4612 FA

LCD-Bildschirm / Moniteur / Monitor / Skärm / Beeldscherm

BETRIEBSANLEITUNG
OPERATING MANUAL

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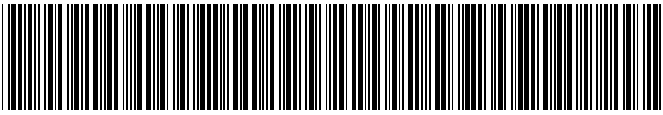

A26361-K628-Z100-1-5E19

Deutsch

English

Français

Español

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TCO'99

4612 FA
LCD-Bildschirm
LCD monitor
Moniteur LCD
Monitor LCD
Monitor LCD
LCD-skärm
LCD-beeldscherm

Betriebsanleitung
Operating Manual

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Introduction

Your new LCD (Liquid Crystal Display) monitor 4612 FA offers numerous features and functions, for example:

- TFT display (Thin Film Transistor; active matrix)
- minimal space requirements thanks to slim housing
- optimum ergonomic characteristics (totally distortion-free, excellent picture definition and color purity right into the corners)
- high degree of brightness and good contrast
- high resolution (1280x1024) for displaying the information content of a conventional 21-inch screen with CRT (Cathode Ray Tube)
- presentation of up to 16.7 million colors (in conjunction with an appropriate screen controller)
- automatic scanning of all horizontal frequencies from 31 to 82 kHz and all refresh rates (vertical frequencies) from 56 to 85 Hz (all absolutely flicker-free)
- digital screen controller with microprocessor for storing 26 different display modes
- freely adjustable color alignment for matching the screen colors to the colors of various input and output devices
- convenient operation via integrated OSD (On-Screen-Display) menu
- VESA-DDC compatibility
- VESA-FPMPMI compatibility (Flat Panel Monitor Physical Mounting Interface) - mechanical interface to swivel arm and wall bracket)
- plug&play capability
- power management for reducing power consumption when the computer system is not in use
- compliance with the recommendations in accordance with TCO '99

In normal screen mode (dark characters against a light background) the monitor satisfies the ergonomic requirements for the GS symbol.

This Operating Manual contains important information you require to start up and run your LCD monitor.

A graphics card (screen controller) with VGA interface or a digital graphics card with DVI interface is required to control the 4612 FA LCD monitor. The monitor processes the data supplied to it by the screen controller. 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 (see section "Changing the monitor settings" in chapter "Operation of the monitor").

Target group

You don't need to be an "expert" to perform the operations described here. Do, however, read the chapter "Important notes" in the Operating Manual of the computer and in this Operating Manual.

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

Further information

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

Notational conventions

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

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

Supplementary information, remarks and tips follow this symbol.

► Texts which follow this symbol describe activities that must be performed in the order shown.

"Quotation marks" indicate names of chapters and terms that are being emphasized.

Texts in italics indicate filenames and menu items.

Important notes

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

Safety

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 Help 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.
- During installation and before operating the device, please observe the instructions on environmental conditions in the chapter entitled "Technical data" as well as the instructions in the chapter "Installing an ergonomic video workstation".
- To ensure sufficient ventilation, the intake and exhaust air openings of the monitor must never be blocked.
- The device automatically sets itself to the correct voltage within the range from 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 wall outlet is freely accessible.
- The ON/OFF switch does not disconnect the device from the line voltage. To disconnect the line voltage completely, remove the power plug from the socket.
- Lay all cables so that nobody can stand on them or trip over them. When attaching the device, observe the relevant notes in the chapter "Connecting the monitor".

- 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 transmission cable should be connected or disconnected during a thunderstorm.
- Make sure that no objects (e.g. jewelry chains, paper clips etc.) or liquids get into the inside of the device (danger of electric shock, short circuit).
- 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 Help Desk.
- The screen background lighting contains mercury. You must observe the applicable handling and disposal safety regulations for fluorescent tubes.
- If the LCD monitor is damaged (for example the glass is broken), avoid letting any liquids that may escape coming into contact with any part of your body (skin, mouth, nose) or foodstuffs. Clean parts of the body and clothing that have already come into contact with such liquids with plenty of soap and water.
  Do not breathe in any of the escaping vapors. You should contact your doctor if you have breathed in fumes or come into contact with the liquid.
- Only qualified technicians should repair the device. Unauthorized opening and incorrect repair may greatly endanger the user (electric shock, fire risk).
- You may set only those resolutions and refresh rates specified in the "Technical data" chapter. Otherwise you may damage your monitor. If you are in any doubt, contact your sales outlet or our Help Desk.
- Keep this Operating Manual together with your device. If you pass on the device to third parties, you should include this manual.

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 housing 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.

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).

