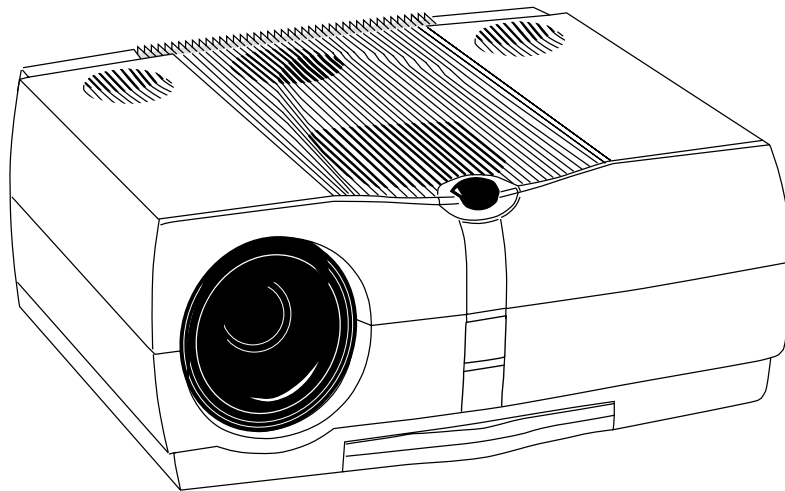


Liesegang ddv 1800



Bediener-Handbuch - User Manual - Mode d'emploi
Guía del operador
Istruzioni per l'uso - Gebruiksaanwijzing

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Before use

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



Warnung:

A person could be killed or injured if the wrong operation is done by ignoring this indication.



Do not install this unit in an unstable place.

Avoid placing it in an unstable place such as a weak base, an inclined floor, etc. This may cause the projector to drop or fall over, resulting in injury.



Do not remodel this unit.

Do not remodel this unit. It may cause a fire, an electric shock, etc.



Never use the projector in a humid environment.

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



Only connect to the specified mains voltage.

The projector must only be operated with the alternating current specified on the identification plate. Please immediately check whether the supplied mains connection cable coincides with wall outlets at the installation location.



**Do not forget
the protective conductors.**

Only use extension leads or cables with a minimum cross-section of 1.5 mm² and protective conductors.



Do not apply any shock.

If you drop this unit or if the casing is broken, turn off the power switch, disconnect the power plug and contact your dealer. If you use it as it is, it may cause a fire, an electric shock, etc.



If any abnormality occurs.

If there is abnormal smell or smoke, if you use this unit as it is, this could cause a fire or an electric shock, etc. Immediately turn off the power switch and pull out the power plug. Contact your dealer to repair the unit. Do not repair it yourself, as it is very dangerous.

Do not use this unit as it is after trouble has occurred. Immediately turn off the power switch and pull out the power plug, then contact your dealer to have it repaired.

If water, etc., enters the unit, turn it off, pull out the power plug and contact your dealer to have it repaired.



Be careful with the power cord.

Do not scratch, damage or modify the power cord. Do not bend it forcibly. Also do not put a heavy object on it, do not heat it and do not pull it. If you do, the power cord may be damaged and it may cause fire, electric shock, etc.

If the power cord is damaged (exposed or disconnected wire, etc.), replace it. It may otherwise cause a fire, an electric shock, etc.

Make sure that no dirt adheres to the power plug and insert it until it stops. If dirt adheres or the connection is incomplete it may cause a fire, an electric shock, etc.



**Do not look directly into the lens
when the lamp is switched on.**

Do not look directly into the lens when the lamp is switched on. Since a powerful lamp is used, it could damage your vision, etc.



**Do not put a container, etc,
with liquid on this unit.**

Do not put a vase, flower pot, cosmetic container, medicine or water on this unit. If liquid spills and enters the unit, it may cause fire, electric shock, etc.



**Never leave the projector
switched on unsupervised.**

Never leave the projector switched on unsupervised or let children play with it as unusual conditions may occur which can cause a fire, an electric shock, etc.



Caution !

Non-observance can lead to injury or damage.



Caution when carrying the unit.

When the unit is to be moved, be sure to disconnect the power plug and check that all external connection cords are removed before moving it. If not, the cord may be damaged and it may cause a fire, an electric shock, etc.



Do not place this unit where it gets hot.

Be careful if you place the unit outdoors, in a place exposed to direct sunlight or near a heating device, the casing and parts could be affected.



Cleaning the projector.

Handle the projector as you would do any other device with glass components. Avoid impact or dropping. Before cleaning the device disconnect the mains plug.

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

The casing 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 solvents or abrasive cleaners. Do not leave cleaners inside the projector.



Handle the power cord carefully.

Do not bring the power cord near a heating device. The cord's shield may melt and it may cause a fire, an electric shock, etc.

Do not insert / disconnect the power plug with wet hands. It may cause an electric shock.

Do not pull the power cord when the power plug is to be disconnected. The power cord may be damaged and it may cause a fire, an electric shock, etc. Be sure to seize the power plug.



**Do not step on this unit.
Do not put a heavy object on it.**

Do not step on this unit or put a heavy object on it. Pay attention when children are present. If you do, the unit may fall over or may be broken causing an injury.



**Never block
the ventilation slots.**

Never block the openings for the ventilation or place objects in the projector. Heat may accumulate inside the projector and it may catch fire.



