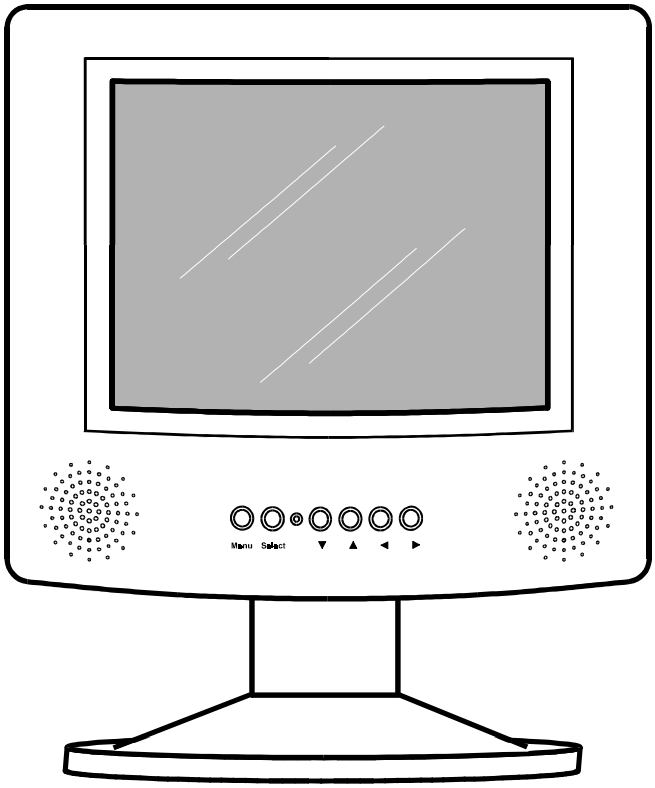
Liesegang mx 1500



Bediener-Handbuch - User Manual
Mode d'emploi

EK0730 99 0010

Contents

Read first before connecting the monitor:

The following notes are intended to be a help for handling the product in accordance with its designated purpose.

Warnings:

Non-observance can lead to injury or death.

Set up this monitor in an stable place only !

Never set up the monitor on an unstable base, weak stand, sloped floor, etc. The monitor could fall or tip over and cause injury.

Never open the housing !

The supplied power supply may only be operated with 100 V to 240 V AC at a frequency of 50 Hz to 60 Hz. Please immediately check whether the supplied mains connection cable coincides with the wall outlets at the installation location.

Never modify the monitor's construction !

Never modify the monitor's construction. This could cause a fire, electric shock, etc.

Never use the monitor in a humid environment !

Never use the monitor in a humid environment, e.g. bathroom, or close to cookers or humidifiers. This could cause a fire, electric shock, etc.

Only connect to the specified mains voltage !

The supplied power supply may only be operated with 100 V to 240 V AC at a frequency of 50 Hz to 60 Hz. Please immediately check whether the supplied mains connection cable coincides with the wall outlets at the installation location.

Avoid vibration !

Unplug this monitor if it has been dropped or the housing has been damaged. Contact a dealer for checking the monitor. If the monitor is used in this condition, this may cause a fire, electric shock, etc.

If unusual phenomenon arise

Should an unusual smell or smoke arise under normal usage, this could cause an electric shock, etc. Unplug the monitor from the wall outlet immediately. Then contact a dealer who can carry out the necessary repairs. Never repair the monitor yourself, as this can be dangerous.

Do not use the monitor after the fault occurs (e.g. no image). Unplug the monitor from the wall outlet immediately. Ask a dealer to carry out the necessary repairs.

In the event of ingress of liquid, e.g. water, unplug the monitor immediately. Then contact a dealer. Should you use the monitor despite this, it could cause a fire, electric shock, etc.

Handle the mains cable carefully !

Do not scratch, damage or alter the mains cable. Also, do not bend it too much. Never place heavy objects on the mains cable, never heat it and never pull on the cable. Otherwise the mains cable can be damaged and cause a fire, electric shock, etc.

If the mains cable is damaged (bare or broken wire, etc.), obtain a replacement from a dealer. Otherwise this could cause a fire, electric shock, etc.

Ensure that the mains cable is not soiled and plug squarely into the wall socket, all the way to the stop. If the mains cable is soiled or incorrectly connected, this could cause a fire, electric shock, etc.