FCC Class B Compliance Statement

If there is an FCC statement on the device, then:
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 Regulations. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in strict accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

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

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

Declaration of Conformity

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Product Name:	LCD Monitor
Trade Name:	Fujitsu Siemens Computers
Model Number(s):	4612 FA
Name of Responsible Party:	Siemens Information and Communication Products LLC 3860 N. First Street San Jose, CA 95134-1702 U.S.A.
Contact Person:	Mike Fitzner
Phone No.:	(408) 428-8918
Fax No.:	(408) 428-7290

We, Siemens Information and Communication Products LLC, hereby declare that the equipment bearing the trade name and model number specified above was tested confirming to the applicable FCC Rules under the most accurate measurement standards possible, and that all the necessary steps have been taken and are in force to assure that production units of the same equipment will continue to comply with the Commissions requirements.

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 CEE-22 requirements.
- The cable has to be HAR-certified or VDE-certified. The mark HAR or VDE will appear on the outer sheath or on the insulation of one of the inner conductors.
- For devices which are mounted on a desk or table, type SVT or SJT cable sets may be used. For devices which sit on the floor, only SJT type cable sets may be used.
- The cable set must be selected according to the rated current for your device.

Power cable for devices distributed in the US and Canada

In the United States and Canada the cord set must also be UL-listed and CSA-labelled. The voltage rating should be min. 250 volts a.c.

Please consult the following table for the selection criteria for power cables used in the United States and Canada.

Cable type	Size of conductors in cable	Maximum current rating of the device
SJT	18 AWG 16 AWG 14 AWG	10 Amps 12 Amps 12 Amps
SVT	18 AWG 17 AWG	10 Amps 12 Amps

For the United Kingdom

Should the plug on the flexible cord not be of the type for your socket outlets, do not use an adapter but remove the plug from the cord and discard. Carefully prepare the end of the supply cord and fit a suitable plug.

WARNING

THIS APPLIANCE MUST BE EARTHED

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Green and Yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

- The wire which is coloured Green and Yellow must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol or coloured Green or Green and Yellow.
- The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black.
- The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Red.

Energy Star Guidelines

The Fujitsu Siemens LCD color monitor 4612 FA is designed to conserve electricity by dropping to less than 5 W when it goes into standby, suspend and OFF mode. With this new power management the 4612 FA qualifies for the U.S. Environmental Protection Agency's (EPA) Energy Star Computers award.

The EPA estimates that computer equipment uses 5 percent of all business electricity and it is growing rapidly. If all desktop computers and peripherals enter a low-power mode when not in use, the overall savings in electricity could amount to $ 2 billion annually. These savings could also prevent the emission of 20 million tons of carbon dioxide into the atmosphere – the equivalent of 5 million automobiles.

As an Energy Star Partner, Fujitsu Siemens Computers GmbH has determined that this product meets the Energy Star guidelines for energy efficiency.

CE certificate

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

Disposal and recycling

This device has been manufactured to the greatest possible degree from materials which can be recycled or disposed of in a manner that is not environmentally damaging. The device is taken back after use, to be recycled, provided that it is returned in a condition that is the result of normal use. Any components not reclaimed will be disposed of in an environmentally acceptable manner.

If you have any questions on disposal, please contact your local office, our Help Desk, or:

Fujitsu Siemens Computers GmbH
Recyclingcenter
D-33106 Paderborn
Tel.: +49 5251 / 81 80 10, Fax: +49 5251 / 81 80 15

Checking the contents of the consignment

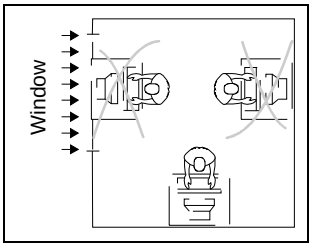
- ► Unpack all the individual parts.
- ► Check the delivery for damage incurred during transportation.
- ► Check whether the delivery agrees with the details in the delivery note.
  The complete LCD monitor package includes:
  - one monitor
  - two data cables
  - one power cable
  - one floppy disk
  - one warranty card
  - this Operating Manual

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

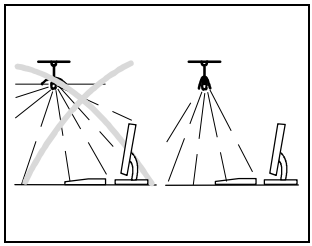
It is recommended not to throw away the original packing material. Keep it for future transportation.

Installing an ergonomic video workstation

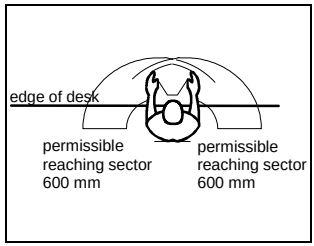
Before you set up your equipment you should select a suitable position for working at the monitor. Please observe the following advices when installing a video workstation.