Set the caster stoppers.

When this unit is installed on a table with casters, set the caster stoppers. If the table moves, it may fall over, causing an injury.



**If you do not use
the unit for a long time.**

If you do not use the unit for an extended period of time, be sure to pull out the power plug from the power outlet.



Replacing the lamp.

Switch off the projector and disconnect the mains plug before replacing the lamp. Let the device cool down, as the lamp and other components in the projector casing have heated up during operation, which can cause injury when touched.



**Do not place this unit
in a moist or dusty place.**

Do not place this unit in a moist or dusty place. It may cause a fire, an electric shock, etc. Do not place this unit where it would be exposed to soot or steam, near a cooking stove or humidifier, etc. It may cause a fire, an electric shock, etc.



Volume.

Use a volume level that does not bother persons in the neighborhood. Especially, since the sound is likely to carry well at nighttime even at a low volume, be careful to choose a suitable level.



**Clean the projector inside
at least once a year!**

Ask your dealer to clean the unit inside once a year. If the unit is left with too much dust inside it may cause fire.



Use of batteries.

Do not use batteries not specified for this unit. Do not use new batteries mixed with old ones. This may cause a fire, injury due to burst of battery, liquid leakage.

When inserting batteries in this unit, pay attention to the direction of the + and - polarities and insert the batteries correctly. If the polarities are confused, it may cause injury or damage near the unit due to burst batteries, liquid leakage, etc.

1. Scope of delivery, accessories

The packing contains the following parts:

- 1 projector
- 1 infrared remote control with batteries
- 1 connecting cable for IBM compatible PC
- 1 mouse cable for serial Microsoft mouse
- 1 PS/2 mouse adapter
- 1 video / audio cable
- 1 S-VHS cable
- 1 Scart adapter
- 1 mains cable with Schuko plug
- 1 user manual

The following accessories are available:

Travel case, hard case, connecting set for Macintosh (computer cable, monitor cable, ADB mouse adapter), connecting cables for workstations, booster box, extension cables, ceiling mount kit

Important note

The projector features its own electronic multi-range power supply with automatic switching. It must only be operated with 100 V - 130 V or 200 - 240 V AC with a frequency of 50 Hz to 60 Hz. The unit must only be connected to a properly installed network with protective conductor. Please check immediately whether the supplied mains cable is compatible with the mains sockets on-site. Please contact your supplier if a different power supply cable is required for use abroad.

1.1 Disposal of packing material

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

Remark: the transport packing offers perfect protection for the product and should be kept for further transport etc.

2. Quick Setting Up

2.1 Setting up and connecting the projector

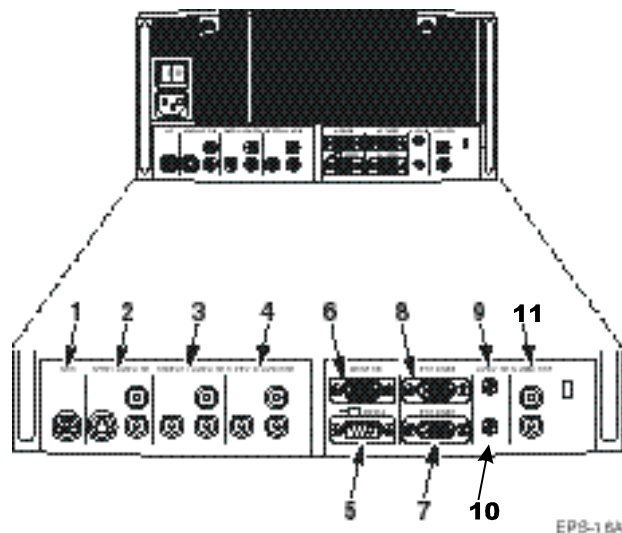
These instructions are intended to get you going fast.

Attention: To avoid damage to the equipment, all power to projector and input sources must be turned off during cable hook up.

1. Place the projector on a rigid, non-slip surface.
2. Connect the power cord.
3. Connect the audio and computer/video input cables to the projector input terminals.
4. For mouse emulation, connect the mouse and, in case of PS/2, the appropriate adapter. (*Apple Macintosh computers require an additional adapter or connecting cable.*)
5. Power up the projector then the computer and the video sources.
6. Move the projector nearer or further away from the screen to obtain the best image size or adjust the image size with the Zoom buttons of the remote control. The image height may be adjusted with the +/- buttons of the remote control. Also see menu point Frame Test Picture, page 19.

2.2 Projector Terminal Connections

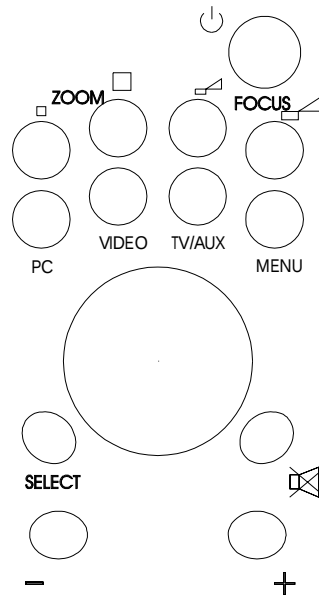
Take a moment to look over the input terminals on the back of the projector. Terminal connectors for the computer source are: RGB 1/RGB 2, Monitor, RS232C, Audio 1/Audio 2. Terminal connectors for the video sources are: Video, S-Video, Audio 1/Audio 2. For both sources: Audio out.