Caution!

Non-observance can lead to injury and dammage.

Caution when carrying the monitor !

If you want to carry the monitor from one location to another, always unplug the mains cable and disconnect all external connections. Otherwise the cables could be damaged which might cause a fire, electric shock, etc.

Avoid high termperatures !

Never use the monitor outdoors. Avoid direct sunlight and avoid placing close to a heating device. The housing and other components may be damaged.

Cleaning the monitor !

Treat the LCD monitor as you would do any other device with glass components. Avoid impact or dropping. Before cleaning the device disconnect all plug connections.

The LCD is covered with a scratch-resistant demirrored glass plate. If necessary, the glass can be cleaned with a soft cloth and a conventional glass cleaner.

The housing can be cleaned with a soft, slightly moistened cloth and mild detergent. Avoid the ingress of moisture into the inside of the equipment. Never use a solvents or abrasive cleaners.

Handle the mains cable carefully !

Never place the mains cable close to a heating device. The mains cable insulation may melt, this could cause a fire or electric shock.

Never plug in the mains cable with wet hands. Otherwise an electric shock may occur.

Never tug the cable when unplugging it. Otherwise the mains cable may be damaged and cause a fire or electric shock, etc. Always hold the mains plug tightly when removing it from the outlet.

Watch the volume !

Always ensure a suitable volume level so that neighbours are not disturbed, especially during rest periods.

Never climb on top of the monitor or place heavy objects on it !

Never climb on top of the monitor. Be cautious, especially when children are present. The monitor may fall or be damaged and cause injuries.

Never block the ventilation slots !

The openings for the ventilation should never be blocked. Heat may accumulate inside the monitor and the monitor may catch fire.

Lock wheels, if necessary !

If the monitor is placed on a trolley with wheels, always lock the wheels. The trolley might be moved and monitor could fall and be damaged.

If the monitor is not to be used for a longer period of time...

Always unplug the monitor if it is not to be used for a longer period of time.

Only use original power supply !

Use only the original power supply for monitor operation. The connection of other power supplies can lead to damage of the device and the loss of all warranty claims.

Preface

The flatscreen monitor with TFT LCD is a fully compatible monitor which micro processor controlled, automatically recognises and sets the most common display modes. VGA, SVGA and XGA graphic modes as well as other modes with resolutions up to 1024 x 768 can be supported.

The monitor has a colour LCD which displays 16.7 mill. colours in connection with the control. Additionally the data/video monitor has a multi-standard video-decoder which processes signals according to the PAL, SECAM or NTSC standard. Two integrated speakers guarantee audio representation in stereo quality.

Monitor operation is carried out with the integrated keyboard. All settings are menu guided and are carried out with help texts in 7 languages. The current parameters are shown on the display.

Faulty settings or incorrect connection can lead to impairment of LCD monitor functions and equipment connected to it. Only use the original adapter and connection sets suitable for your computer and monitor, only use the original AC adapter for LCD monitor operation.

Should you have any questions or doubts please contact your dealer who will gladly pass on your request to the manufacturer if necessary.

1. Scope of delivery

The standard equipment includes:

1 LCD monitor with 1024x768 pixels resolution

1 Connection cable for VGA/SVGA analogue, 15 - 15 pin, M/M
1 Power supply, 100 V - 240 V, 50 - 60 Hz
1 Mains connection cable, Europe
1 User manual