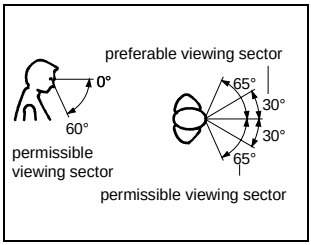
Avoid direct and reflected glare.



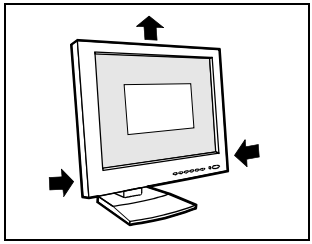
Avoid glare from electric lighting.



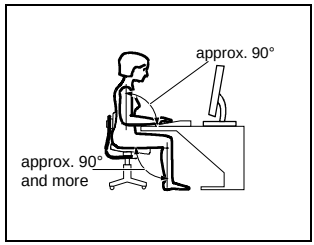
Position the keyboard where it is easiest to reach.



Position the monitor for optimum viewing. The viewing distance to the monitor should be approximately 50 cm.



Keep ventilated areas clear.



Remember to maintain correct posture.

Depending on the situation, the use of a swivel arm or wall bracket (VESA FPMPMI), which are included in the accessories, may be advisable. For this purpose the monitor base must be removed beforehand as described in chapter "Removing the monitor base".

Connecting the monitor

Please note the information provided in the "Safety" section in the chapter "Important notes" at the beginning of this manual.

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

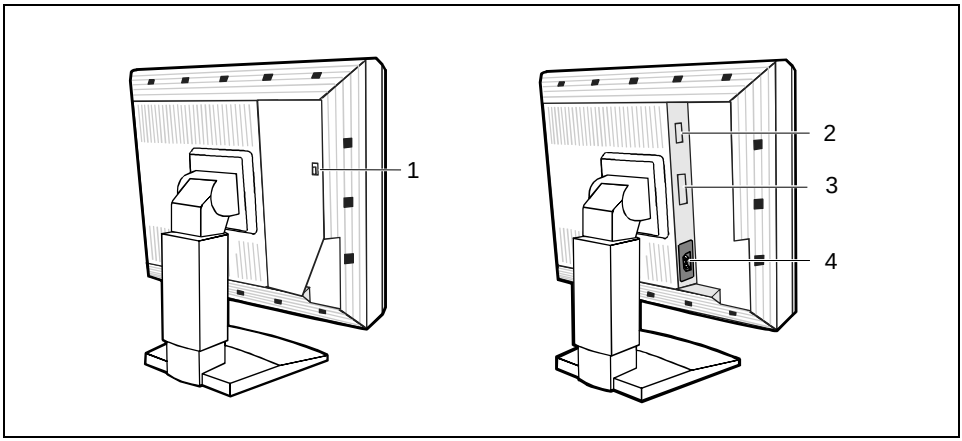
Do not cover the ventilation openings of the monitor.

The computer power plug must be pulled!

► Be sure that the monitor and the computer are switched off.

Connecting cables to the monitor

The monitor ports are protected by a cover.



1 = Cover lever
2 = D-SUB connector
3 = DVI connector
4 = Power connector

► Press the cover lever (1) to the left and remove the cover.

The data cables provided have a plug for the DVI connection socket on the monitor and a 15-pin D-SUB plug or a DVI plug for the connection on the computer.

► Select the suitable data cable for your computer.

Digital graphics card with DVI interface:	DVI connector
Graphics card with VGA interface:	D-SUB connector

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

► Connect the DVI connector of the data cable to the DVI connector on the monitor (3) and secure the plug-in connection by tightening the safety screws.

i

If instead of the data cables supplied you want to use a data cable with two 15-pin D-SUB connectors or if you want to connect the monitor to a second computer, proceed as follows:

► Connect the D-SUB connector of the data cable to the appropriate D-SUB connector (2) and secure the plug-in connection by tightening the safety screws.

Data cables with two 15-pin D-SUB connectors are available from specialized dealers.

After you have switched on the monitor you must select the desired input using the DVI/D-SUB button. A message to this effect appears on screen.

► Connect the connector of the power cable to the power connector (4) of the monitor and ensure a secure connection.

► Mount the cover over the connections again.

Connecting cables to the computer

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

i 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 male receptacle of the power cable supplied to the monitor socket of the computer and ensure a secure connection.
- ► Plug the power connector of the computer into a properly grounded power outlet.

i 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

The monitor offers the following possibilities that enable it to be optimally adjusted for the respective user and the respective situation.

