



# MCM 1755 NTD

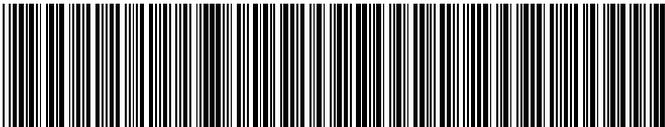
Bildschirm / Moniteur / Monitor / Skärm / Beeldscherm

Bildschirm	Moniteur	Monitor	Skärm	Beeldscherm
Operating Manual			Manuel d'utilisation	
Instrucciones de servicio			Istruzioni per l'uso	
Användarmanual			Gebruikshandleiding	

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# **MCM 1755 NTD**

Operating Manual

**January 1997 edition**

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## Introduction

Your new MCM 1755 NTD color monitor possesses a whole range of useful features and functions, e. g.:

- 17" (40 cm) high-resolution CRT (0.28 mm dot pitch)
- automatic scanning of all horizontal frequencies from 30 to 69 kHz and all refresh rates (vertical frequencies) from 50 to 160 Hz
- digital screen controller with microprocessor for storing 18 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 '95

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

The monitor interworks closely with the monitor controller (CRT controller, graphics card) of your PC. It processes the data supplied to it by the monitor controller. The monitor 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 with the important notes in the Operating Manual of your PC and in this Operating Manual.

In case of difficulties please contact your local service point.

### Further information

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

### Explanation of symbols

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.



This symbol is followed by supplementary information and tips.

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

"Quotation marks" indicate names of chapters and highlighted text.

## Important notes

In this chapter you will find information regarding safety which is essential to take note of with your monitor. The chapter also contains information on the licenses issued for your equipment.

### 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 office or our customer service.

- Transport the device only in its original packaging or another corresponding packaging to protect it from knocks and jolts.
- 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, observe the instructions on environmental conditions in the chapter "[Technical data](#)" and the chapter "[Installing an ergonomic video workstation](#)".
- To ensure adequate ventilation the monitor may only be operated with the monitor foot installed.
- The color 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 device automatically sets itself to the correct voltage within the range from 100 V to 240 V. Ensure that the local line voltage is within this range.
- The device must be installed in such a way that the user has good access to the appliance socket.
- The power switch does not disconnect the device from the line voltage. To disconnect the device from the line voltage, you must pull out the power plug.
- 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.
- Please ensure that no objects (e. g. necklaces, paperclips etc.) or liquids can get into the interior of the monitor (electrical 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 office or our customer service.
- Only qualified technicians may repair the device. Unauthorized opening or 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 license 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 office or customer service.
- When cleaning the monitor, observe the relevant notes in chapter "[Cleaning the monitor](#)".
- Keep this Operating Manual together with the device. If you pass on the device to a third party, please also pass on the manual.

## Manufacturer's notes

### Energy Star



The Siemens Nixdorf multiscan color monitor MCM 1755 NTD is designed to conserve electricity by dropping to less than 15 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 MCM 1755 NTD 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 PCs 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.

The EPA, as a matter of policy, seeks only to promote energy efficiency and does not endorse any particular company or its products.

### CE certificate



This device complies with the requirements of the EEC directive 89/336/EEC "Electromagnetic compatibility" and 73/23/EEC "Low voltage directive" with amending directive 93/67/EEC.

## Note on RFI suppression

All other devices connected to this product must have RFI suppression in accordance with EEC directive 89/336/EEC. Products meeting these requirements are accompanied by a certificate issued by the manufacturer and carry the CE symbol.

In Germany, products not complying with these requirements can be operated only after a special authorization has been granted by the BZT.

### **Note on X-ray radiation**

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

### **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. It also complies with the requirements of ergonomic design (ISO 9241-3) and safety (EN 60950).

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

## FCC Class B Compliance Statement

If there is an FCC identifier 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. 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.

Siemens Nixdorf Informationssysteme AG 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 Siemens Nixdorf Informationssysteme AG. 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.