1 Video cable, coax - coax, 75 Ω
1 S-VHS cable

1.1 Disposal of packing material

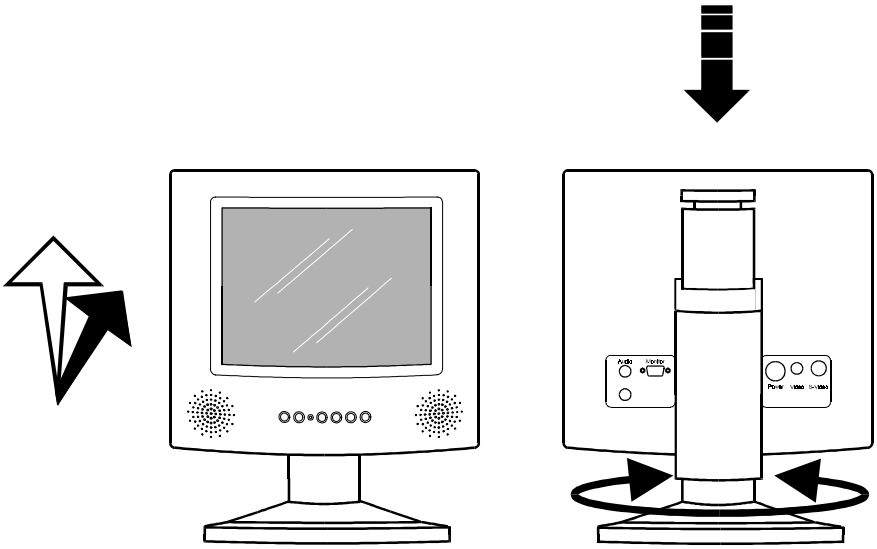
The transport packing consists of materials which may be disposed of as paper and cardboard.

2. Positioning the LCD monitor

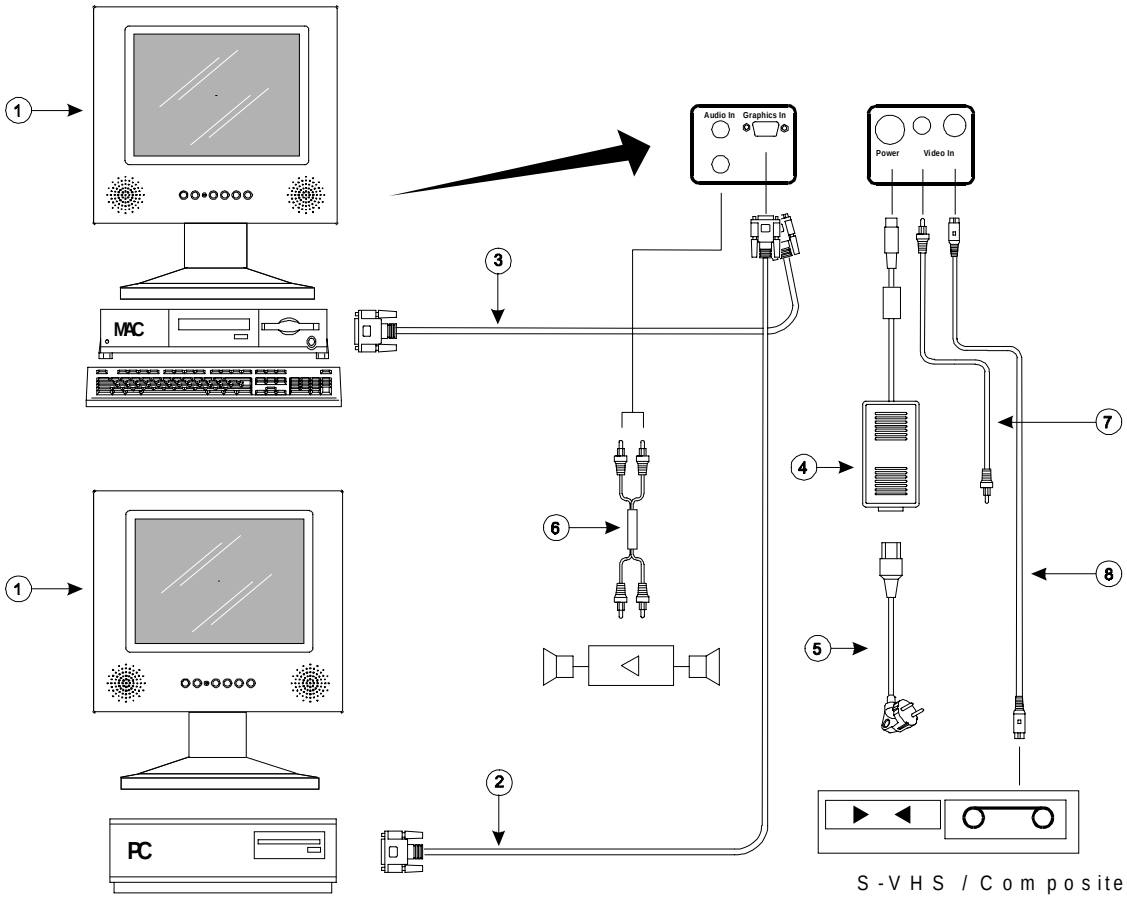
Position the monitor so that there is no bright light source behind it and there is no bright light reflection from the LCD.