Adjusting height, rake and rotation

The monitor height can be adjusted within a range of approx. 2 in/70 mm.

- ► Grasp the monitor with both hands on the right and left edge of the housing and move it upward or downward.

The rake of the monitor can be adjusted by –5° (forward) and +30° (back) from its vertical position.

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

The monitor can be rotated by ± 90° from its center position.

- ► Grasp the monitor with both hands on the right and left edge of the housing and rotate it into the desired position.

Adjusting portrait format

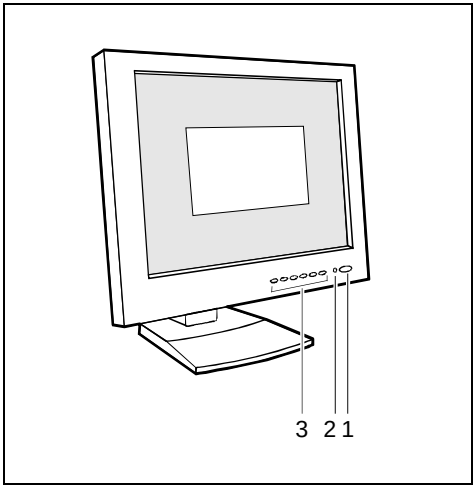
The monitor can be turned from the "wide format" (landscape mode) into the "high format" position (portrait mode).

- ► Grasp the monitor with both hands on the right and left edge of the housing, move it into the highest position and turn it clockwise until it is in the portrait position.
- ► Press the RESET button (with the OSD menu switched off) to switch the OSD (On Screen Display) menu from the landscape mode into the portrait mode (also see the section " Monitor settings using the OSD menu").

You must use corresponding software (pivot software) so that the screen display is also shown in the portrait mode. This software is available from specialized dealers.

To reset the monitor to the landscape mode, the monitor must be turned counter-clockwise. With the RESET button (with the OSD menu switched off) you can switch over the OSD menu again.

Switching the monitor on/off



1 = ON/OFF switch
2 = Power indicator
3 = Buttons for the OSD menu (On-Screen-Display)

The ON/OFF switch (1) is used for switching the monitor on and off.

The power indicator (2) glows green when the monitor and computer are switched on. The power indicator glows amber when the monitor does not receive a video signal or is in the energy-saving mode. The power indicator goes off when the monitor is switched off.

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

- First switch the LCD monitor on with the ON/OFF switch (1).
- Then switch on the computer.

If your computer has a power management function (energy-saving mode), you should read the "Notes on power management" of the monitor in this chapter.

Notes on power management

If your computer is equipped with power management, the monitor can support this function fully. Here the monitor does not distinguish between the individual energy-saving modes of the computer (standby mode, suspend mode and OFF mode), as it is capable of immediately switching into the mode with the highest energy-saving effect.

Stage	ON	Energy-saving mode
Power indicator	glows green	glows amber
Function	Monitor operating normally	Monitor is dark
Power consumption	normal < 65 W	reduced to < 5 W

If your computer detects inactivity (no input) it sends an appropriate signal to the monitor to reduce the power consumption (energy-saving mode). The power indicator of the monitor changes color to indicate the status change.

Once an input is made at the computer the screen contents are redrawn and full power is restored.

For detailed information on how energy-saving mode operates refer to the Operating Manual or Technical Manual of your computer.

When the monitor is switched to the energy-saving mode by the power management system a power consumption of up to 5 W is maintained to feed the circuit for redrawing the screen contents.

To completely switch off the power consumption, switch off the computer or pull the plug of the monitor power cable out of the monitor socket of the computer.

Changing the monitor settings

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.

Basic monitor settings with the floppy disk supplied

If one of the operating systems Windows for Workgroups, Windows 95/98, Windows NT or OS/2 (with Windows emulation installed) is used, the basic monitor settings can be set with the floppy disk supplied.

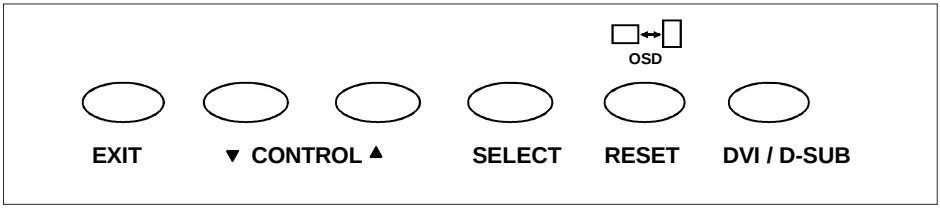
- ► Insert the supplied floppy disk into the floppy disk drive.
- ► Open the *Readme* file on the floppy disk and follow the instructions in the file.

