

MONITOR

.com

Betriebsanleitung / Operating Manual

C994

Deutsch / English / Français / Español / Italiano / Svenska / Netherlands / Dansk



FUJITSU COMPUTERS
SIEMENS

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Introduction

Your new C994 monitor supplies you with a high-quality colour image with high resolution and ergonomic refresh rates. The monitor possesses a whole range of useful features and functions, e.g.:

- 19" (46 cm) high-resolution CRT (0.25 mm dot pitch in the matrix)
- automatic scanning of all horizontal frequencies from 30 to 96 kHz and all refresh rates (vertical frequencies) from 50 to 160 Hz
- digital screen controller with microprocessor for storing 29 different display modes (9 of which are preset)
- freely adjustable colour alignment for matching the screen colours to the colours of various input and output devices
- VESA-DDC compatibility
- power management for reducing power consumption by up to 95 % when the computer system is not in use
- compliance with the latest ergonomic standards (ISO 9241-3, -7, -8)
- compliance with the recommendations in accordance with TCO '99

This Operating Manual contains important information you require to start up and run your monitor. The monitor interacts closely with the graphics card (screen controller) of your computer. 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).

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 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.

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.

- 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 adequate ventilation the monitor may only be operated with the monitor foot installed.
- The colour monitor must not be exposed to strong magnetic fields (e.g. caused by magnetic paper clip holders or loudspeakers). Strong magnetic fields could result in a permanent blotchy image.
- The monitor is automatically degaussed when switched on. This results in a magnetic field around the metal edge of the picture tube, which may damage the data on data carriers nearby. Therefore, never keep magnetic data carriers near the monitor.
- 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.
- The device must be installed in such a way that the user has good access to the appliance socket.
- The ON/OFF switch does not disconnect the device from the mains voltage. To disconnect the electricity supply 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](#)".
- No data transmission cable should be connected or disconnected during a thunderstorm.
- Please ensure that no objects (e.g. necklaces, paperclips etc.) or liquids can get into the interior of the device (this may cause an electrical shock or 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.
- Only qualified technicians should repair the device. Unauthorised opening and incorrect repair may greatly endanger the user (electric shock, fire risk).
- Tampering with the device, in particular adjusting the high voltage or installing a different type of CRT tube, may result in a large amount of X-ray radiation being emitted. Devices modified in this way no longer comply with their licence and may not be used.
- 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.
- When cleaning the surface of the screen, always use a soft, slightly damp cloth in order to avoid scratching the glass.

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

- When transporting the monitor ensure that it is not exposed to strong magnetic fields.
- Transport the monitor with care and only in its original packaging or another corresponding packaging fit to protect it against knocks and jolts.
- Above all, never drop the monitor. If the CRT is damaged, there is a risk of implosion!

X-ray radiation

This device complies with the German X-ray regulations (Röntgenverordnung - RöV). The local dosage emitted is less than 1 $\mu\text{Sv/h}$ (micro-Sievert per hour) at a distance of 0.1m.

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 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 unauthorised 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 interference caused by such unauthorised 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.

Important note 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 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 current rating 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	10 Amps
	16 AWG	12 Amps
	14 AWG	12 Amps
SVT	18 AWG	10 Amps
	17 AWG	12 Amps

Energy Star Guidelines



The Fujitsu Siemens Computers colour monitor C994 is designed to conserve electricity by dropping to less than 10 W when it goes into suspend mode and to less than 5 W when it goes into OFF mode. With this new power management the C994 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 thousand million 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".

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.

Disposal and recycling

This device has been manufactured to the highest possible degree from materials which can be recycled or disposed of in a manner that is not environmentally damaging. The CRT contains no cadmium. The device may be 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 about disposal of the batteries or system, please contact your local or:

Fujitsu Siemens Computers GmbH
Recycling center
D-33106 Paderborn

Tel.: +49 (0) 5251 81 80 10

Fax: +49 (0) 5251 81 80 15

Note on ergonomic design and emission

This unit lies within the limit values set by TCO 95 for low-frequency electromagnetic fields, electrostatic fields and power consumption. The device also complies with the requirements of ergonomic design according to ISO 924:3 and ISO 9241:8.