The LCD monitor is equipped with an automatic Lift Up for height adjustment. The unit can be adjusted perfectly for your sitting position by pressing the button on the back of the LCD monitor and simply adjusting the inclination. Position the monitor so that the screen's upper edge is at eye level and the lower lines still well visible with the eyes.

Due to its small dimensions the LCD monitor can be rotated at its adjustable base.



3. Connecting diagram



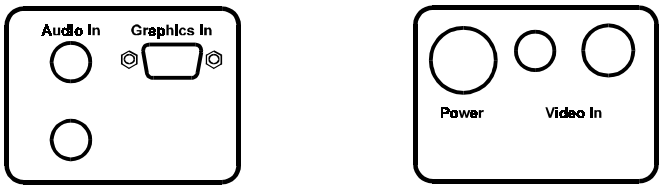
1 LCD monitor with 1024x768 pixels resolution

2 Connection cable for VGA/SVGA analogue, 15 - 15 pin, M/M
3 Apple Macintosh connection cable
4 Power supply, 100 V - 240 V, 50 - 60 Hz
5 Mains connection cable, Europe, USA

6 Audio cable
7 Video cable, coax - coax, 75 Ω
8 S-VHS cable

The following connections are featured on the back of the LCD monitor:

COMPUTER	15 pin socket for screen adapter.
POWER	Connection for power supply pack
AUDIO	Coax sockets. Stereo input for internal speakers
VIDEO	Coax socket. FBAS input for video source connection.
S-VIDEO	S-VHS socket. Y/C input for video source connection.



Please observe this sequence when connecting and starting the LCD monitor:

- Connect power supply cable to the LCD monitor's POWER socket.
- Connect screen adapter and LCD monitor with the supplied connection cable. The optional Macintosh connection cable is needed for connecting Apple Macintosh computers.
- Switch on computer.
- Connect video signal source with supplied cables.

  Connection to units with SCART output is made with a SCART adapter. When using adapters from other suppliers, please take into consideration that the signal direction is determined by the adapter type. As the task of the LCD monitor is to display the signal of an output device (e.g. video recorder) a SCART-out adapter is required. If the adapter can be switched over, the signal direction **OUT** must be selected.

Note

To guarantee an interference-free signal transfer, the ground connection screws on all plug connectors must be firmly tightened. Do not over tighten, otherwise the ground screws can only be undone with force later!

Ensure that the plug connectors are straight before plugging together and avoid using force. A broken or damaged pin contact usually leads to malfunctions, unit breakdown and, in the worst case, to contact problems which are difficult to localise.

To avoid humming noises, connect all units to one common mains socket or to the same mains lead.

The connected computer or screen adapter model is encoded via the LCD monitor`s connection cable. To ensure that the LCD monitor recognises the coding correctly, it must be switched off when connecting or changing the computer or connection cable. The LCD monitor can identify the computer when restarted.

4. Starting the LCD monitor

The LCD monitor has a power saving circuit which examines the connectors for existing image signals. The LCD monitor activates itself automatically (On mode) when the connected computer or video source is switched on. The LCD monitor switches itself off (OFF mode) when image signals are not present.

Therefore the LCD monitor does not need an On/Off switch.

The LCD monitor's energy saving device is compatible to VESA-DPMS and the unit can be operated in a third mode (Suspend mode) with a lower power consumption. In Suspend mode the monitor is active, however the LCD's background lighting is not switched on. The Suspend mode can be triggered by graphic cards with active DPMS. The background lighting can also be switched on by pressing the menu key, so that settings can be made via the menu system.

5. Switching over and setting the screen mode

Most computers do not just support one single screen mode but rather a series of different modes which differ in type of representation (text or full graphic), resolution (number of pixels) and number of colours.

The screen modes for a number of IBM compatible computers and modular Apple Macintoshes are prestored in the LCD monitor. The LCD monitor recognises the current mode and uses the relevant settings for **Tracking** and **Sync.** These saved modes can be adapted to the computer in use.

The extended modes according to the VESA standard are prestored in the LCD monitor. Any others can be programmed.