Your monitor should now already be properly adjusted. If none of the above operating systems is used or minor corrections are to be made to the screen display, then change the monitor settings with the OSD menu.

Monitor settings using the OSD menu

You can use the buttons on the control panel to set the screen display via an integrated OSD menu (On-Screen-Display).

i The OSD menu is available in different languages. The English menu names are used in the following description (default setting). The language can be set in the OSD menu (*Language Select*).



The SELECT button switches the OSD menu on, selects the highlighted option or activates a function in the setting window. For menu items with the "Auto Adjust" function, automatic adjustment will be started.

Use the CONTROL ▲ or ▼ buttons to highlight a menu option or a submenu and define the settings for the function you have selected.

The EXIT button deactivates the OSD menu or returns you from a submenu to the main menu.

i The OSD menu is automatically closed if no button is pressed for several seconds. The time period can be set in the OSD menu (*OSD Turn Off Time*).

The RESET button activates (with the OSD menu switched off) the factory settings.

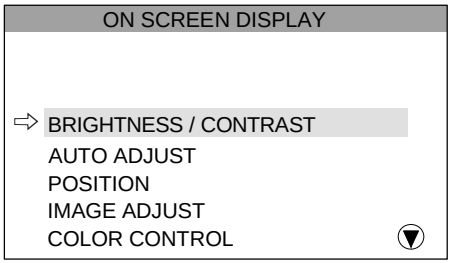
The DVI/D-SUB button allows you to choose between the inputs whether the OSD menu is switched on or off. A message to this effect appears on screen.

i The OSD menu for analog monitor operation is described in the following. During digital operation some functions are not available, as they are not required due to the digital transmission technology used.

To make a setting, perform the following steps:

► Press the button SELECT to activate the OSD menu.

The main menu appears on the screen with menu options for the setting functions.

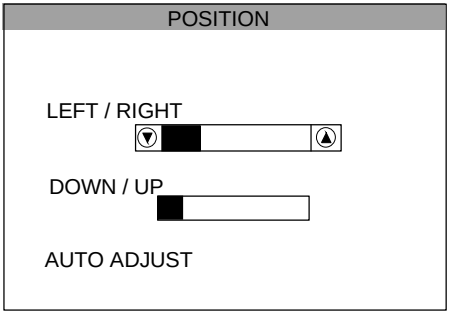


The first option (*Brightness / Contrast*) is highlighted. With the ▼ button you can move the marking down and view the menu items on the second page. With the ▲ button you can move the marking up.

► If necessary, use the ▲ or ▼ button to mark another option, e. g. *Position*.

► Press the SELECT button to select the highlighted option.

Depending on the menu item (in this case *Position*), a setting window is offered with different functions. Using the SELECT button you can activate the functions in the setting window one after the other.



► Choose the function you require using the SELECT button.

In addition to the active function the button symbols ▲ and ▼ are also displayed.

► Use the ▲ or ▼ button to make the desired setting.

If you highlight the *Auto Adjust* entry using the SELECT button the picture position is automatically adjusted.

► Press the EXIT button to return to the main menu.

► Press the EXIT button to exit the OSD menu.

All changes will be saved immediately after exiting the OSD menu.

i A basic monitor setting is required for automatic adjustment of menu items with the "Auto Adjust" function, as is carried out by the program on the floppy disk provided. This basic setting is also useful for manual adjustment.

If the program cannot be used on your computer, because another operating system is used, you must adjust a white screen for the "Auto Adjust" function.

Setting brightness and contrast (Brightness / Contrast)

Option	Function
Brightness	Setting the brightness of the display.
Contrast	Setting the contrast of the display.
Auto Adjust	Automatic contrast adjustment: Correcting the contrast manually if the video signals of the graphics card do not match the VGA standard.

i If the contrast is set too high, bright surfaces can no longer be distinguished from very bright surfaces. If the contrast is set too low, the maximum brightness will not be achieved.

Making automatic picture adjustments (Auto Adjust)

The picture position (*Position*), pixels and stability (*Image Adjust*) are automatically set when you press first the SELECT and then the ▲ button in the adjustment window *Auto Adjust*.

Adjusting picture position (Position)

Option	Function
Up, Down, Left, Right	Shifting the picture up, down, to the left or to the right.
Auto Adjust	Adjusting picture position automatically.

Making manual picture adjustments (Image Adjust)

Option	Function
H.Size	Eliminating vertical picture interference.
Fine	Adjusting picture definition and clarity (fine adjustment).
Auto Adjust	Adjusting picture size and picture definition.

Setting color temperature and color ratio (Color Control)

The "warmth" of the screen colors is set using the color temperature. The color temperature is measured in K (= Kelvin). The color ratio of all preset color temperatures can be modified (Custom).