1 - AUX:	Not yet used.
2 - SVHS/AUDIO IN:	SVHS and audio input
3 - VIDEO1/AUDIO IN:	Input no. 1 for video and audio
4 - VIDEO2/AUDIO IN:	Input no. 2 for video and audio
5 - RS-232C:	Mouse emulation and external projector control
6 - MONITOR:	Connection for monitor.
7 - PC/RGB1:	Input no. 1 for computer
8 - PC/RGB2:	Input no. 2 for computer
9 - AUDIO IN2:	Left/right audio input for computer no. 2
10 - AUDIO IN1:	Left/right audio input for computer no. 1
11 - AUDIO OUT:	Left/right audio out for external systems

2.3 Control Panel Keypad

The control panel keypad is located on the top of the projector. It has the following buttons:



Standby 	Switch between standby mode and projection mode
Zoom	Increase / decrease image size
Focus	Focus image
PC	Select RGB 1 / RGB 2
Video	Select video 1 / video 2 / S-VHS
TV/Aux	Not used
Menu	Display/remove menus
+/-	Increase/decrease menu value
Select	Initiate drop windows, check box on/off, display info sub menus
	Speakers on/off
Diskpad 	Move cursor (up/down, left/right)

2.4 Mouse Connection

The projector has internal mouse emulation capability. Connect computer and projector with the mouse cable (supplied with projector). Then the computer mouse functions can be controlled via the projector's remote control.

1. Power down computer and projector.
2. Remove mouse cable connection from your computer mouse port.
3. Connect the plug of mouse cable to the serial port on the computer.

Serial RS232 mouse: Connect 9-pin D-Sub plug on mouse cable to the serial port on the computer.

PS/2 Mouse: Connect 9-pin D-Sub plug on mouse cable to PS/2 adapter and connect the 6-pin Mini-DIN adapter plug to the PS/2 port on the computer.

MAC ADB: Connect 9-pin D-Sub plug on mouse cable to the Mac ADB adapter and connect the 4-pin Mini-DIN plug on ADB adapter to the ADB port on the computer. (*The Mac ADB adapter is an accessory item that must be ordered separately.*)

4. First power on the projector, then power on the computer. The (⏏) button briefly lights up red, then the complete keypad lights up for a few seconds while the projector is starting.

Note

For serial mouse connections to a laptop computer, refer to the manufacturer's operating instructions. The internal pointing device or serial port configurations may need to be changed.

Mouse emulation only works, when all cable connections are established and the proper start up sequence is followed.

The recommended mouse driver for mouse emulation is the Standard Microsoft Mouse, Serial or PS/2.

2.5 Cable Connections

1. Turn off all power to the projector and input sources during cable hook up.

Caution: To prevent **damage to equipment**, all power to projector and input sources must be **turned off** during cable hook up.

2. Connect cables being careful not to bend any pins in the cable plug or input terminal.

3. Start up projector then start up input sources. The (⏏) button briefly lights up red, then the complete keypad lights up for a few seconds while the projector is starting.

2.6 Image Size

Adjust the size of the projected image on the screen by using the zoom control buttons or by moving the projector closer to the screen for a smaller image or further away from the screen for a larger image size. Details on page 27.

2.7 Image Height

Use the Picture menu/Height option to shift (upward) the projected image. The center of the projected image can be shifted a maximum of 12 degrees without incurring keystoneing.

3. Starting Up The Projector

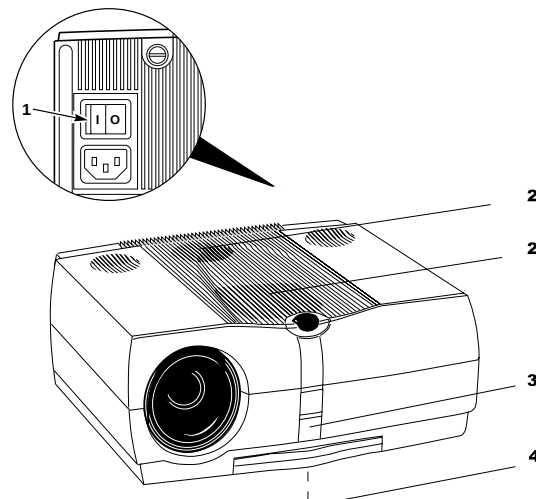
3.1 First Steps

After all cable connections have been completed, the projector can be powered up. During operation, keep the exhaust and intake air vents clear of obstructions to allow proper cooling.

1. Press the Main Power switch (1) to ON. The  button will be illuminated red to indicate there is power. ( = ON,  = OFF).
2. Press the standby button . The projector's keypad will light up green for a few seconds while the projector is starting. The  button will turn green as an image appears and grows brighter on the screen.
3. Check all ventilation slots (2) and clear away all obstructions.
4. Adjust the Focus and Zoom buttons for best image quality. Press the foot release button (3) to release the height adjustment foot (4). If necessary, adjust the image height with the +/- buttons of the remote control.
5. Power up your computer and video source(s).

