Introduction

Your new 21P3 monitor supplies you with a high-quality color image with high resolution and ergonomic refresh rates. It possesses a whole range of useful features and functions, e. g.:

- 21" (50 cm) high-resolution CRT (0.25 mrn dot pitch)
- automatic scanning of all horizontal frequencies from 30 to 115 kHz and all refresh rates (vertical frequencies) from 50 to 160 Hz
- 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
- VESA-DDC compatibility
- power management for reducing power consumption by up to 95 % when the PC system is not in use
- compliance with the latest ergonomic standards (ISO 9241-3)
- 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 screen controller (graphics card) of your PC. It 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 your PC and in this Operating Manual.

In the event of any problems occurring, please contact your sales outlet or our customer service center.

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.

Note on X-ray radiation

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

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 interference 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.

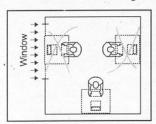
Important note on power cable

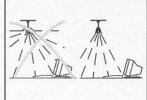
To guarantee safe operation, use the cable supplied. Use the following guidelines if it is necessary to replace the original cable set.

- 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.

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.



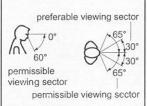


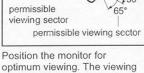
edge of desk permissible permissible reaching sector reaching sector 600 mm 600 mm

Avoid direct and reflected glare.

Avoid glare from electric lighting.

Position the keyboard where it is easiest to reach.





distance to the monitor should be approximately 50 cm.



Keep ventilated areas clear.



Remember to maintain correct posture.

Connecting the monitor

See your PC's operating manual for details of the ports on the system unit.

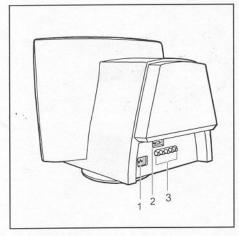


Please note the information provided in the "Safety" section in the chapter "Important notes" at the beginning of this manual.

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.

Because of its weight, the monitor must be placed on a stable surface. Do not place the monitor on your system unit.



1 = Power connector

2 = D-SUB connector (INPUT A)

3 = BNC connectors (INPUT B)

Be sure that the monitor and the system unit are switched off.



The system unit's power plug must be pulled out!

The data cable supplied has two 15-pin D-SUB connectors for connection to the monitor and to the system unit.



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

Connect one of the connectors of the data cable to the D-SUB connector on the monitor (2) and secure the plug-in connection by tightening the safety screws.



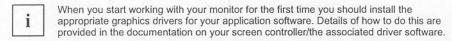
If you use a data cable with BNC connectors instead of the supplied data cable, you should perform the following step:

- Connect the BNC connectors of the data cable to the appropriate BNC connectors on the monitor (3), correct order from left to right: Red-Green-Blue-H-V, and secure the plug-in connections by locking the bayonet catches.
- ► Change the video signal in the OSD menu or by pressing the keys ⊚ and ◆ (INPUT A/B) simultaneously (see chapter "Operation of the monitor", section "Settings with the OSD menu").
- Connect the other connector of the data cable to the (active) monitor port on the system unit and secure the plug-in connection by tightening the safety screws.

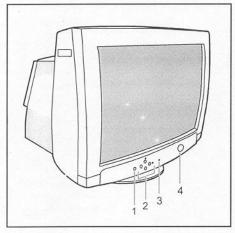


If your system unit has two monitor ports ("onboard" screen controller and separate graphics card), the monitor port for the separate graphics card is usually active.

- ▶ Plug the power cable supplied into the power connector of the monitor.
- Plug the power connector of the monitor into a properly grounded power outlet.
- Plug the power connector of the system unit into a properly grounded power outlet.



Operation of the monitor



- 1 = Control panel with buttons for screen setting
- 2 = Power indicator
- 3 = ON/OFF switch

Switching the monitor on

► Press the ON/OFF switch (3).

The power indicator (2) lights up green when the system unit is turned on.



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

Each time a mode change is made, the monitor briefly displays the new resolution and refresh rate. At system startup, it is normal that several changes of mode are made when various programs are called automatically. Do not be confused by the unusual displays. They are not error messages.

Switching the monitor off

► Press the ON/OFF switch (3).

The power indicator (2) is dark.

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	-	+	-		+	-	+	1
cyan	+	-	-	+		-	-	-
green	+		-	+	-		-	-
yellow	+	-	+	+	-	-		+
red	-	+	-		-	Fig. 1	+	

- + 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.

Technical data

Dimensions and weight

CRT: 50 cm (21")
Visible diagonals: 50 cm

Dot pitch: 0.25 mm

Maximal resolution: 1856 x 1392 pixels
Preset display area: 392 mm x 294 mm

Dimensions (W x H x D): 482 mm x 475 mm x 466 mm

Weight: 24 kg

Accessories: Power cable (1.8 m)

D-SUB data cable (1.8 m)

Storable display modes: 26 (10 of which are preset)

Electrical data

Video: Analog, positive, 0.7 V_{pp}, 75 Ohm

Synchronization: Separate Sync. TTL

Horizontal frequency: 30 kHz 115.6 kHz (multi-scanning)

Refresh rate: 50 Hz 160 Hz

Maximum pixel rate: 260 MHz

Power supply (switches over automatically): 100 V -120 V (±10 %) 200 V - 240 V (±10 %)

50 Hz - 60 Hz

Power consumption: < 130 W (ON, Normal mode) (see power management): < 8 W (Standby mode) < 8 W (Suspend mode)

< 3 W (OFF mode)

CRT

Color characteristics (color coordinates): Red x = 0.625 y = 0.340

Green x = 0.285 y = 0.605 Blue x = 0.150 y = 0.065 White x = 0.283 y = 0.297

Color temperature (color calibration 1): 9300 K Gamma value: 2,66

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 PC. If your PC 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 21P3 is not yet displayed in the list of monitors, you can select one of the following monitors instead:

Fujitsu Siemens, Siemens or MCM 213V, MCM 2110, MCM 212V, MCM 2108 NTD,

Siemens Nixdorf MCM 2106 NTD, MCM 2103 ND

Hitachi CM812, CM2198M, CM2112

Philips 201B MIRO C2193