Option	Function
Preset 1, 2, 3, 4, 5	Select a preset color temperature with the button ▲ or ▼. 1 = 9300 Kelvin 2 = 7500 Kelvin 3 = 6500 Kelvin 4 = 5000 Kelvin 5 = 4200 Kelvin With the SELECT button you can change to the freely defined adjustment of the red, green and blue color ratio and back to the preset color temperature again.
Red	Increase or decrease red ratio.
Green	Increase or decrease green ratio.
Blue	Increase or decrease blue ratio.

Setting the picture quality (Smoothing)

This function can only be used when the full-screen mode (Expansion Mode) is switched on.

Option	Function
Text Mode	Set mode for the optimum display of texts.
Normal Mode	Set mode for the optimum display of texts and graphics/images.
Graphic Mode	Set mode for the optimum display of graphics and images.

Switching full-screen mode on or off (Expansion Mode)

If your graphic card is only capable of displaying a resolution lower than 1280 x 1024, the scaling process of the monitor can display up to 1280 x 1024 pixels by determining intermediate values (with interpolation).

Option	Function
Full Screen	Switch on the full-screen mode. The display area is stretched to the full picture size (1,280 pixels, side ratio 5:4). As a result, the display may appear distorted.
Keep Aspect	Switch on the proportional full-screen mode: The display area is expanded to the maximum picture size while maintaining the side ratio (either full picture width or full picture height).
Expansion Off	Switching the full-screen mode off. At resolutions lower than 1280 x 1024 a display with a black border appears.

Setting automatic video signal detection (video detect)

With this function the selection of the video input can be controlled with the monitor is connected to two computers.

Option	Function
None	Switch off the automatic video signal detection. The switch-over between the video inputs is not automatic, but instead must be carried out manually with the DVI/D-SUB button.
First Detect	Switch on the "First Detect" mode. As long as a signal is present at the current video input, the monitor remains set to this video input, regardless of whether or not a signal appears at the other video input. If no signal is present at the current video input, the monitor switches over to the other input.
Last Detect	Switch on the "Last Detect" mode. As soon as a signal appears at a video input, the monitor switches over to that input.

Selecting signals for DVI connection (DVI select)

The DVI connection enables operation with analog or digital signals. With this function you can (depending on the graphics card you use) switch over between the analog and the digital mode.

Option	Function
Digital	Switch on the digital mode. The monitor processes the signals of the digital port.
Analog	Switch on the analog mode. The monitor processes the signals of the analog port.

Setting the language for the OSD menu (Language Select)

The OSD menu can be displayed in various languages. You can choose from English (default setting), German, French, Spanish, Italian, Swedish, and Japanese.

Setting position for the OSD menu (OSD Position)

Option	Function
Up, Down, Left, Right	Shifting the OSD menu up, down, to the left or to the right

Setting display time for the OSD menu (OSD Turn Off Time)

You can select between 10, 20, 30, 60 and 120 seconds. If the adjusted time has run out without the settings being saved, the OSD menu is automatically closed.

Locking the OSD menu (OSD Lock Out)

The OSD menu can be locked to prevent accidental or unauthorized changes to the monitor settings.

► Press and hold down the SELECT button in the *OSD Lock Out* setting window and briefly press the ▲ button of the control panel.

To release the locked OSD menu again, you must carry out the same step.

Activating the factory settings (Factory Preset)

Factory settings are available for picture definition, picture position, picture size and colors in the preset operating modes (see table in the chapter "Technical data".

You can choose whether you want to reset the values for the input D-SUB, DVI or for both inputs.

► Select *Factory Preset* and press the RESET button to reset the selected settings to the factory settings.

i If you only wish to activate the factory settings for one menu item, mark the corresponding menu item, press the RESET button and then the SELECT button.

Displaying note on resolution (Resolution Notifier)

The optimum resolution for this monitor is 1280 x 1024. With the function activated (*ON*), a message appears on the screen after approx. 30 seconds if a different resolution has been selected.

Displaying graphics mode (Display Mode)

Under *Display Mode* you find information on the display mode currently set.

Displaying monitor data (Monitor Information)

You will find the model designation and the serial number of the monitor under *Monitor Information*.

Notes on ergonomic color adjustment

If you select colors for the display in your application programs, take note of the information below.

The primary colors blue and red on a dark background do not produce the minimum required contrast of 3:1 and are therefore not suitable for continuous text and data entry.