Note

In most cases, the projector will automatically adjust to the graphic mode of your computer by selecting a pre-programmed setting. See page 27.



3.2 Standby Mode

When the projector is not being used, place it into standby mode.

1. Press the Standby button (⏻).
2. The lamp will switch off and the Standby button (⏻) will illuminate red.

Note: The fan motor will continue to run for a few minutes until the projector cools down and then the fan will turn off.

3. Press again the Standby button (⏻) to illuminate the lamp and project an image on the screen.

3.3 Projector Power Down

1. Press the Standby button (⏻) to place the projector in standby mode. The Standby button is illuminated red.
2. Wait until the cooling fan motor cycles off.
3. Press the **Main Power switch** to OFF.
4. Turn off the power to your input devices.
5. To transport the projector, disconnect all power and connection cables.

Note: Switching the main power off before the fan has cycled off will decrease the life of the projection lamp.

4. Using System Menus

Note: The main menu and submenu windows may be moved to another position. Keep the VT button of the remote control depressed and move the respective window with the help of the diskpad to the desired position.

4.1 Main Menu

Press the Menu button on the touch panel keypad or the remote control to display the Main Menu:

- The menu name is on the top line.
- An arrowhead at the right of a menu line indicates that this item is a sub-menu that can be selected.
- A text field at the right of a line indicates that this is a value that you can change in a drop down window.
- Press Select to display the Info window.

4.2 Sub-Menus

Select: Press the Disc Pad up or down to highlight (select) the desired sub-menu. Then press the Disc Pad to the right or the Select button to display the sub-menu.

Change a text field value (e.g. VESA 1024x768 60 Hz): Press the Disc Pad up or down to highlight (select) the menu line. Then press the Disc Pad to the right or the Select button to display a drop down window of all the possible values. Use the Disc Pad to select a value and press Select to initiate the selection.

Change a slider bar value: Press the Disc Pad up or down to highlight (select) the value. Press the +/- button on the remote control or the projector's panel to increase or decrease the value.

Change a number field: Press the Disc Pad up or down to highlight (select) the value. Then press the +/- button on the remote control or on the projector's panel to increase or decrease the value.

Change a check box field: A check box field at the right of a sub-menu line indicates that you can toggle that value On/Off by pressing the Select button.

Exit a sub-menu: Press Disc Pad to the left.

Return to the projected image: Press menu button.

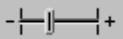
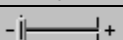
4.3 Menu Adjustments / Settings

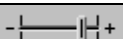
The following charts lists all the menu items that can be adjusted along with the default settings.

Main Menu	Description / Action	Default setting
Picture	Display picture submenu	
Audio	Display audio submenu	
Tools	Display tools submenu	
Source (drop down window)	Select input source (PC/RGB1 / PC/RGB2 / SVHS / VIDEO 1 / VIDEO 2 / AUX)	According to search procedure
User Interface	Display user interface submenu	
Advanced Setup	Display advanced setup submenu	
Info	Display information window (press Select)	

Submenu Picture (PC/RGB)	Description / Action	Default setting
Height	Adjust projected image height 	
Brightness	Adjust the brightness	
Contrast	Adjust the contrast	
Optimize	Set best brightness for image	
Hor. Position	Adjust horizontal position of image	
Ver. Position	Adjust vertical position of image	
Tracking	Adjust number of pixels per line	
Sync	Adjust phase synchronization	
Mode	Select data mode to adjust within this menu (Predefined modes / User Mode 1...3)	<Automatic>
Resolution (drop down window)	Select pixel resolution	

Submenu Picture (video)	Description / Action	Default setting
Height	Adjust projected image height 	
Brightness	Adjust the brightness	
Contrast	Adjust contrast	
Colour	Adjust colour saturation	
Tint	Adjust hue for NTSC	

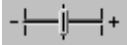
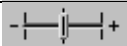
Submenu Audio (Video / PC)	Description / Action	Default Setting
Volume	Adjust volume	
Audio	Audio mute	on
Speaker	Speakers	on
Balance	Adjust balance	
Treble	Adjust treble	
Bass	Adjust bass	
Surround	Adjust surround sound level	

Submenu Tools (Video / PC)	Description / Action	Default Setting
Freeze	Freeze frame	off
Magnify	Magnify mode	off
Factor	Adjust magnification factor	
Timer (drop down window)	Select timer mode	off
Minutes	Adjust timer countdown	10 minutes

Submenu Test (Video / PC)	Description	Default Setting
Parameter display	Parameter display window on/off	off
Colour test picture	Display colour test picture	
Frame test picture	Display frame test picture. It shows the dimensions of the available picture, so that the projection may be adjusted to the screen.	