A re-adjustment may also be necessary, even if one of the modes prestored in your computer is used, because the graphic adapters from different manufacturers may slightly differ in their technical characteristics despite having the same mode. Therefore it is usually necessary to re-adjust **Sync** (matches the pixel length of computer and Display) and **brightness** for the video modes used. **Tracking** (number of pixels per line) needs to be re-adjusted for some graphic adapters. **Tracking** and **Sync** adjustment is only necessary when the LCD monitor is initially started with the computer used. The adjusted values are saved in the LCD monitor and are retained also after switching the power off.

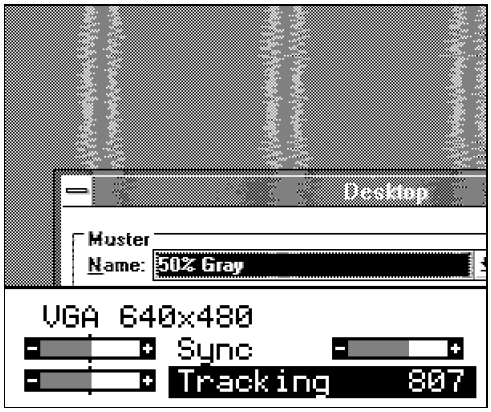
Select the menu item **Tracking** in the **Setting** menu and press the **Select** key on the unit's keyboard. The LCD monitor automatically synchronises itself with the screen mode of the computer and optimises the settings of **Tracking** and **Sync** if sufficient image content is available. Thus setting the LCD monitor to suit the connected computer is usually done by a single key-press.

Set the LCD monitor as follows, should this procedure not be successful:

- Load a suitable program. Ensure that screen contents is sufficient and has as much contrast as possible. When using applications under Microsoft Windows it is recommendable to close all applications first and to set the Desktop background to a plain black and white pattern using the system control.
- Open LCD monitor's main menu by pressing the **Menu** key.

- Select the **Setting** sub-menu using the ⬆ and ⬇ keys.
- Open sub-menu using the **Select** key.
- The current mode is displayed in the title block of the setting menu. If a different mode is desired, select the mode square using the ⬆ and ⬇ keys and switch over the mode using the ⬅ and ➡. Confirm selection with the **Select** key.
- If desired select an image format with a converted coding of pixel and line number corresponding to the current screen mode. Move to the menu item **Pixel** with the ⬆ and ⬇ keys and switch over the mode using the ⬅ and ➡ keys and then confirm selection with the **Select** key. The following image formats can be selected: 640 x 350, 640 x 400, 640 x 480, 720 x 400, 800 x 600, 832 x 624 and 1024 x 768.
- Correct the brightness setting so that white areas are projected with maximum intensity. Select brightness square with the ⬆ and ⬇ keys and adjust brightness with the ⬅ and ➡ keys.

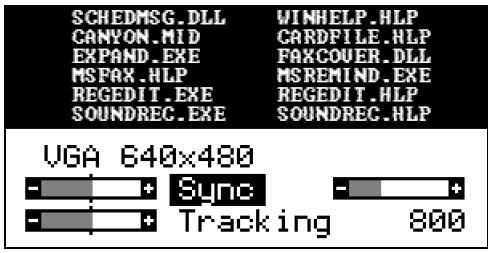
  The brightness can also be set automatically by pressing the Select key. After approximately 10 seconds the level is set to a value which results in maximum brightness in the bright image areas. The contrast is corrected if necessary. The obtained brightness setting is displayed on the LCD.
- Look at a patterned or finely structured area, e.g. the patterned Desktop background under Microsoft Windows. This area will have vertical interference lines superimposed on it if the tracking setting (image width) is incorrect:



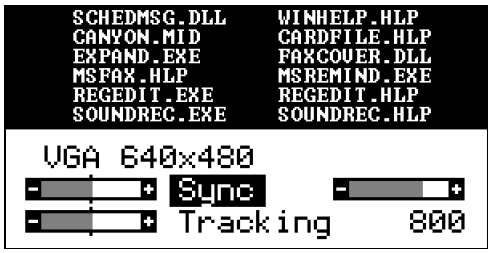
- Select menu item **Tracking** using the ⬆ and ⬇ keys. Press ⬅ or ➡ keys for pixel frequency fine tuning. The adjustment direction is correct when the number of vertical interference lines decreases. The setting is perfect when no interference lines are visible.