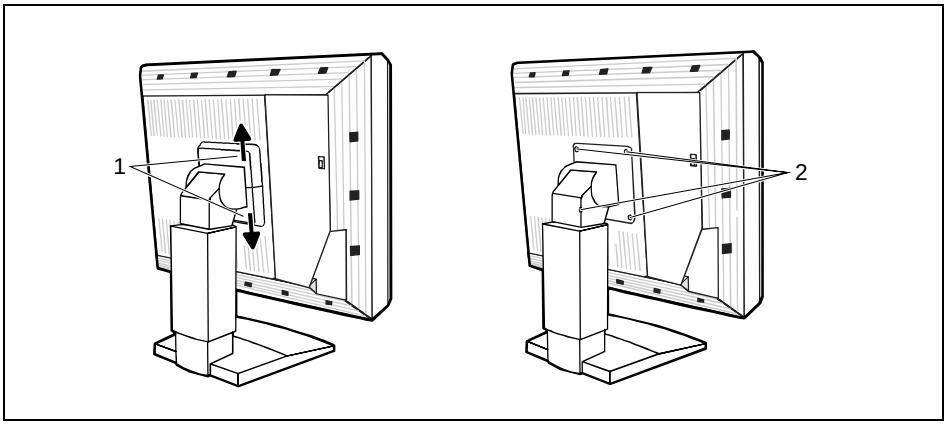
When using several colors for characters and background and giving the primary colors full modulation, you can obtain very suitable color combinations (see the following table):

Background	Characters							
	black	white	purple	blue	cyan	green	yellow	red
black		+	+	-	+	+	+	-
white	+		+	+	-	-	-	+
purple	+	+		-	-	-	-	-
blue	-	+	-		+	-	+	-
cyan	+	-	-	+		-	-	-
green	+	-	-	+	-		-	-
yellow	+	-	+	+	-	-		+
red	-	+	-	-	-	-	+	

\+ Color combination very suitable
\- Color combination not suitable because color locations are too close together, thin characters are not identifiable or rigorous focusing is demanded of the human eye.

Removing the monitor base

Before you can use a swivel arm or a wall bracket, you must remove the monitor base:



1 = Covers

2 = Screws

► Lay the monitor on its face on a soft surface.

The monitor surface is susceptible to scratching!

► Pull off the two cover plates (1) in the direction of the arrow.

► Remove the four screws (2) on the rear of the monitor.

You can now mount a swivel arm or a wall bracket as per VESA FPMPMI with 100 mm hole spacing. For instructions on how to mount the swivel arm or wall bracket, please see the documentation for the swivel arm or wall bracket.

Technical data

Dimensions and weight (LCD monitor)

Visible diagonals:	46 cm
Dot pitch:	0.28 mm
Screen size:	359 mm x 287 mm
Maximal resolution:	1280 x 1024 pixels
Dimensions (W x H x D) incl. monitor base:	454 mm x 462 ... 562 mm x 218 mm
Weight:	approx. 9 kg
Accessories:	Power cable (1.8 m) Data cable (5 ft/2 m) D-SUB to DVI-A Data cable (5 ft/2 m) DVI-A to DVI-A
Storable display modes:	26

Electrical data

Video:	analog, positive, 0.7 V_{pp}, 75 Ω digital: DVI
Synchronization:	Separate Sync. TTL, positive or negative
	Composite Sync. TTL, positive or negative
	Sync. On Green
Horizontal frequency:	31 kHz .... 82 kHz (multi-scanning)
Refresh rate:	56 Hz .... 85 Hz
Maximum pixel rate:	135 MHz
Power supply:	switches automatically
	100 V - 120 V, 50 Hz - 60 Hz ± 3 Hz, 0.6 A
	220 V -240 V, 50 Hz - 60 Hz ± 3 Hz, 0.3 A
Total power consumption:	< 65 W (ON, Normal mode) < 5 W in the energy-saving mode (standby mode, suspend mode and OFF mode)

Environmental conditions

Environment class 3K2, IEC 721

Rated range of operation:	15 °C .... 35 °C
Humidity:	20 % .... 85 %
Limit range of operation:	5 °C .... 35 °C
Humidity:	20 % .... 85 %

Condensation must be avoided.

VESA-DDC-compatible VGA interface

Your monitor is equipped with a VESA-DDC-compatible VGA interface. VESA-DDC (Video Electronics Standard Association, Display Data Channel) is used as the communications interface between the monitor and the computer. If your computer is equipped with a VESA-DDC-compatible VGA interface, it can automatically read the data for ensuring optimum operation from your monitor and select the appropriate settings.

If the monitor 4612 FA is not yet displayed in the list of monitors, you can select the following monitor instead:

Siemens MCF 4611 TA

Preset operating modes

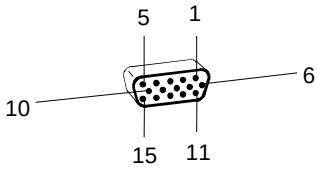
The display position and size have been set to optimum values at the factory for the operating modes listed above. Depending on the screen controller used, it may be necessary to adjust the display position and size. In this case, you can change and save the settings (see "Operation of the monitor").