The low-frequency electromagnetic emissions more than comply with the recommendations of the Swedish Institute for Radiation Protection, Stockholm, in accordance with MPR II (TCO 92).

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 shipment comprises:
 - one monitor with data cable
 - one power cable
 - one warranty card
 - this Operating Manual

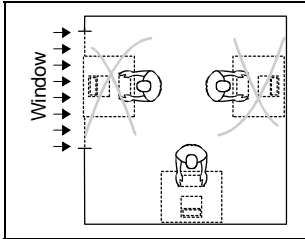
Should you discover that the delivery does not correspond to the delivery note, notify your local sales outlet immediately.



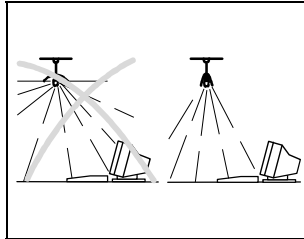
It is recommended not to throw away the original packing material. Keep it for future transportation.

Installing an ergonomic video workstation

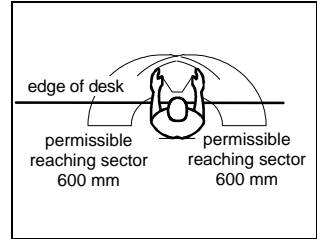
Before you set up your equipment you should select a suitable position for working at the monitor. Please observe the following advises when installing a video workstation.



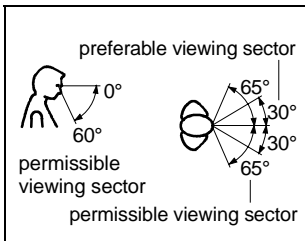
Avoid direct and reflected glare.



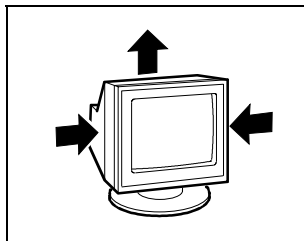
Avoid glare from electric lighting.



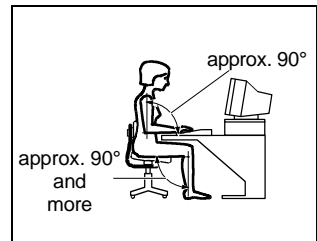
Position the keyboard where it is easiest to reach.



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.

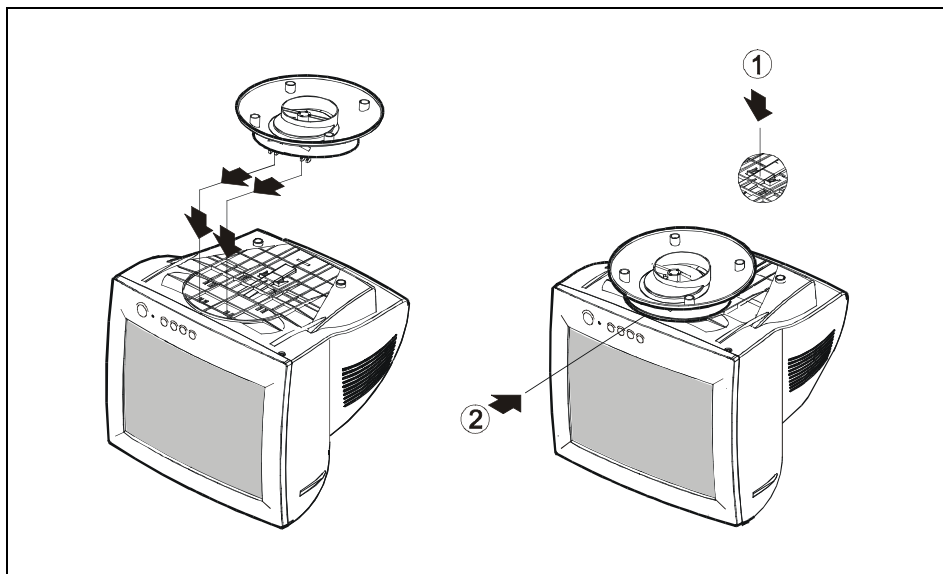
Assembling and removing the monitor base

Your monitor is shipped with a base which allows you to rotate and tilt the monitor to the best position.