  An automatic adjustment can be carried out using the **Select** key. The automatic adjustment takes a few seconds, after which the optimised Tracking and Sync values are displayed on the screen.
- Select menu item **Sync** with the ⬆ and ⬇ keys, especially after manually adjusting the tracking.

Synchronize the phase position of pixel frequency and scanning frequency using the ← and → keys**.** Eight settings are gone through, one after the other, when keys are pressed repeatedly. Heavy image interference and flickering can be observed for some settings, as in the following figure.



A quiet, interference-free image is projected in a range of several settings. Set the LCD monitor to approx. the middle of this range. The following image appears when the **Sync** setting is correct:



An automatic synchronisation adjustment can be called up with the **Select** key. Afterwards the Sync found setting is displayed on the screen.

- Minor interference at colour transitions can be corrected by manually adjusting the brightness and contrast. Normally the contrast should be set to approximately the middle value. Lower values cause an increase in background intensity.

  Correct brightness and contrast settings by selecting the relevant menu item using the ↑ and ↓. keys, if necessary. Press the ← or → keys for fine tuning.

- Terminate the setting menu with the **Menu** key.

- If parameter settings have been changed a warning is displayed. Confirm the changed settings with the **Select** key.

- If the setting menu was opened by mistake or an incorrect screen mode was selected, the saving can be aborted with the **Menu** key. All parameters are then reset to their previous values.

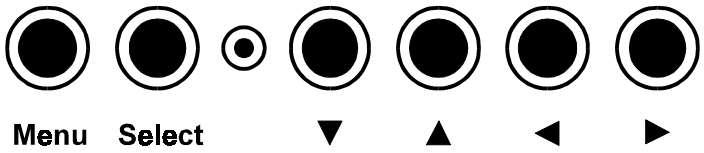
- Centre the image using the cursor keys, if necessary.

- To obtain a pleasant and interference-free representation under all conditions it is recommended to re-configure the screen background (Desktop for Microsoft Windows) so that a plain colour or simple patterned background is displayed.

After making the adjustments for one screen mode, the LCD monitor settings should be optimised for all other screen modes of your computer.

6. Controls and functions

All LCD monitor functions can be controlled from the unit's keyboard using a menu system and six keys.



↑ ↓ ← → (Cursor keys) moves the image on the LCD.

Menu Opens the main menu.

A sub-menu is selected with the ↑ and ↓ keys. The currently opened sub-menu is displayed in white text on a blue background.

Select Switch over between data, video and S-video channel.

Opens a sub-menu when menu system is active.

A menu item is selected with the ↑ and ↓ keys. The currently selected menu item is displayed in white text on a blue background.

The setting is switched over with the ← and → keys. The currently selected menu item is displayed in white text on a blue background.

The setting is switched over with the ← and → keys. The new setting is not immediately switched to for some menu items , but rather the selected value is displayed in white text on a red background first. The switch over is not made until confirmed by pressing the **Select** key again.

Non-active menu functions are displayed in light blue text.

The main menu is returned to and then exited by pressing the **Menu** key twice.

The functions described below are reserved for special cases and are not featured on the keyboard.

Select / ↓ If pressed when LCD monitor is activated (Off/On mode transition):

All parameters are reset to the prestored settings, all user modes are deleted. **Parameter factory settings restored** is displayed in the initial screen.

Select / ←
Select / → Fine-adjusts synchronisation manually. The altered value is saved

Select / ↓ Mode switch over.

Select / ↑ Switch over of scaled (to LCD size) and unscaled representation for video modes with a resolution not corresponding to the LCD's resolution. The selected setting is saved and re-used after an Off phase. The monitor is pre-set to scaled representation (following parameter reset or removing the mains plug).

7. Menu options

7.1 Main menu

Setting* **Image****	Opens sub-menu for image parameter setting.
Option	Opens option sub-menu.
Sound	Opens sub-menu for integrated speaker setting.
<Source>	Toggles between **Data, Video** and **S-VHS**.

