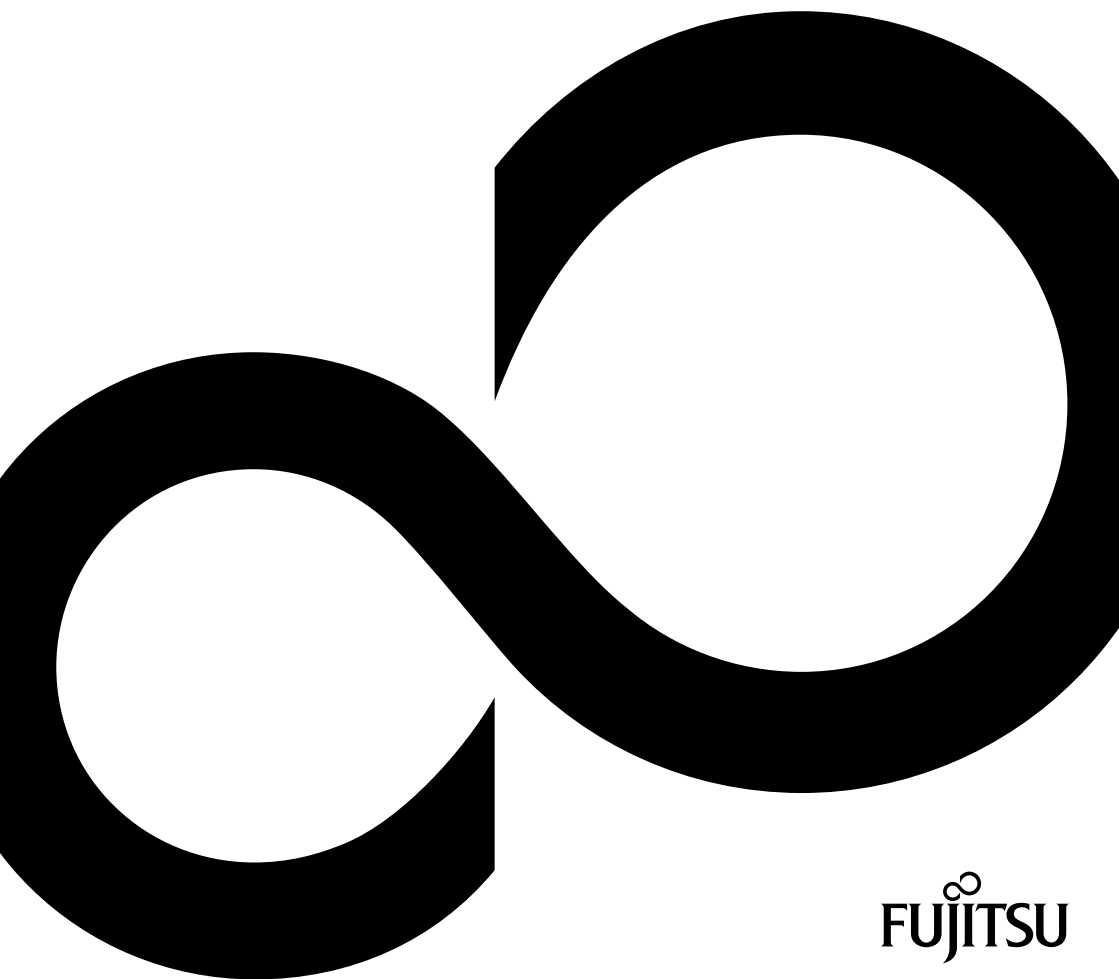


# LCD Monitor

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# Introduction

This manual contains important information for correct set-up of your LCD monitor.

The LCD monitor is actuated from the PC. The screen controller/the associated driver software is responsible for setting the modes (resolution and refresh rate).

When putting the monitor into operation for the first time, the screen display should be optimally adapted to the screen controller used and adjusted in accordance with your needs.

## Target group

You don't need to be an "expert" to perform the operations described here. However, please observe the safety information given in the operating instructions of the computer and in this manual!

In the event of any problems occurring, please contact your sales outlet or our Service desk.