Assembling the monitor base

Attach the base as follows:

- ▶ Turn the monitor upside down.



- ▶ Fit the base so that its hooks slot into the recesses on the monitor.
- ▶ Slide the base forward in the direction of the arrow until it clicks into position.
- ▶ Right the monitor onto its base.

Removing the monitor base

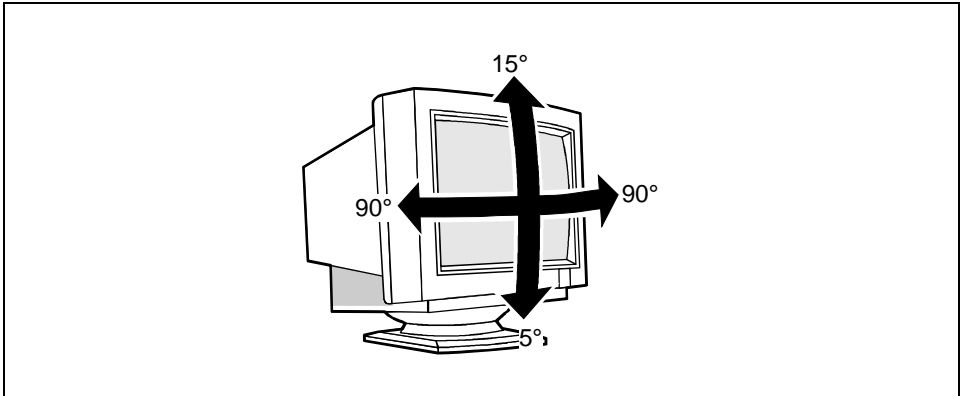
To remove the monitor base (for example, to transport it), perform the following steps:

- ▶ Turn the monitor upside down.
- ▶ Push down on the snap lock (1).
- ▶ Slide the monitor base backwards (2).



To ensure adequate ventilation the monitor may only be operated with the monitor foot installed.

Tilting and turning area



Tilting and turning area: The specified tilting area refers to the zero position of the monitor foot marked with an arrow.

Connecting the monitor

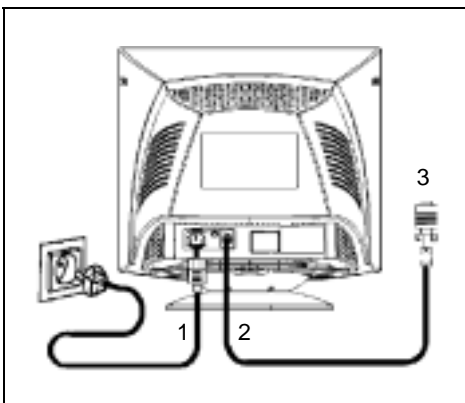
Information on the computer connections is contained in the operating manual for your computer.



Please note the "Safety" information provided in the chapter "[Important notes](#)" in the Operating Manual of the PC.

Do not cover the ventilation openings of the monitor.

If you are assembling monitors beside each other, there must be a minimum distance of 30 cm between monitors of the same constructional type, to avoid image distortion. With different monitors, the distance must be increased, if necessary.



- 1 = Power cable
- 2 = Data cable
- 3 = D-SUB connector for monitor port

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



The computer power plug must be pulled!

The data cable (2) is permanently attached to the monitor. It has a 15-pin D-SUB connector (3) for the monitor port of the computer.

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

- ▶ Connect the 15-pin connector of the data cable to the (active) monitor port on the computer and secure the plug-in connection by tightening the safety screws.