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

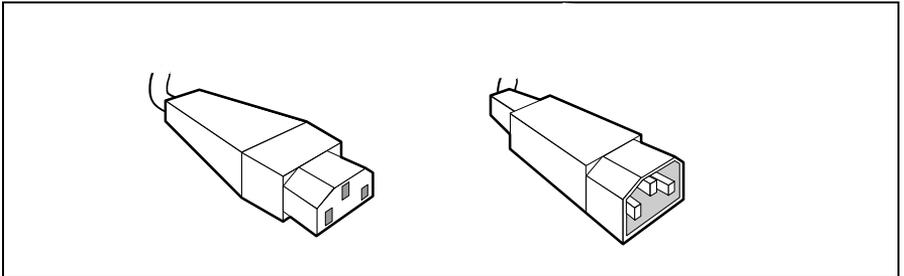
## Important note on power cable

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

## Color monitor MCM 1755 NTD

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- The female/male receptacles of the cord set must meet CEE-22 requirements. The receptacles will look as shown below.



- 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 device
SJT	18 AWG	10 Amps
	16 AWG	12 Amps
	14 AWG	12 Amps
SVT	18 AWG	10 Amps
	17 AWG	12 Amps

**Disposal and recycling**

This equipment is made predominantly of materials that are suitable for environmentally-friendly disposal or specialized recycling. It will be possible to return the device on completion of its useful life and that, providing it is returned in a condition corresponding to its original function, the device will be forwarded for reuse or recuperation of materials. Any components not recuperated will be disposed of in an environmentally acceptable manner. Parts that cannot be recycled will be properly disposed of.



We herewith declare that it will be possible to repair any device marked with the eco-label for at least 5 years after production of that device has discontinued.

If you have any questions on disposal, please contact your local office, our service department, or, directly:

Siemens Nixdorf Informationssysteme AG  
Recycling Center  
D-33094 Paderborn, Germany  
Tel.: ++49 (5251) 720 810  
Fax: ++49 (5251) 720 815

## Checking the contents of the consignment

- ▶ Unpack all the individual parts.
- ▶ Check the consignment for damage incurred during transport.
- ▶ Check whether the consignment agrees with the details in the delivery note.  
A complete consignment consists of:
  - one monitor
  - one data cable
  - one power cable
  - a warranty booklet
  - this Operating Manual

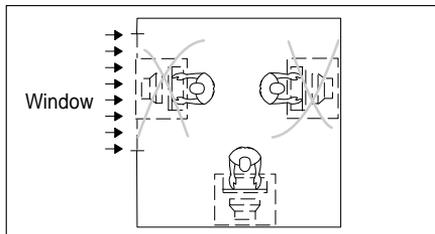
Should you discover that the equipment has been damaged during transport or that the consignment does not correspond to the delivery note, notify your local sales office immediately.



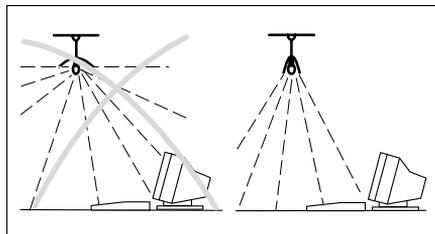
It is recommended not to throw away the original packing material!  
It may be required for reshipment at some later date.

## Installing an ergonomic video workstation

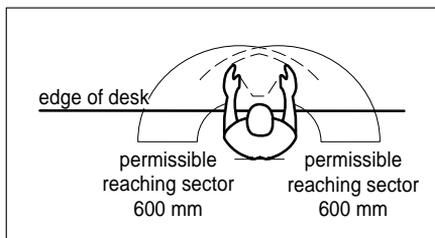
Before you set up your equipment you should select a suitable position for working at the monitor. Please observe the following advices when installing a video workstation.



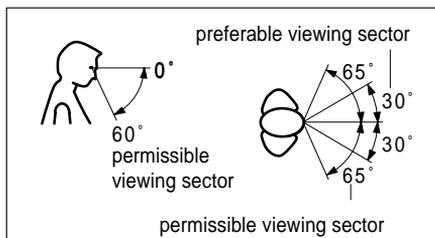
Avoid direct and reflected glare.