## Notational conventions

The meanings of the symbols and fonts used in this manual are as follows:



Pay particular attention to text marked with this symbol. Failure to observe this warning endangers your life, destroys the device, or may lead to loss of data.



Supplementary information, remarks, and tips follow this symbol.

► Text which follows this symbol describes activities that must be performed in the order shown.

"Quotation marks" indicate names of chapters or terms.

*This font* indicates filenames and menu items.

`This font` indicates screen outputs.

## Additional information

Details of how you set the resolution and refresh rate are provided in the documentation on your screen controller/the associated driver software.

# Important notes



In this chapter you will find information regarding safety which is essential to take note of with your monitor.

## Safety notes

This device complies with the relevant safety regulations for data processing equipment, including electronic office machines for use in an office environment. If you have any questions, contact your sales outlet or our Service desk.

- The display surface of the LCD monitor is sensitive to pressure and scratches. You should therefore be careful with the display surface so as to avoid lasting damage (Newton rings, scratches).
- If the device is brought into the installation site from a cold environment, condensation can form. Before operating the device, wait until it is absolutely dry and has reached approximately the same temperature as the installation site.
- To ensure sufficient ventilation, the intake and exhaust air openings of the monitor must never be blocked.
- The monitor automatically sets itself to a mains voltage in the range of 100 V to 240 V. Ensure that the local mains voltage lies within these limits.
- Ensure that the power socket on the device or the grounded mains outlet is freely accessible.
- The ON/OFF switch does not disconnect the device from the mains voltage. To completely disconnect the mains voltage, remove the power plug from the socket.
- The monitor is equipped with a power cable that complies with safety standards.
- Lay all cables so that nobody can stand on them or trip over them. When attaching the device, observe the relevant notes in the "Connecting the monitor" chapter.
- Wenn Sie eine andere als die mitgelieferte Datenleitung verwenden, achten Sie darauf, dass die Leitung ausreichend abgeschirmt ist. CE-Konformität sowie eine optimale Bildqualität werden nur mit der mitgelieferten Datenleitung gewährleistet.
- If you use a different data cable from the one supplied, ensure that it is adequately shielded. CE conformance and optimum picture quality are guaranteed only if you use the data cable supplied.
- No data transfer cables should be connected or disconnected during a thunderstorm.
- Make sure that no objects (e.g. jewellery chains, paper clips, etc.) or liquids get inside the device (danger of electric shock, short circuit).
- The device is not waterproof! Never immerse the device in water and protect it from spray water (rain, sea water).
- In emergencies (e.g. damaged casing, elements or cables, penetration of liquids or foreign matter), switch off the unit, disconnect the power plug and contact your sales outlet or our Service desk.

## Important notes

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- The monitor must be disposed of in accordance with the local regulations for disposal of special waste. The screen background lighting contains mercury. You must observe the applicable handling and disposal safety regulations for fluorescent tubes.
- Only qualified technicians should repair the device. Unauthorised opening and incorrect repair may greatly endanger the user (electric shock, fire risk).
- Use a screen saver with moving images and activate the power management for your monitor to prevent still images from "burning in".
- The screen may only be operated in the wide format (0° landscape mode). Turning with a swivel arm or wall bracket mounted is not permitted.
- Store this manual close to the device. If you pass the device on to third parties, you should pass this manual on with it.
- We recommend that you place your device on a durable, non-slip surface. In view of the many different surface coatings and finishes used on furniture, it is possible that the feet of the device could mark the surface they stand on.

## Power cable

To guarantee safe operation, use the cable supplied. Use the following guidelines if it is necessary to replace the original cable set.

- The female/male receptacles of the cord set must meet IEC60320/CEE-22 requirements.
- The cable has to be HAR-certified or VDE-certified. The mark HAR or VDE will appear on the outer sheath.
- For devices which are mounted on a desk or table, type SVT or SJT cable sets may be used.
- The cable set must be selected according to the rated current for your device.
- If necessary, replace the original power cable with a regular grounded 3-core mains lead.

## Transport

- Transport the monitor with care and only in its original packaging or another corresponding packaging fit to protect it against knocks and jolts.
- Never drop the LCD monitor (danger of glass breakage).