7.2 Setting (Data mode)/ Image (Video mode)

<Mode>*	Selects the graphic mode, e.g. **VGA 640 x 480, Mac 640 x 480, VESA 800 x 600, VESA 1024 x 768.** Ten free user modes.
Brightness	Changes the brightness. Automatic adjustment with **Select** key (in Data mode).
Contrast	Changes the contrast.
Colour**	Changes the colour.
Sync*	Manually adjusts synchronisation or automatic adjustment with **Select** key.
Tracking*	Manually adjusts pixel number (image width) or automatic adjustment with **Select** key.
Pixel*	Selects image format

7.3 Option

Auto-Mode*	Switches automatic mode recognition on/off.
Language	Selects menu guide language
SoG*	Adjusts trigger level for Sync on green.
<Sync selection>*	Sets Synchronisation type corresponding to the graphic adapter used: **Sep. TTL Sync, Comp. TTL Sync and Sync on Green.** Comment: 1. Suspend mode is not available in Comp. TTL Sync. 2. A special cable must be used for Sync on Green. The power saving circuit must also be re-configured internally (consult dealer).
Suspend	Switches Suspend mode on/off. If the computer indicates Suspend mode in switched off condition, the monitor's backlight is not switched off.
Test*	Test menu for servicing
Tint**	Select tint for NTSC video

7.4 Sound

Volume	Sets Volume
Treble	Sets Treble representation
Bass	Sets Bass representation
Balance	Sets Balance
Source	Assigns Sound source: Video, Data, Video & Data, Off

* only in Data mode

** only in Video mode

8. Technical specification

Power supply:	15 V = via separate power supply	
Power consumption:	VESA On:	40 W typical
	VESA Off:	max. 7 W
Connections:	RGB Data input:	15 pin HD
	Audio (Stereo):	Coax (2 x Cinch)
	Power supply	
	Video:	Coax (Cinch)
	S-Video:	4 pin mini DIN

Only use factory supplied cables!

Display diagonal:	15”
Operating temperature:	40°C max.
Storage temperature:	-20°C to +60°C
Dimensions and weight:	400 mm x 450 mm x 110 (280) mm (W x H x D), about 8,1 kg.

Characteristics of the LCD monitor:

- Active matrix TFT-LCD with large scope of contrast, typically 1:150 and light intensity, typically 200 cd/m² (200 nit).
- Viewing angle of 140° horizontally and 120° vertically
- Resolution 1024 x 768 pixels.
- The listed screen standards can be represented. Screen modes with smaller resolution than the LCD has are scaled to the size of the display by doubling/removing selected lines and columns

VGA text	720x400 pixels
VGA graphics	640x350 pixels
VGA graphics	640x400 pixels
VGA graphics	640x480 pixels
SVGA graphics	800x600 pixels
XGA graphics	1024x768 pixels
Macintosh	640x480 pixels
Macintosh	832x624 pixels

- Parameters for connecting the LCD monitor to computers which deviate from the prestored standards can be freely set by the user.
- Automatic tracking and synchronisation adjustment.
- Automatic adaptation of brightness and contrast with **Optimize**
- Current settings are saved and also remain saved after switching off the LCD monitor.
- Menu-guided parameter setting with help texts in 7 languages.

- Digital multi-standard video decoder.

  Connectors for two video sources (one with S-VHS input). Supported video standards:

PAL	625 lines, 50 Hz,
SECAM	625 lines, 50 Hz
NTSC	525 lines, 60 Hz

- Integrated stereo speakers.
- VESA-DPMS compatible energy saving circuit.

9. Trouble-shooting

The following list does not claim to be complete but provides some help if something does not work as expected.

General measure - check the follwoing first when faults occur:

- Are all cables, adapters and connectors correctly connected ?
- Is the mains cable connected making contact ?

Problem	**Possible remedies**
No picture 1 After switching on the monitor, the operation LED does not light.	– Ensure that the mains cable is connected correctly – Check the function of the mains cable with a different device. – Ensure that the power supply is correctly connected to the monitor.
No picture 2 The initial image is displayed, even though operation LED is lit.	If the monitor's LED lights green and the initial image is displayed, then the monitor is operating correctly. Then proceed as follows: – Switch off the computer or the video cassette recorder. – Ensure that the signal cable is connected to the computer or the video card or the video cassette recorder correctly. – Re-start the computer or video cassette recorder.
Display is disturbed or unstable; projector has not switched to the correct screen mode	Has the projector been switched over to manual switching? Open the **Option** menu and check whether the **Auto mode** is switched on. If the Auto mode is switched off, manually select a different mode in the **Setting** menu. If the automatic mode switching is active but still no switch-over into an interference-free screen mode has been made, then presumably no setting has been saved for the current operating mode of the computer's graphic card. Select the desired mode in the **Setting**