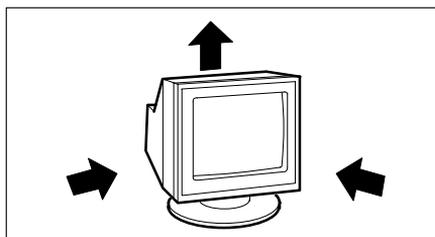
Avoid glare from electric lighting.



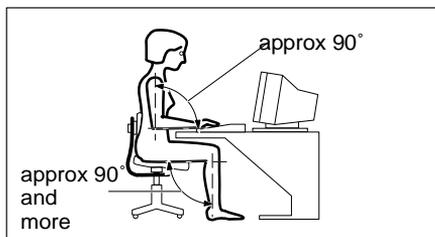
Position the keyboard where it is easiest to reach.



Position the monitor for optimum viewing.



Keep ventilated areas clear.



Remember to maintain correct posture.

## Connecting the monitor

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



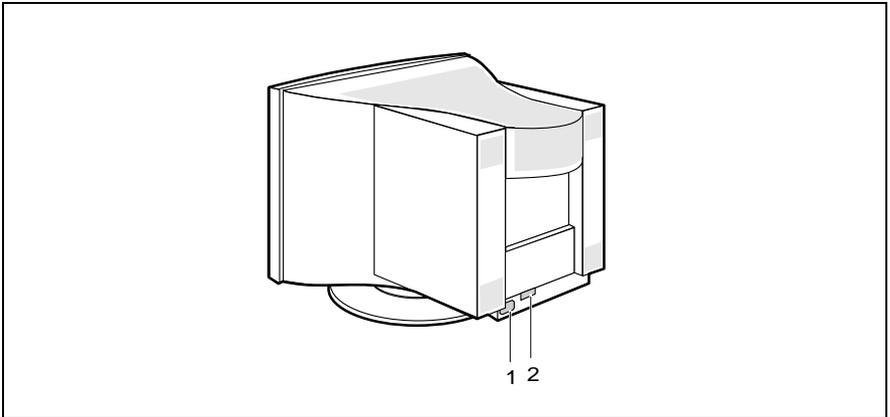
Please note the information provided in the chapter "[Safety](#)" at the beginning of this manual.

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.



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



1 = Power connector

2 = D-SUB connector (15-pin)

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

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.

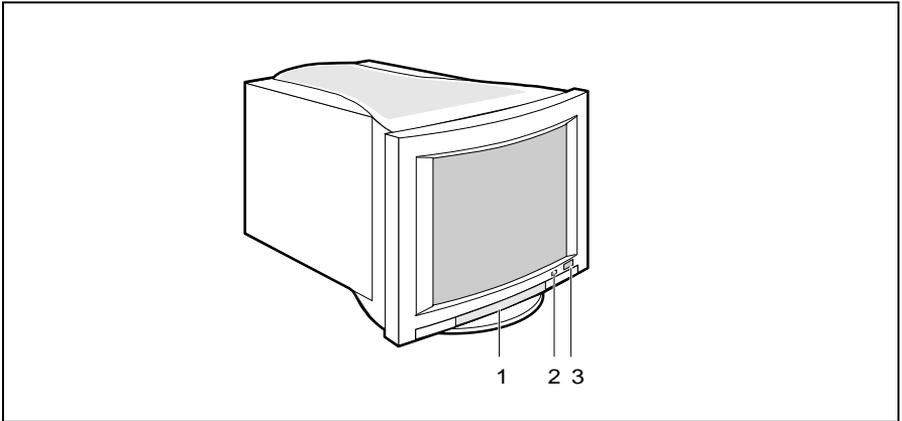
- ▶ Connect one of the connectors of the data cable to the D-SUB connector on the monitor (2) and secure the connector by tightening the safety screws.

- ▶ Connect the other connector of the data cable to monitor port on the system unit and secure the connector by tightening the safety screws.
- ▶ Plug the power cable supplied into the power connector (1) of the monitor.
- ▶ Plug the power cable into the monitor connector at the rear of the system unit.
- ▶ Plug in the system unit's power plug.



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 monitor controller/the associated driver software.