Submenu User Interface (Video / PC)	Description / Action	Default Setting
Language (drop down window)	Select user interface language (English / Deutsch / Français / Español / Italiano / Nederlands / Svenska / Czech / Polski / Portuguese)	Deutsch
Blank Screen Color (drop down window)	Select color of Blank Screen (Black / Red / Green / Blue / Yellow / Cyan / Magenta / White)	Black
Graphics	Activate on-screen status bar indicators and icons	on
Reset window position	Reset all menu window positions to default	
Help (drop down window)	Select Help window mode (immediate / 1,3 or 5 seconds / off)	immediate

Submenu Advanced Setup (PC/RGB)	Description / Action	Default Setting
Projection (drop down window)	Select projection orientation (standard / rear / rear/ceiling / ceiling)	standard
Color Manager	Display Color Manager submenu	
Remote control	Remote control receiver on/off	on
RC address	Select remote control address (1/2/3/4)	1
Sync mode 1 (drop down window)	Select Sync mode for PC/RGB1 (separate TTL / composite TTL / separate ana. / composite ana. / sync on green)	separate TTL
Sync mode 2 (drop down window)	Select Sync mode for PC/RGB2 (separate TTL / composite TTL / separate ana. / composite ana. / sync on green)	separate TTL
SOG level	Adjust level for sync on green synchronization	
Reset data modes	Set all predefined data modes to factory default settings. User modes remain unchanged.	
Reset lamp display	Resets the lamp hours displayed on the Info window	
Test	Display test submenu	

Color Manager Submenu Items	Description / Action	Default Setting
Brightness red	Adjust brightness for red portion	
Contrast red	Adjust contrast for red portion	
Brightness green	Adjust brightness for green portion	
Contrast green	Adjust contrast for green portion	
Brightness blue	Adjust brightness for blue portion	
Contrast blue	Adjust contrast for blue portion	
Default	Set settings to default values	

Submenu Advanced Setup (Video)	Description / Action	Default Setting
Projection (drop down window)	Select projection orientation (standard / rear / rear/ceiling / ceiling)	standard
Color Manager	Display Color Manager submenu	
Remote control	Remote control receiver on/off	on
RC address	Select remote control address (1/2/3/4)	1
Video standard (drop down window)	Select video standard (PAL B,G,H,I / NTSC M / SECAM / NTSC 44 / PAL M / PAL N / PAL 60 / NTSC COMB / automatic)	automatic
Reset lamp display	Resets the lamp hours displayed on the info window	
Test	Display test submenu	

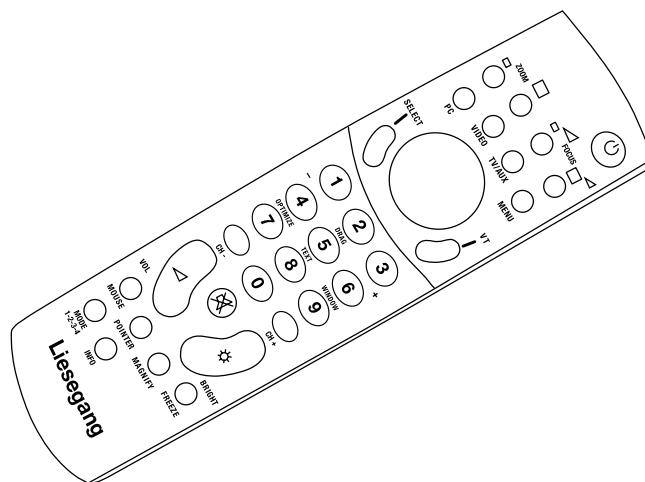
Info (display only) (Video / PC)	Description	
Hardware	Current hardware level	
Firmware	Current firmware level	
VESA xxxxxxxxxx	Current video mode	
Lamp (bar indicator)	Lamp life hours (Green: lamp good / red: lamp needs replacement)	
OK!	Closes the Info display by pressing the Select button	

5. Infrared Remote Control

5.1 How to use the Infrared Remote Control

Aim the remote control toward the projection screen or at the sensor. Press desired remote button to send a signal to the projector.

Note: The infrared remote control can be switched to another address, if there is interference from other infrared-controlled high-end units: Display main menu, select submenu Advanced Setup, select line RC address and input new RC address, e.g. 2, with +/- button; then simultaneously keep depressed for about 10 seconds the Mode 1 2 3 4 button of the remote control and the button with the selected new address, e.g. 2, to implement the change.



Button	Description
 (*)	Switch the projector between standby mode and operation mode
ZOOM (*)	Increase (+) or decrease (-) size of image
FOCUS (*)	Adjust focus (+/-) of displayed image
PC	Switch to PC mode. In PC mode toggles between RGB1 / 2
VIDEO	Switch displayed image to video input
TV/AUX	Not used
MENU (*)	Display system menus
SELECT(*)	Left mouse button when mouse emulation ON Select button for confirmation of a selection when mouse emulation OFF
VT	Right mouse button when mouse emulation on Not in mouse emulation mode: menu window positioning. Discpad centers image.