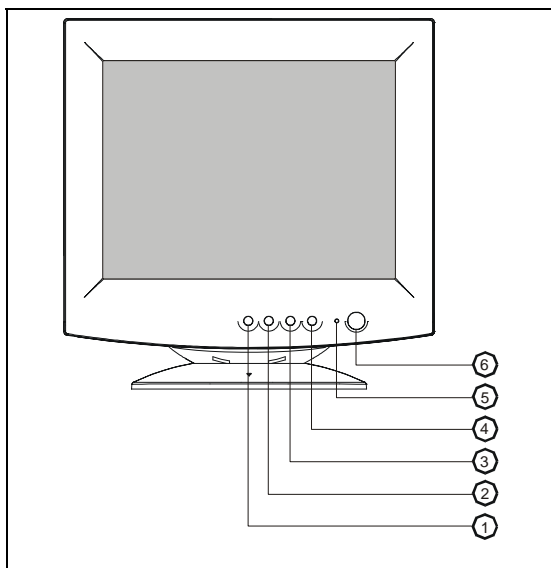
If your computer has two monitor ports ("onboard" screen controller and separate graphics card), the monitor port for the separate graphics card is usually active.

- ▶ Plug the power cable supplied (1) into the power connector of the monitor.
- ▶ Plug the power connector of the monitor into a properly grounded mains outlet.
- ▶ 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 graphics card/the associated driver software.

Operation of the monitor



- 1 = EXIT button
- 2 = Bright button
- 3 = Contrast button
- 4 = MENU button
- 5 = Power indicator
- 6 = ON / OFF switch

Switching the monitor on

- ▶ Press the ON/OFF switch (6).

The power indicator (5) lights up green when the computer is turned on.



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.

Switching the monitor off

- ▶ Press the ON/OFF switch (6).

The power indicator (5) is dark.

Notes on power management

If your computer has a VESA DPMS (Video Electronics Standard Association, Display Power Management Signaling) power management function (energy-saving mode), your monitor will fully support this function. The monitor has a four-stage power management system.

Stage	ON	Standby mode	Suspend mode	OFF mode
Power indicator	green	amber	amber	amber
Function	Monitor operating normally	Monitor is dark	Monitor is dark	Monitor is dark
Power consumption	< 120 W	reduced to < 10 W	reduced to < 10 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. The power indicator of the monitor changes colour to indicate the status change.

If there is still no input, power consumption is further reduced (OFF mode).

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

The length of the individual stages is determined by the power management system of the computer. For detailed information on how energy-saving mode operates refer to the Operating Manual or Technical Manual of your computer.



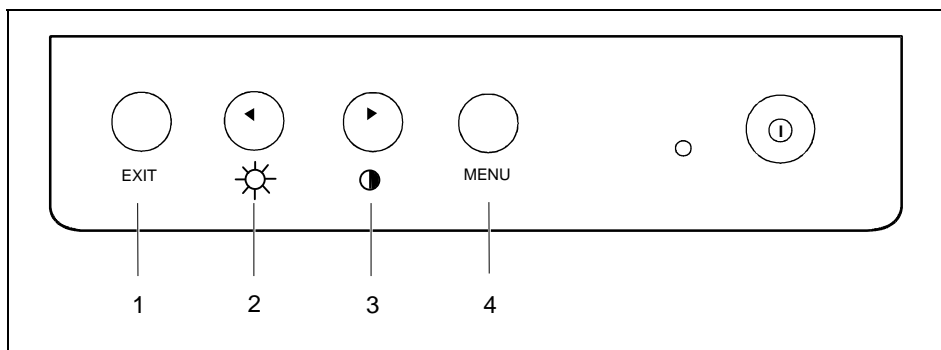
The service life of your monitor will be extended if the OFF mode is switched to after 30 minutes at the earliest (setting in screen saver or in your computer's BIOS setup).

When the monitor is switched to OFF 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 cut off power consumption totally, press the ON/OFF switch on the front of the monitor.

Changing the monitor settings

With the buttons on the control panel, call up and use the integrated OSD (On-Screen Display) menu.