## Operation of the monitor



1 = Control panel with buttons for screen setting (underneath the cover)

2 = Power lamp

3 = ON/OFF switch

### Switching the monitor on

- ▶ Press the ON/OFF switch (3).

The power lamp (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.

### Switching the monitor off

- ▶ Press the ON/OFF switch (3).

The power lamp (2) is dark.

## Notes on power management

If your PC 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 lamp	Green	Amber	Amber/green flashing	Amber flashing
Function	Monitor operating normally	Monitor is dark	Monitor is dark	Monitor is dark
Power consumption	Normal < 120 W	Reduced to < 55 W	Reduced to < 15 W	Reduced to < 5 W

If your PC detects inactivity (no input) it sends an appropriate signal to the monitor to reduce the power consumption. The power lamp of the monitor changes color 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 PC 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 PC. For detailed information on how energy-saving mode operates refer to the Operating Manual or Technical Manual of your PC.



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 PC's BIOS setup).

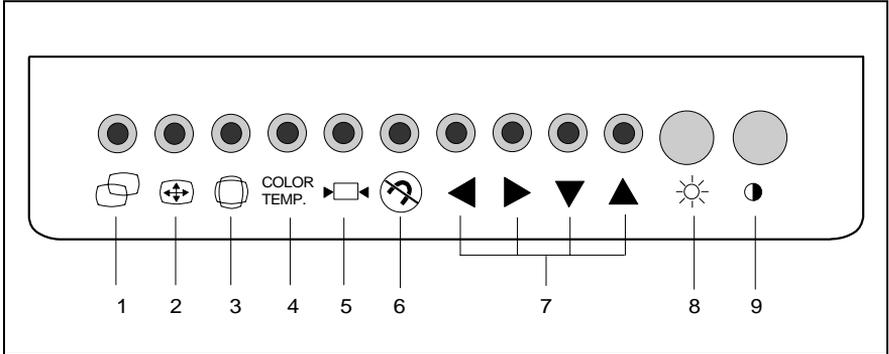
When the monitor is switched to OFF mode by the power management system a power consumption of up to 5 W is maintained to feed the circuit for redrawing the screen contents.

To cut off power consumption totally, press the ON/OFF switch on the front of the monitor.

## Changing the monitor settings

With the buttons and controls on the control panel, you can change the monitor settings.

- ▶ Open the cover of the control panel by pressing on the arrow and pulling the cover slightly downward.



1 = Picture position

2 = Picture size

3 = Edges

4 = Color temperature

5 = Factory settings

6 = Degauss

7 = Arrow buttons

8 = Brightness

9 = Contrast

The controls are labeled with symbols and are explained below.



Some buttons have two assignments. The second assignment is active when you press these buttons twice.

### Adjusting the brightness and contrast

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



#### Adjusting the brightness

Increasing the brightness = turn control clockwise

Reducing the brightness = turn control anticlockwise



#### Adjusting the contrast

Increasing the contrast = turn control clockwise

Reducing the contrast = turn control anticlockwise

## Setting picture size, position, edges and color temperature

The picture size, position and edges have been set to optimum values at the factory for the preset operating modes (see "Technical data"). Depending on the monitor controller used, it may be necessary to change these settings. In this case you should change the settings.

You can change the colors by specifying a different color temperature.

The monitor can store up to 18 different display modes (including the predefined operating modes).

To make a setting, perform the following steps:

- ▶ Press the button for the function you want.

A window representing the function selected will then appear on the screen. The power lamp glows amber. While the power lamp is glowing amber the arrow buttons for the selected function are active.

- ▶ Press the arrow buttons (▶, ◀, ▼ or ▲) until you have achieved the result you require.

All modifications are automatically stored if no button is pressed for several seconds. The window on the screen is then masked out and the power lamp once again glows green.



### Adjusting the horizontal or vertical position

Press the Position button once.

Use the ▶ or ◀ button to shift the picture to the left or right.

Use the ▼ or ▲ button to shift the picture up or down.



### Adjusting the horizontal or vertical size

Press the Size button once.

Use arrow button ▶ or ◀ to adjust the horizontal picture size.

Use the ▼ or ▲ button to adjust the vertical picture size.