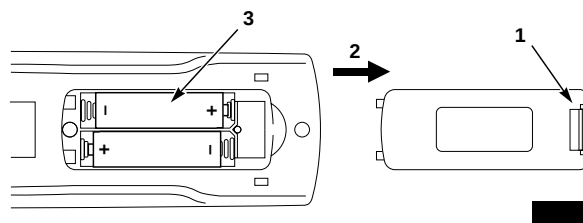
Button	Description
DISCPAD (*) 	Move the cursor on the projected image. Navigate menus.
DRAG	Drag button. The left mouse button is held down. Under Microsoft-Windows, for example, objects can be selected and moved. Pressing the drag button again releases the mouse button.
7	REVEAL: Cover the image on the screen with a gray mask. Use the discpad to reveal the image.
8	BLACK: Replace projected image with preselected background blank colour. Press again to return image.
9	TIMER: Display timer (window in lower part of screen or full screen). Repeated operation of key toggles between.
OPTIMIZE	Optimizes the level setting so that light areas of the image are projected with optimal intensity.
TEXT	Not used
WINDOW	Switches between 1:1 and scaled representation
CH -...CH +	Not used
1...2...3...4	Depressing one of these buttons and the Mode 1 2 3 4 button implements the change of the RC address.
5...6..0	Not used
 (*)	Mute
VOL	Adjust volume
BRIGHT	Adjust brightness
MOUSE	Activates the mouse emulation. The mouse pointer can be moved using Disc Pad. Pressing the button again switches off the mouse emulation.
POINTER	Place a pointing device on the screen. Use Disc Pad to move pointer.
MAGNIFY	Magnification mode on/off. Press +/- buttons to increase/decrease the magnification factor. Move Disc Pad to displace the magnified area within the image.
FREEZE	Stores (freezes) the projected image. Press again to return the projection of the current image
MODE 1 2 3 4	Toggle between remote control addresses 1, 2, 3, 4
INFO	Display information window

Note: The buttons marked with an asterisk (*) also appear on the projector's keypad.

5.2 Battery Replacement

The remote control uses two AAA batteries. The battery cover is located on the back of the remote control.

1. Press the locking tab (1) to release door.
2. Lift up on the door (2) to remove it and set it to the side.
3. Remove old batteries.
4. Install new batteries (3). Make sure the polarity (+/-) on each battery matches the decal.
5. Replace battery compartment door.

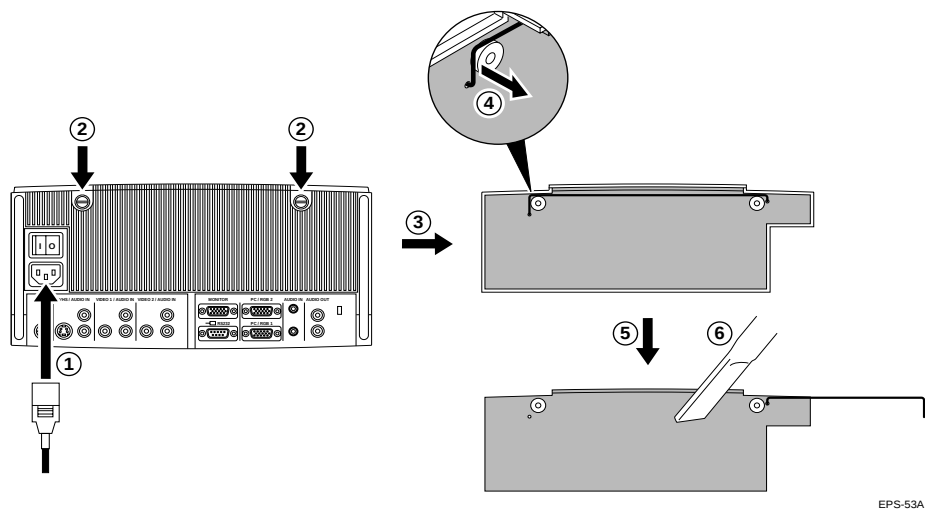


6. Replacing the Air Filter

For best performance, replace the air filter at the very latest after 300 hours of normal use. In case of continuous projection there are special recommendations.

Note: Periodically check air filter for excess dust or dirt. Replace or clean as needed.

1. Unplug the power cord.
2. Unscrew two screws (2) securing back panel.
3. Remove the back panel (3).
4. Separate the air filter from the back panel (4).
5. Vacuum (5) the air filter to remove the dust and dirt.
6. Insert the air filter in the back panel.
7. Insert the back panel and secure with screws (2).



7. Replacing Projection Lamp

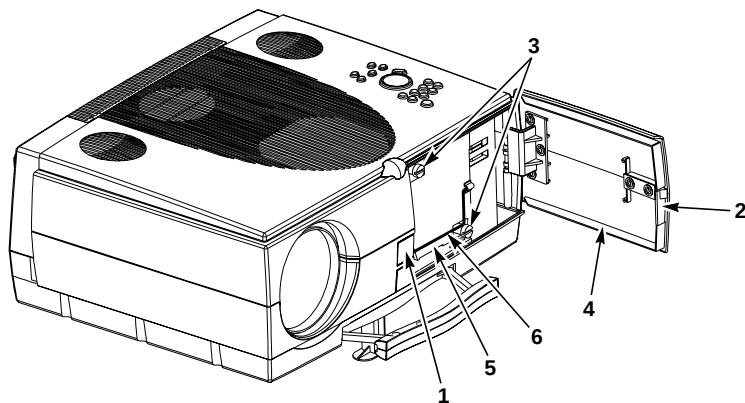
The metal halide lamp of the projector has a limited lifetime of approximately 2,000 hours. If the projected image appears dark or a red lamp life indicator bar displays during projector startup, you should change the lamp and air filter.

Important Note: *This lamp contains mercury.* Consult your local hazardous waste regulations and dispose of this lamp in a proper manner.

Caution: Always unplug the projector when changing the lamp. There are high voltage parts inside the projector that may cause electric shock.