The following are the most frequently used of the preset operating modes:

Horizontal frequency	Refresh rate	Screen resolution
31,5 kHz	70 Hz	720 x 400
31,5 kHz	60 Hz	640 x 480
37,5 kHz	75 Hz	640 x 480
37,9 kHz	60 Hz	800 x 600
46,9 kHz	75 Hz	800 x 600
48,4 kHz	60 Hz	1024 x 768
60,0 kHz	75 Hz	1024 x 768
64,0 kHz	60 Hz	1280 x 1024
80,0 kHz	75 Hz	1280 x 1024

For ergonomic reasons, a screen resolution of 1024 x 1280 pixels is recommended. Because of the technology used (active matrix) an LCD monitor provides a totally flicker-free picture even with a refresh rate of 60 Hz.

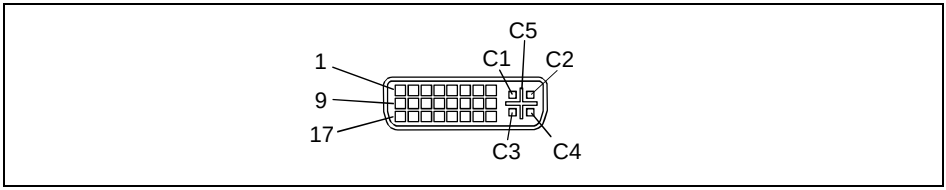
Pin assignment D-SUB



Pin	Meaning
1	Video input red
2	Video input green
3	Video input blue
4	Ground
5	Ground
6	Red video ground
7	Green video ground
8	Blue video ground

Pin	Meaning
9	+5 V (DDC)
10	Sync. ground
11	Ground
12	DDC-Data
13	H. sync
14	V. sync
15	DDC Clock

Monitor port DVI



Pin	Meaning
1	TMDS Data2-
2	TMDS Data2+
3	TMDS Data 2/4 Shield
4	TMDS Data4-
5	TMDS Data4+
6	DDC Clock
7	DDC Data
8	Analog Vertical Sync
9	TMDS Data1-
10	TMDS Data1+

Pin	Meaning
11	TMDS Data 1/3 Shield
12	TMDS Data3-
13	TMDS Data3+
14	+5V Power
15	Ground
16	Hot Plug Detect
17	TMDS Data0-
18	TMDS Data0+
19	TMDS Data 0/5 Shield
20	TMDS Data5-

Pin	Meaning
21	TMDS Data5+
22	TMDS Clock Shield
23	TMDS Clock-
24	TMDS Clock+

C1	Analog Red
C2	Analog Green
C3	Analog Blue
C4	Analog Horizontal Sync
C5	Analog Ground

Error handling

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 and/or with another data cable.

If you are unable to solve the problem, please inform our Help Desk.

The display is too small or not centered

The monitor recognizes an undefined mode (see "Technical data").

- ► Adjust the picture size and position (see "Operation of the monitor").

No display (power indicator does not light)

- ► Check whether the monitor is switched on.
- ► Check whether the power cable on the monitor is connected correctly.
- ► Check whether the monitor socket of the computer is live.

No display (power indicator lights)

- ► Check whether the computer is switched on.
- ► Check whether the data cable for the monitor is correctly attached to the monitor and the monitor port on the computer.
- ► Press any key on the computer keyboard – the computer may be in energy saving mode.
- ► Alter the brightness and/or contrast until you get a picture.

Picture disturbances (vertical and horizontal lines, picture noise)

- ► First adjust the function *Image Adjust - H.Size* in the OSD menu to eliminate vertical bars.
- ► Then adjust the function *Image Adjust - Fine* in the OSD menu to eliminate picture noise or horizontal lines.

i If one of the operating systems Windows for Workgroups, Windows 95/98, Windows NT or OS/2 (with Windows emulation installed) is used, the monitor can be adjusted with the floppy disk supplied.

Permanently unlit or lit pixels

Pixel faults in the form of permanently lit or unlit pixels can occur with TFT displays. Up to 10 permanently lit and/or 10 unlit pixels does not constitute grounds for exchanging the unit. Please contact our Help Desk if the number of pixel faults exceeds the above number.

The screen becomes darker

The background lighting has a limited lifetime. If your monitor display should become too dark, the background lighting will have to be exchanged. Please contact our Help Desk.

Image of last screen display still visible

If you switch from a high-contrast display (for example black lines/characters on a white background) to a picture of medium brightness, you may be able to see a faint image of the previous display for a time. This phenomenon is not due to a monitor defect but to the technology used (IPS display with large viewing angle, IPS = In Plane Switching).