### Correcting cushion-shaped, barrel-shaped or trapezium distortion

Press the Picture edges button once.

Use arrow button ▶ or ◀ to correct the cushion-shaped or barrel-shaped distortion.

Use the ▼ or ▲ button to correct trapezium distortion.



### Correcting tilt or parallelogram distortion

Press the Picture edges button twice.

Use arrow button ▶ or ◀ to correct the parallelogram distortion.

Use the ▼ or ▲ button to correct the tilt distortion.

COLOR  
TEMP.

### Setting the color temperature

Press the Color temperature button once.

Use arrow button ▼ or ▲ to select color temperature 6500 K or 9300 K.

## Activating the factory settings

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



Hold down the factory settings button for a few seconds until the power lamp switches from orange to green. While this is happening a color bar which extends to the right is displayed on the screen.

## Degaussing the screen

If color distortions occur the screen must be degaussed.



Press the Degauss button briefly.



If you hold the button down for more than 5 seconds, all user-defined settings are reset and will have to be entered again.

## Displaying stored settings

You can have information about the stored settings displayed in a window. If no button is pressed for several seconds the window will be masked out and the power lamp will glow green again.



Press the Position button twice.

A window containing the stored settings will then be displayed.

Use arrow button ▼ or ▲ to scroll.

Press the ▼ button one or more times to display the factory settings (preset mode).

## **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):

Back-ground color	Character color							
	black	white	purple	blue	cyan	green	yellow	red
black		+	+	-	+	+	+	-
white	+		+	+	-	-	-	+
purple	+	+		-	-	-	-	-
blue	-	+	-		+	-	+	-
cyan	+	-	-	+		-	-	-
green	+	-	-	+	-		-	-
yellow	+	-	+	+	-	-		+
red	-	+	-	-	-	-	+	

- + Color combination very suitable; light background colors are only suitable for devices which are operated with a refresh rate of at least 75 Hz.
- 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.

## Cleaning the monitor



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.

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.

## Transporting the monitor



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 danger of implosion!

## Technical data

### Dimensions and weight

CRT:	43 cm (17")
Visible diagonals:	40 cm
Dot pitch:	0.28 mm
Maximal resolution:	1280 x 1024 pixels
Dimensions (W x H x D):	424 mm x 425 mm x 444 mm
Weight:	18 kg
<b>Accessories:</b>	power cable (1.8 m)
<b>Storable display modes:</b>	18 (8 of which are preset)

### Electrical data

Video:	analog, positive, 0.7 V <sub>pp</sub> , 75 Ω
Synchronization:	TTL
Line frequency:	30 kHz .... 69 kHz (multi-scanning)
Refresh rate:	50 Hz .... 160 Hz
Video band width:	110 MHz
Power supply:	switches automatically 100 V - 127 V, 50 Hz - 60 Hz ± 3 Hz, < 2 A 200 V - 240 V, 50 Hz - 60 Hz ± 3 Hz, < 1 A
Power consumption (see power management):	< 120 W (ON, Normal mode) < 55 W (Standby mode) < 15 W (Suspend mode) < 5 W (OFF mode)

### Environmental data

Environment class 3K2, DIN 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 MCM 1755 NTD is not yet displayed in the list of monitors, you can select one of the following monitors instead:

Siemens Nixdorf	MCM 1506
Siemens Nixdorf	MCM 1404
Siemens Nixdorf	MCM 1405 ND
Siemens Nixdorf	MCM 1753
Siemens Nixdorf	MCM 1754
Siemens Nixdorf	MCM 1552