1 = EXIT button

2 = ◀ button (brightness)

3 = ▶ button (contrast)

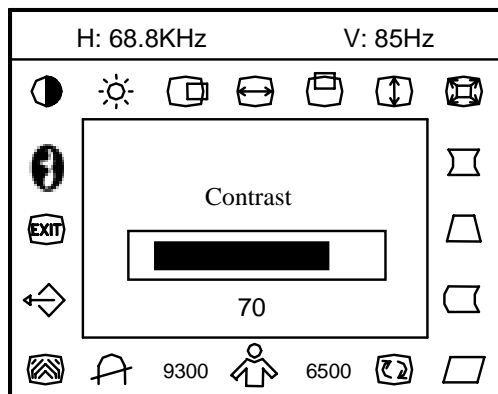
4 = MENU button

Settings with the OSD menu

To set the OSD menu, perform the following steps:

- ▶ Press the MENU button to activate the OSD menu.

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



For preset modes you will find information about the resolution and refresh rate in the top line.

For all not preset modes, the horizontal frequency and refresh rate are displayed.

- ▶ Press the ◀ or ▶ button to select the icon you want.

The marked icon turns red.

- ▶ Press the MENU button to select the highlighted icon.

(If you wish to exit the OSD menu, select *EXIT*.)

Depending on the function, a window with a setting range or a selection menu is displayed.

- ▶ Press the ◀ key or the ▶ key to define the setting.

All changes are stored automatically. The OSD menu disappears after 10 seconds. The OSD menu can be hidden beforehand by choosing *EXIT* or pressing the EXIT button.

Adjusting the brightness and contrast



You can also set the brightness and contrast using the ◀ key (brightness) and the ▶ key (contrast).

You will increase the life of your screen if you adjust the contrast and brightness to medium.

	CONTRAST: Increasing or decreasing the contrast between the foreground and background
	BRIGHTNESS: Increasing or decreasing the brightness of the background

Adjusting size and position

	Horizontal picture position (<i>H-CENTER</i>): Shifting the picture to the left or to the right
	Horizontal picture size (<i>H. SIZE</i>): Making the picture narrower or wider
	Vertical picture position (<i>V-CENTER</i>): Shifting the picture down or up
	Vertical picture size (<i>V-SIZE</i>): Making the picture shorter or longer
	Proportional picture size (<i>ZOOM</i>): Increasing or reducing picture size while retaining the side ratios

Setting the picture geometry

Tilt distortion must be set when the screen display is not axially symmetrical.

Pincushion distortion is when the sides of the screen display are bent inward or outward. Trapezoid distortion is when the top or bottom of the screen display is too wide or too narrow. Parallelogram distortion means that the sides of the picture bend to the left or right.

	Pincushion distortion (<i>PINCUSHION</i>): Bending the right and left side inward or outward
	Trapezoid distortion (<i>TRAPEZOID</i>): Making the bottom edge narrower and the top edge wider or making the top edge narrower and the bottom edge wider
	Asymmetrical pincushion distortion (<i>PIN-BALANCE</i>): adjusting right and left side symmetrically
	Parallelogram distortion (<i>PARALLELOGRAM</i>): Reducing the angle of the left and right sides




Picture rotation (*ROTATION*): Rotating the picture in a clockwise or counter-clockwise direction

Setting colour temperature and colours

The "warmth" of the screen colours is set using the colour temperature. The screen has two preset colour temperatures, 9300 K and 6500 K, and one user-defined colour temperature (*USER COLOR*).

You can select any of both colour temperatures as the starting point for setting your colour percentage values. The user-defined colour temperature is lost as soon as you select one of the preset colour temperatures.

6.500°K	Colour temperature (<i>COLOR TEMPERATURE</i>): Setting 6500 K
9.300°K	Colour temperature (<i>COLOR TEMPERATURE</i>): Setting 9300 K
	User-defined colours (<i>USER COLOR</i>): <i>RED</i> : Setting the red colour ratio <i>BLUE</i> : Setting the blue colour ratio

Degaussing the screen

Magnetic fields can affect how colours are displayed on your monitor screen. The monitor is therefore degaussed every time you switch it on.