## Cleaning

- Always pull out the power plug before you clean the monitor.
- Do not clean any interior parts yourself, leave this job to a service technician.
- Do not use any cleaning agents that contain abrasives or may corrode plastic.
- Ensure that no liquid will run into the system.
- Ensure that the ventilation areas of the monitor are free.
- The display surface of the LCD monitor is sensitive to pressure and scratches. Clean it only using a soft, slightly moistened cloth.

Wipe the monitor casing with a dry cloth. If the monitor is particularly dirty, use a cloth which has been moistened in mild domestic detergent and then carefully wrung out.

## CE marking



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

## FCC Class B Compliance Statement

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

### NOTE:

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

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

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



## Checking the contents of the consignment



The display surface of the LCD monitor is sensitive to pressure and scratches. Always hold the device by the casing!

- ▶ Unpack all the individual parts.
- ▶ Check the delivery for damage incurred during transportation.

Check whether the delivery agrees with the details in the delivery note.

The complete LCD monitor package includes:

- one monitor
- data cable
- one power cable
- one Warranty Booklet
- this "Getting Started" manual

Should you discover that the delivery does not correspond to the delivery note, notify your local sales outlet immediately.



We recommend that you keep the original packaging material. You may need the packaging in the future if you need to transport your device.

# Connecting the monitor



Please take note of the safety information in the "Important notes" chapter.

CE conformance and optimum picture quality are guaranteed only if you use the data cable supplied.

Do not cover the ventilation openings of the monitor.

The computer power plug must be pulled out!

- ▶ Be sure that the monitor and the computer are switched off.

## Connecting cables to the monitor

- ▶ If the data cable is not firmly connected to the monitor:  
Connect one of the connectors of the data cable to the D-SUB connector on the monitor and secure the plug-in connection by tightening the locking screws.
- ▶ Plug the power cable supplied into the power connector of the monitor.

## Connecting cables to the computer

Information on the computer connections and interfaces is contained in the operating manual for your computer.



If your computer has two monitor ports ("onboard" screen controller and separate graphics card), the monitor port for the separate graphics card is usually active.

- ▶ Connect the data cable to the (active) monitor port on the computer and secure the plug-in connection by tightening the safety screws.
- ▶ Connect the connector of the power cable supplied into a properly earthed mains outlet and ensure a secure connection.
- ▶ Plug the power connector of the computer into a properly grounded mains outlet.



When you start working with your monitor for the first time you should install the appropriate graphics drivers for your application software. Details of how to do this are provided in the documentation on your screen controller/the associated driver software.

# Operation of the monitor



Note that when screens with shiny front surrounds are positioned, the surrounds may cause troublesome reflections from background light sources and bright surfaces.

## Adjusting rake

The rake of the monitor can be adjusted forward and back from its vertical position.

- ▶ Grasp the monitor with both hands on the right and left edge of the casing and adjust it to the desired rake.

## Switching the monitor on/off

The ON/OFF switch is used for switching the monitor on and off.

The power indicator glows green or blue when the monitor and computer are switched on. The power indicator glows orange when the monitor does not receive a video signal or is in energy-saving mode. The power indicator goes off when the monitor is switched off.

When you switch the computer system on, you must proceed in the following order:

- ▶ First switch the LCD monitor on with the ON/OFF switch.
- ▶ Then switch on the computer.



## Troubleshooting

Should an error occur, first check the following points. If the distortion is still not eliminated, the monitor should, if possible, be checked on another computer.

If you are unable to solve the problem, please inform our Service desk.