## Preset operating modes

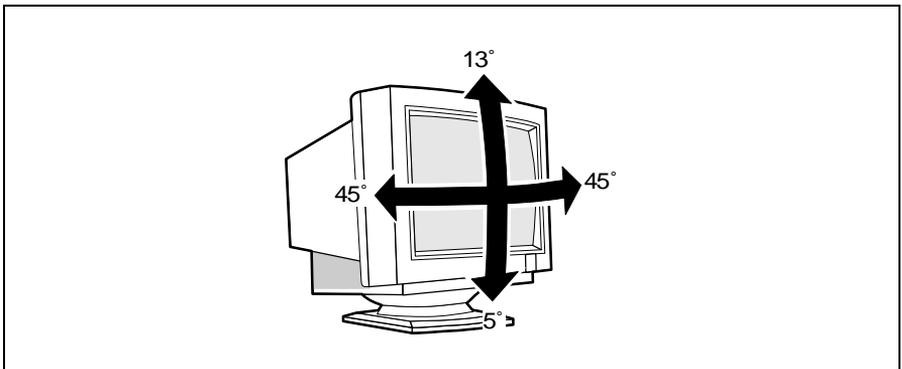
The monitor is preset to the following modes at the factory:

Horizontal frequency	Refresh rate	Resolution
31.5 kHz $\pm$ 0.5 kHz	60 Hz $\pm$ 2 Hz	640 x 480
31.5 kHz $\pm$ 0.5 kHz	70 Hz $\pm$ 2 Hz	720 x 400
43.3 kHz $\pm$ 0.5 kHz	85 Hz $\pm$ 2 Hz	640 x 480
37.8 kHz $\pm$ 0.5 kHz	84 Hz $\pm$ 2 Hz	720 x 400
50.6 kHz $\pm$ 0.5 kHz	100 Hz $\pm$ 2 Hz	640 x 480
53.7 kHz $\pm$ 0.5 kHz	85 Hz $\pm$ 2 Hz	800 x 600
63.0 kHz $\pm$ 0.5 kHz	100 Hz $\pm$ 2 Hz	800 x 600
68.7 kHz $\pm$ 0.5 kHz	85 Hz $\pm$ 2 Hz	1024 x 768

For ergonomic reasons we recommend a refresh rate of at least 75 Hz and a maximum resolution of 1024 x 768 pixels.

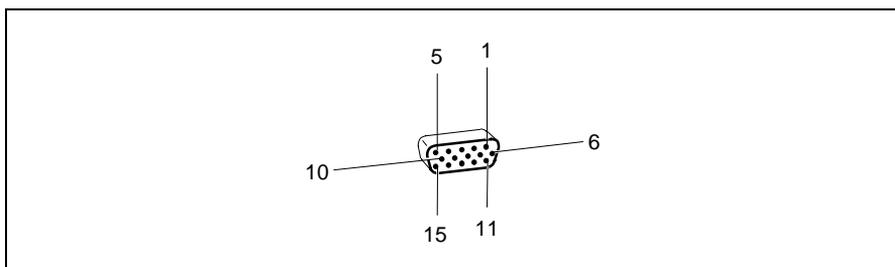
**i** The display position and size have been set to optimum values at the factory for the operating modes listed above. Depending on the monitor controller used, it may be necessary to change these settings. If you need to do so, refer to the section entitled "Operation of the monitor" below.

## Tilting and turning area



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

## Pin assignment D-SUB



Pin	Meaning
1	Red video
2	Green video
3	Blue video
4	Monitor ground
5	DCC return
6	Red video ground
7	Green video ground
8	Blue video ground

Pin	Meaning
9	Not assigned
10	Logic ground
11	Monitor ground
12	Serial DDC data line (SDA)
13	H. sync
14	V. sync
15	Serial DDC clock line (SCL)

### Error handling

If an error occurs, first check the points listed below. If you cannot solve the problem, please contact our customer service.

#### The display is too small or not centered

The monitor recognizes an undefined mode.

- ▶ Adjust the picture size, position and edges (see "[Operation of the monitor](#)").

#### Color displacements

You must degauss the monitor.

- ▶ Briefly press the degauss button (see "[Operation of the monitor](#)").

#### "CHECK SIGNAL CABLE" display appears

The data cable is not connected or is incorrectly connected to the monitor or the system unit.

- ▶ Check the connectors.

#### No display (power lamp does not light)

Possible causes:

- Monitor ON/OFF switch is not switched on
  - System unit is not switched on
  - Power cable not plugged into system unit
- ▶ Check the above points.

#### No display (power lamp lights)

Possible causes:

- Power management is active
  - System unit is not switched on
  - Brightness and/or contrast incorrectly set
- ▶ Check the above points.