Only use the function of the OSD menu if you notice colour distortions on the screen after switching on the monitor.



Degaussing the monitor (*DEGAUSS*)

This function should only be carried out once within 30 minutes.

Setting moiré reduction



Correcting moiré effect (*V-MOIRE REDUCE / H-MOIRE REDUCE*)

If the picture you see on screen has light and dark stripes or appears dull and blurred, this may be due to what is known as the moiré effect. This effect usually has physical causes, being triggered by interference between the pixels in the matrix and the video signal. The intensity of the moiré effect is dependent on the screen resolution and picture size.

In some cases, moiré correction may cause the picture quality to deteriorate (reduced picture definition, slight flickering).


V-MOIRE REDUCE = Vertical moiré correction

H-MOIRE REDUCE = Horizontal moiré correction


= Switching Moiré correction off

Activating the factory settings


Factory settings are provided for brightness and contrast, picture size and position and picture geometry in the predefined operating modes.

	<p>Activating the factory settings (<i>RECALL</i>)</p> <p><i>ALL MODES</i> = Reset all settings</p> <p><i>THIS MODE</i> = Reset current setting</p> <p><i>QUIT</i> = Retain user settings</p>
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Masking out the OSD menu

	<p>Masking out the OSD menu (<i>EXIT</i>)</p> <p>All changes are stored automatically.</p>
---	--

Selecting the language

	<p>Setting language for the OSD menu (<i>LANGUAGE</i>)</p>
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Notes on ergonomic colour adjustment

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

The primary colours 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 colours for characters and background and giving the primary colours full modulation, you can obtain very suitable colour combinations (see the following table):

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

- + Colour combination very suitable; light background colours are only suitable for devices which are operated with a refresh rate of at least 75 Hz.
- Colour combination not suitable because colour locations are too close together, thin characters are not identifiable or rigorous focusing is demanded of the human eye.

Technical data

Dimensions and weight

CRT:	48.3 cm (19")
Visible diagonals:	46 cm
Dot pitch:	0.25 mm (matrix), 0.26 mm (Phosphor triple)
Maximal resolution:	1600 x 1200 pixels
Preset display area:	346 mm x 260 mm
Maximal display area:	360 mm x 270 mm
Dimensions (W x H x D):	446 mm x 436 mm x 455 mm
Weight:	18.4 kg
Accessories:	Power cable
Storable display modes:	29 (9 of which are preset)

Electrical data

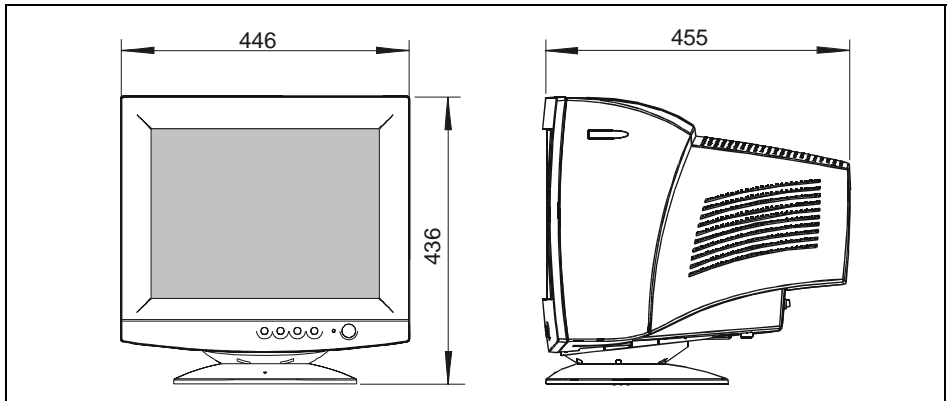
Video:	analogue, positive, 0.7 V _{pp} , 75 Ohm
Synchronisation:	TTL
Horizontal frequency:	30 kHz 96 kHz (multi-scanning)
Refresh rate:	50 Hz 160 Hz
Maximum pixel clock:	200 MHz
Power supply:	switches automatically 100 V 240 V, 50 Hz - 60 Hz
Power consumption:	< 120 W (ON, Normal mode)
(see power management):	< 10 W (Standby mode) < 10 W (Suspend mode) < 5 W (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 40 °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.