	menu, set **Tracking** and **Sync** and then save this setting.
The **image** on the screen has **very poor contrast**. Colours appear faded.	Correct the colour level with the brightness key. Experiment with different settings. Especially when displaying text, it is best to switch to 8-colour-representation with the Palette key. Now, even colours with increased intensity are represented in the eight basic colours, the colour saturation is higher.
Moiré interference observed when the background has a grid pattern (e.g. Desktop for Microsoft Windows or Apple Macintosh)	Set the **Tracking** and **Sync** carefully. Correct the colour level, if necessary, with the ☀+ and ☼- keys on the remote control or the menu items **Brightness** and **Contrast** in the Setting menu. It is recommendable to re-configure the desktop background for the projection, so that a uniform colour surface is displayed instead of the grid pattern. This can be done easily with the Control Panel of the Apple Macintosh or the system control of Microsoft Windows.

10. Service Hotline

In case of technical problems please feel free to call Liesegang at +49 211 39 01 444.

For information about Liesegang products and if you have problems with operation of Liesegang products please do not hesitate to call Liesegang at +49 211 39 01 245.

Fax Hotline +49 211 39 01 226

11. Product manufacturer

Ed. Liesegang
Volmerswerther Str. 21
D-40221 Düsseldorf / Germany

Phone +49 211 3901-1
Fax +49 211 3901-227

Glossary of terms

LCD (Liquid Crystal Display)

This is two thin glass plates with a thin layer of liquid crystals between them. The glass plates are covered with a network of transparent electronic conductors, so that voltage can be applied to any point on the plate.

NTSC (National Television Systems Committee)

Standard for television signals and other video equipment signals. The standard uses interlaced scans and 525 horizontal lines per frame, at a rate of 30 frames per second.

OSD
(ON Screen Display)

The OSD is an aid for setting different image values such as Brightness and Contrast. It is displayed into the image with the monitor's setting keys.

PAL
(Phase Alternate Line)

The format for colour television signals used in Germany, England and many other countries. PAL is an interlaced format with 25 frames per second and 625 lines per screen.

Pixel (word coined from Picture Element)

This is one image dot, a definite position on a display that consists of a single dot or a group of three dots (red, green, blue).

S-VGA (Super VGA)

This is a standard PC computer analogue interface. Its resolution is 800 x 600.

S-VHS (S-Video, Super VHS)

A video signal which separates the luminance (Y) and chrominance (C) signals. Also known as Y/C video.

SCART plug

The 21 pin Scart plug (Euro AV) is a connector for a video cassette recorder, a video camera or a computer.

SECAM
(Séquentiel Couleur a Mémoire)

A colour television standard developed in France and also used in certain other countries.

TFT
(Thin Film Transistor)

A tiny virtually transparent wafer of semi-conducting silicon. This acts as an extremely precise electronic switching mechanism.

VGA
(Video Graphics Array)

This is a standard PC computer analogue interface. The resolution for text mode is 720 x 400 and for graphics mode 640 x 800.

VHS system

Video Home System; this is a Japanese home video system with ½ inch video tape width.

XGA

This is a standard PC computer analogue interface. Its resolution is 1024 x 768.

Index

CE

This equipment

complies with the requirements of the EU guidelines 89/336/EWG for electromagnetic compatibility and therefore bears the CE sign. The equipment satisfies the following standards:

EN 55022	Interference voltage and perturbing radiation
EN 50082-1	Immunity to interference
EN 61000-4-2	Electrostatic discharge
EN 61000-4-3	HF irradiation
EN 61000-4-4	Burst test

Warning!
This ia a class A appratus. This apparatus can cause radio interference in residential quarters; in such circumstances the user may be asked to take appropriate steps and be responsible for these.

Note
The European standards EN 55022 and EN 50082 differentiate between equipment of class B (for use in living areas) and equipment of class A. Residential quarters are defined as those areas where a radio or television receiver is operated within a radius of 10 m. Equipment of class A may produce a higher level of interference voltage but must itself also be less sensitive to interference caused by other devices than equipment of class B. This equipment fulfils the requirements of class A. If radio or television receivers are used in the immediate vicinity of this equipment then usually interference is not to be expected as long as these receivers are connected to a properly installed aerial system.