Caution: Allow the projector to cool down for 30 minutes. Lamp and adjacent metal parts become extremely hot and can cause burns to your fingers.

1. Press the Standby button on the projector's panel or the remote control. Wait for the fan to cycle off. Turn the **main power switch to OFF** and unplug the power cord.
2. Set the projector on a sturdy surface with the front of the projector facing you.
3. Press and hold the **lamp door button (1)** with your index finger. Slide your finger to the right and depress the **lock tab (2)**. Pull outward on the **lamp door (4)** to hinge it to the right and access the **lamp cartridge (5)**.
4. Unscrew two **retaining screws (3)** securing the **lamp cartridge (5)**.
5. Grasp **handle (6)** and carefully pull the **lamp cartridge (5)** out of the projector.
6. Carefully insert the new **lamp cartridge (5)** and secure with **retaining screws (3)**. Close the **lamp door (4)** tightly until the **lock tab (2)** slides into the locked position.
7. Go to the **Advanced Setup** menu and **reset** the lamp life display to zero.



EPS-43A

7.1 Lamp Life Indicator

The elapsed operating time of the lamp is displayed on the Info sub-menu. From the Main menu, select **INFO** to display the lamp life. As long as the lamp indicator bar is green, the lamp is good. When the bar changes to red, the lamp should be changed.

After changing the projection lamp, the lamp life indicator must be reset to zero. To reset the lamp life indicator:

1. Press the **Menu button** to display the main menu.
2. Select the **Advanced Setup sub-menu** using the Disc Pad.
3. Select **Reset lamp display** and press the Select button.
4. The following message will display: „Really reset lamp life display ? OK! Cancel“
5. Using the Disc Pad, select **OK!** and press **Select** to acknowledge the change.

Note: To view the used/remaining lamp life: (1) Go to the Main Menu. (2) Select INFO. (3) Press Select button.

8. Cleaning the Projector

For best performance, keep your projector free of excess dust and surface dirt. Use a soft cloth to remove dust from the projector housing. Use a mild cleaner to remove surface dirt and smudges from the projection lens.

Caution: Always unplug the projector when cleaning. Take care that no liquids get inside the projector. There are high voltage parts inside the projector that may cause electric shock.

9. Troubleshooting Problems and Solutions

Problem	Probable Cause	Possible Solution
Image is disturbed or unstable.	Wrong Sync setting Wrong Tracking value	Set to factory default setting.* Change Sync setting in the Picture menu for optimum performance. For vertical interference stripes, change the Tracking in the Picture menu for optimum performance.
No computer image projected. Message „Looking for signal...” displays.	Loose cable. No power to computer. Wrong synchronization mode.	Check and secure cable connections. Turn on computer. Adjust synchronization mode of the projector to that of the computer via Advanced Setup menu.
No video image projected.	Loose cable. No signal from video source.	Check and secure cable connections. Check video picture on TV.
Poor projection quality of a DVD video image.	The projector has not found the best possible video mode.	Select the video standard manually: Display main menu, select submenu Advanced Setup, select line Video Standard, select the correct standard in the drop down window.
Mouse does not work.	Loose cable. Wrong connection. Wrong power up sequence.	Check and secure cable connections. For PS/2 and ADB (Apple) mouse a special adapter is necessary. Only use adapters from the original manufacturer. The mouse emulation operates correctly only if the correct power up sequence has been used.
Image off-center.	Image position.	Center image with the Disc Pad.
Cannot get entire image on the screen.	Wrong Tracking value. Compatibility problem.	If vertical interference stripes occur, change the Tracking value in the Picture menu for optimum performance. Refer to the documentation for your graphic card. Change the Resolution setting in the Picture menu to the resolution of the video mode output from the computer graphic card.
Washed out image.	Wrong Contrast setting. Wrong Brightness setting.	Change Contrast setting in the Picture menu. The bar should be in the middle position. Lower Brightness setting in the Picture menu. Choosing brightness and pressing Select can perform an automatic adjustment.

The remote control interferes with other IR-controlled units in the room.	Overlapping of remote control addresses/codes.	Change remote control address: Display main menu, select submenu Advanced Setup, select line RC address and change address with +/- button, e.g. to 2; then simultaneously press the Mode 1 2 3 4 button and the respective numerical button, e.g. 2, to implement the new address.
Magnify does not work.	In previous session the Magnify function was switched off in 1:1 display.	Activate Magnify via menu control: Display main menu, select submenu Tools....
Humming noise. Slowly passing horizontal bars.	Signal sources are connected to different power sources. VCR connected to aerial system and to projector. Bad signal.	Locate the source of disturbance. Disconnect the sources one after another from the projector. Connect all sources to a common power source. Remove antenna connection from VCR. If the disturbance disappears, use a by-pass filter (isolating transformer) to connect the antenna to the VCR. Try different input source.

* The factory default settings of the projector can be restored by pressing Select and Mute  simultaneously on the projector's panel when switching on the main power switch of the projector and pressing the Standby button  afterwards.

The projector will start immediately and the message "**Standard-Parameter wiederhergestellt**" displayed in the starting screen will indicate the default settings are reset.

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

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D-40221 Düsseldorf

Phone +49 211 3901-1
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Projection Table

Below information refers to the standard f=25-45 mm lens.