Having this problem?	Check the following points:
No screen display (power indicator does not light)	<ul style="list-style-type: none"> <li>▶ Check whether the monitor is switched on.</li> <li>▶ Check whether the power cable on the monitor is connected correctly.</li> <li>▶ Check whether the computer is switched on.</li> </ul>
No screen display (power indicator lights)	<ul style="list-style-type: none"> <li>▶ Check whether the computer is switched on.</li> <li>▶ Check whether the data cable for the monitor is correctly attached to the monitor port on the computer.</li> <li>▶ Press any key on the computer keyboard - the computer may be in energy saving mode.</li> <li>▶ Alter the brightness and/or contrast until you get a picture.</li> </ul>
Message: No Video Input Or No Signal	<ul style="list-style-type: none"> <li>▶ Check whether the data cable for the monitor is correctly attached to the monitor port on the computer.</li> <li>▶ Check whether the computer is switched on.</li> </ul>
Message: e.g.  This is 85 Hz overdrive. Change computer display input to ..... x ..... at 60 Hz. or Frequency out of range Please change the display mode to .....	<p>The input signal (horizontal frequency and refresh rate) does not correspond to the technical monitor data.</p> <ul style="list-style-type: none"> <li>▶ Adjust the video frequency range using the computer software (see documentation for your computer or your graphics card).</li> <li>▶ Adjust a different screen resolution using the computer software (see documentation for your computer or your screen controller).</li> </ul>
Picture position not correct	<p>The monitor recognises an undefined mode.</p> <ul style="list-style-type: none"> <li>▶ Carry out the auto-adjustment of the monitor (with the AUTO button - if present - or via the OSD menu).</li> <li>▶ Set the picture position with the OSD menu.</li> </ul>

## Operation of the monitor

<b>Having this problem?</b>	<b>Check the following points:</b>
Picture is shaking	<ul style="list-style-type: none"><li>▶ Check whether the data cable for the monitor is correctly attached to the monitor port on the computer.</li><li>▶ Carry out the auto-adjustment of the monitor (with the AUTO button - if present - or via the OSD menu).</li></ul>
Picture disturbances (vertical lines) 	<ul style="list-style-type: none"><li>▶ Carry out the auto-adjustment of the monitor (with the AUTO button - if present - or via the OSD menu).</li></ul>
Picture disturbances (horizontal lines, picture noise) 	<ul style="list-style-type: none"><li>▶ Carry out the auto-adjustment of the monitor (with the AUTO button - if present - or via the OSD menu).</li></ul>
Picture too light or too dark	<ul style="list-style-type: none"><li>▶ Carry out the auto-adjustment of the monitor (with the AUTO button - if present - or via the OSD menu).</li><li>▶ Correctly set the contrast and brightness with the OSD menu if the auto-adjustment function does not supply satisfactory results.</li></ul>

# Explanatory information about standard ISO 9241-3

## Lit or unlit pixels

Today's production techniques cannot guarantee an absolutely fault-free screen display. Depending on the total number of pixels (resolution), there may be a few constantly lit or unlit pixels or subpixels.

Pixel	A pixel consists of 3 subpixels, normally red, green and blue. A pixel is the smallest element that can be generated by complete functionality of the display.
Subpixel	A subpixel is a separately addressable internal structure in a pixel which extends the pixel function.

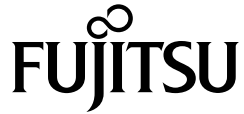
The maximum permitted number of faulty pixels is stipulated in the international standard ISO 9241-3.

In accordance with standard ISO 9241-3, LCD monitors by Fujitsu comply with Class II for low resolutions and Class I for resolutions of 1680 x 1050 (1764000 pixel) and higher.

### Examples:

A flat-screen monitor with a resolution of 1280 x 1024 has 1280 x 1024 = 1310720 pixels. Each pixel consists of three subpixels (red, green and blue), so there are almost 3.9 million subpixels in total. According to ISO 9241-3 (Class II), a maximum of 3 lit and 3 unlit pixels plus 7 lit or 13 unlit subpixels, or a corresponding combination, may be faulty (1 lit subpixel counts as two unlit subpixels).

A flat-screen monitor with a resolution of 1920 x 1080 has 1920 x 1080 = 2073600 pixels. Each pixel consists of three subpixels (red, green and blue), so there are almost 6.2 million subpixels in total. According to ISO 9241-3 (Class I), a maximum of 2 lit and 2 unlit pixels plus 5 lit or 10 unlit subpixels, or a corresponding combination, may be faulty (1 lit subpixel counts as two unlit subpixels).

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