i If the monitor C994 is not yet displayed in the list of monitors, you can select one of the following monitors instead:

Fujitsu Siemens, Siemens or Siemens Nixdorf C993, C992, C991, 19P1, C791, C787, 17P2, 17P1, MCM 1702

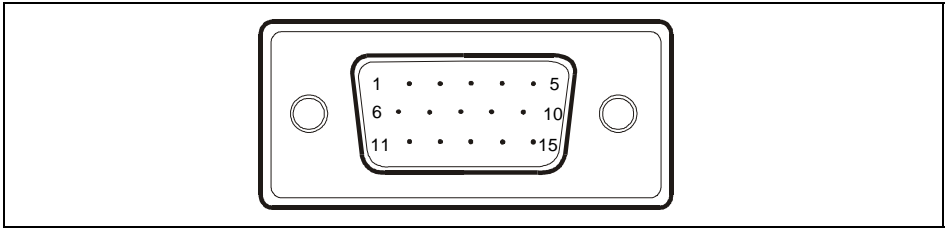
Preset operating modes

i The picture 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](#)").

Horizontal frequency	Refresh rate	Screen resolution
31.5 kHz	60 Hz	640 x 480
31.5 kHz	70 Hz	720 x 400
46.9 kHz	75 Hz	800 x 600
53.7 kHz	85 Hz	800 x 600
60.0 kHz	75 Hz	1024 x 768
68.7 kHz	85 Hz	1024 x 768
80.0 kHz	75 Hz	1280 x 1024
91.1 kHz	85 Hz	1280 x 1024
93.8 kHz	75 Hz	1600 x 1200

For ergonomic reasons we recommend a refresh rate of at least 75 Hz and a maximum resolution of 1280 x 1024 pixels.

Pin assignment D-SUB (15-pin)



Pin	Meaning
1	Red video input
2	Green video input
3	Blue video input
4	Ground
5	DDC Return
6	Red video ground
7	Green video ground
8	Blue video ground

Pin	Meaning
9	not connected
10	Logic ground
11	Ground
12	DDC data (SDA)
13	H. sync
14	V. sync
15	DDC Clock (SCL)

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.

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

The screen display is too small or not centred

The monitor recognises an undefined mode (see "[Technical data](#)").

- ▶ Adjust the position and the size of the display and save your settings (see "[Operation of the monitor](#)").

Colours are impure or shifted

- ▶ Degauss the monitor (see "[Operation of the monitor](#)").
- ▶ Ensure that there are no devices or objects near the monitor which generate magnetic fields (e.g. loudspeakers).

The screen display is flickering

- ▶ Set an ergonomic refresh rate (≥ 75 Hz) using the computer software (see documentation for your computer or your graphics card).
- ▶ Ensure that the monitor is kept at a distance of at least 30 cm from other monitors of the same construction type. With different monitors, the distance must be increased, if necessary.

The screen is blank (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 mains outlet is live.

The screen is blank (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.
- ▶ Check whether the monitor connection of the computer used is active.
- ▶ Press any key on the computer keyboard – the computer may be in energy saving mode.
- ▶ Change the brightness and/or the contrast; the monitor may be adjusted to the maximum dark setting.

A humming noise is heard after switch-on

The monitor is degaussed every time you switch it on. This produces the humming noise. There is no malfunction.

Display: "Attention Out of Range"

The input signal (horizontal frequency and refresh rate) does not correspond to the technical monitor data.

- ▶ Adjust the video frequency range using the computer software (see documentation for your computer or your graphics card).