Distance to screen m	Maximum (f=25 mm)			Minimum (f=45 mm)		
	Image width m	Image height m	Max. height ad m	Image width m	Image height m	Max. height ad. m
2.00	1.42	1.06	0.43	0.80	0.60	0.24
2.50	1.76	1.32	0.54	0.99	0.74	0.30
3.00	2.11	1.57	0.64	1.18	0.89	0.36
5.00	3.48	2.60	1.06	1.96	1.47	0.60
7.00	4.85	3.62	1.47	2.73	2.05	0.83
10.00	6.90	5.16	2.10	3.88	2.92	1.18

Setting Non-Standard Video Modes



A question mark in a box will appear if the projector can't recognize the video mode of the data input source.

Even if you select a standard VESA mode on your system this can happen, because some device drivers of the graphic cards in the PC using timing parameters which differ from the parameters given out from the VESA organization.

As a result of this, the projector may detect a wrong predefined data mode or switches to a **User mode**, so you may see only a part of the whole picture.

To correct this situation you must select manually a data **Mode** in the **Picture** menu which should match the mode you've selected on the PC. If there is no matching mode you must select a **User mode**. In a **User mode** you can manually select the **Resolution** which is normally not selectable.

It may be necessary to correct the **Horizontal** and **Vertical Position** and the **Tracking** and **Sync** values in the **Picture** menu. These values will be stored so the mode can be recognized the next time.

If you've accidentally misadjusted the values of a standard predefined data mode, you can reset them by selecting **Reset Data Modes** in the **Advanced Setup** menu. The settings of a **User mode** won't be affected by this action.

Glossary of Terms

Hz, KHz, MHz (Hertz, Kilohertz, Megahertz)

Hertz is a unit of measurement used to express the frequency, in cycles per second, of an electrical signal or event. (Megahertz = 1 million cycles per second)

Lumens

A measure of light output on a screen or other surface. One lumen is the light of one candle power on each square foot of a surface of a sphere at a radius of one foot from the light source.

Metal halide lamp

A modified mercury arc lamp that is extremely bright. It is filled with a gas with elements known as halogens. The properties of this fill gas allows the lamp to burn longer and brighter than ordinary lamps.

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.

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).

Resolution

The number of pixels available in a display device for creating images. Expressed as a number of columns by number of rows (e.g. SVGA resolution, 800 x600).

S-VHS (S-Video, Super VHS)

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

SECAM (Séquentiel Couleur a Mémoire)

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

XGA

A standard PC computer analogue interface: resolution of 1024 x 768.

Technical Details

Power supply:	100-130 V /200-240 V ~ , 50-60 Hz	
Connections:	RGB data input 1:	15 pin DSub
	RGB data input 2:	15 pin DSub
	(analog, TTL, HSync/CSync, VSync)	
	Analog monitor output:	15 pin DSub
	Serial mouse connection:	9 pin DSub
	Video1:	Koax (Cinch)
	Video2:	Koax (Cinch)
	SVHS:	S-Video
	Audio In 1 (Stereo):	2xKoax (Cinch)
	Audio In 2 (Stereo):	2xKoax (Cinch)
	Audio In PC (Stereo):	2xmini plug
	Audio Out:	1xKoax (Cinch)

Only use the factory supplied cable!

Operating temperature:	max. 40°C ambient temperature
Storage temperature:	-20°C to +60°C

Dimensions and weight:	approx. 330 mm x 140 mm x 270 mm (W x H x D), approx. 7.2 kg
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IR remote control:	Power supply with two batteries type IEC LR03 (size AAA)
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Projector characteristics:

- DMD with high contrast ratio of typically 1:350.
- Resolution of 1024 x 768 pixels.
- 350 W metal halide lamp with a lamp life of typically 2,000 hours.
- Approx. 1,800 ANSI lumens image brightness.
- The following screen standards can be represented. Screen modes with smaller/higher resolution than the projector are scaled to the size of the projector resolution.

VGA 640 x 350
VGA Text 720 x 350
VGA 640 x 400
VGA Text 720 x 400
VGA 640 x 480
VESA 640 x 350
VESA 640 x 400
VESA 640 x 480
VESA 800 x 600

VESA 1024 x 768
VESA 1152 x 864
VESA 1280 x 960
VESA 1280 x 1024
Sun 1152 x 900

Apple Macintosh necessitates a separate connection set.

- Magnify function. The position of the magnified image section may be changed.
- Window key for toggling between 1:1 and scaled representation.
- Parameters can be freely adjusted by the user, for connecting the projector to computers which deviate from the pre-programmed standards.
- Automatic setting of tracking and synchronization.
- Automatic adaptation of brightness and contrast with OPTIMIZE.
- Current settings are saved and also remain saved after switching off the projector.
- Menu-guided parameter setting with help text in several languages.
- Freeze function for momentarily saving the displayed image.
- Digital multi-standard video decoder. Connection 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
- No noticeable line structures due to integrated De-Interlacer with Interpolation over successive images (Three Field De-Interlacer).
- Infrared remote control can be switched off via the menu when interference occurs due to other infrared devices.
- Interface for Kensington Lock™.

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CE

This equipment complies with the requirements of the EU guidelines 89/336/EEG 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 is a class A apparatus. 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 fulfills 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.

