

User Manual

MagniLink S PREMIUM - Chromebook

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1 About LVI

LVI Low Vision International AB was founded in 1978 and is one of the world's leading manufacturers of magnifying TV- and computer systems for visually impaired. New products are developed in close cooperation with users and professional personnel of vision rehabilitation. LVI is a Quality System Certified ISO 9001 and Environmental System Certified ISO 14001 company.

The information in this manual has been carefully checked and is believed to be accurate. However, LVI assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will LVI be liable for direct, indirect, special, exemplary, incidental, or consequential damages resulting from any defect or omission in this manual. In the interest of continued product development, LVI reserves the right to make improvements in this manual and the products it describes at any time, without notice or obligation.

2 Introduction to the MagniLink S

Thank you for choosing this video magnifier. We aim to ensure that you are completely satisfied with your choice of supplier and reading aid.

The MagniLink S is a portable camera system with autofocus, which can be connected to a computer or directly to an external monitor. The system is controlled via a keyboard and/or control box. MagniLink S is available in a number of different models. Choose model in the following steps:




Choose reading camera HD or FHD.

Model	Camera
MLS-HD	HD (720p)
MLS-FHD	FHD (1280p)

Choose among the following accessories.

Product code	Accessory
A	Text To Speech for PC
B	Text To Speech for Mac
C	MagniLink Docking Station with reading table (DVI).
D	MagniLink Docking Station with reading table (HDMI)
E	MagniLink Docking Station with table clamp (DVI)

	<p>MagniLink S meets all the requirements for CE marking of medical devices in accordance with Directive 93/42/EEG. Our products comply with MDD 93/42/EEC with additions from Directive 2007/47/EC.</p>
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3 Safety information

The reading aid is only intended for indoor use and must be used in accordance with the following safety instructions.

- Use only the power adaptor supplied with MagniLink S. If the wrong type of adaptor is used for operation of MagniLink S, this can cause damage to the system.
- Units such as HDMI monitors and/or computers that are to be connected to the system must comply with the appropriate safety regulations for their country of use.
- Never turn on or use the product if it has been exposed to water, rain or other liquids. Pull out the USB cable and allow trained service personnel to carry out an inspection of the product before it is used again.
- Place the power cord in such a way that you can neither trip over it or that crush damages can occur.
- If the product is moved from the cold into a warm room, condensation (moisture) can form inside the unit or on the camera lens. To prevent problems with condensation, the apparatus should be installed in the room at least 30 minutes prior to usage.
- If the system requires cleaning, pull out all cables and use a slightly damp (not wet) cloth. Use only water or a cleaning agent that is intended for monitors and computers.
- Do not rely 100 per cent on the results of an OCR conversion; the OCR engine can misinterpret the text. This is particularly important to bear in mind when processing sensitive information such as a medical prescription.
- Make no further adjustments, even if the product does not function normally after following the functional descriptions. Pull out the USB cable and contact service personnel or the product distributor. Only use spare parts that are specified by LVI

If in doubt, contact your supplier.

Warning



MagniLink S is supplied packed in a plastic bag. To avoid risk of suffocation, keep the bag out of the reach of children and infants.

4 Unpacking

The system is supplied in a box with the following contents:



- Reading camera
- USB cables
- Case
- USB memory stick with software
- Polishing cloth
- User Guide
- Power adaptor
- HDMI to HDMI cable
- HDMI to DVI cable

Check first that the box has no damage to its exterior. In the event of damage, contact the delivery company and file a notification of damage.

Open the box and take out the MagniLink S; remove the white packaging. For further information see Installation.

4.1 Packaging

The packaging consists of the following packaging material (LVI recommends that the packaging be kept in case you have to return the system or you need to move it):

- Packing material (EPP)
- Box (corrugated cardboard)
- Polyethylene (LDPE4)

For sorting and collection of packaging material, please call the packaging collection customer service department for information on the rules that apply in your municipality.

5 Accessories



External control box (MLS-A100).



Larger external control box (MLV-A110A).



MagniLink Docking Station (MLS-A101), stationary reading table.



MagniLink Reading Table (MLRT), portable reading table.



LVI Monitor 19" (MLS-A103) and 23" (MLS-A104).



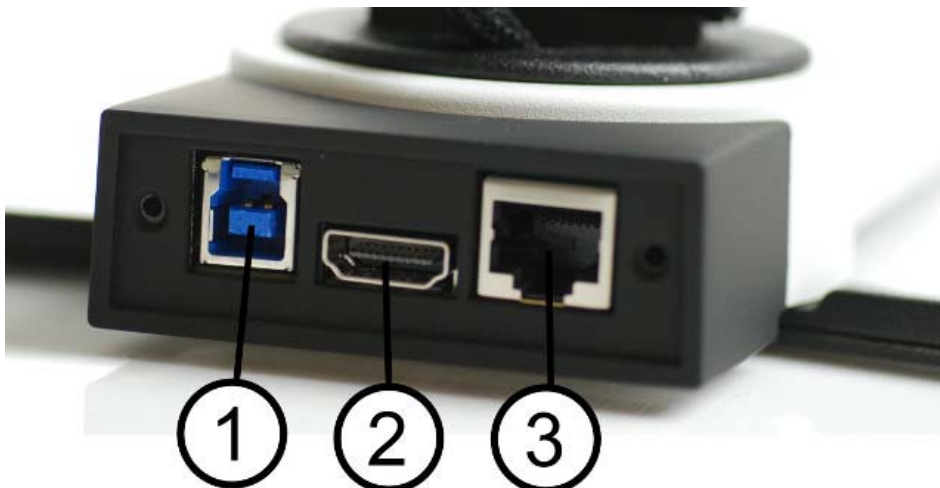
Text To Speech for PC (TTS-PC) or Mac (TTS-MAC).

6 Hardware

6.1 Installation of hardware



Open the camera's arm and pull out the camera's supporting legs. It is not possible to manipulate the camera's arm until the supporting legs have been extended.



On the back of the camera there are several connection options. The connection options available depend on the camera model.

1. USB connection

In addition to transferring images to a computer, the USB connection is used to provide power to the system.

2. HDMI connection

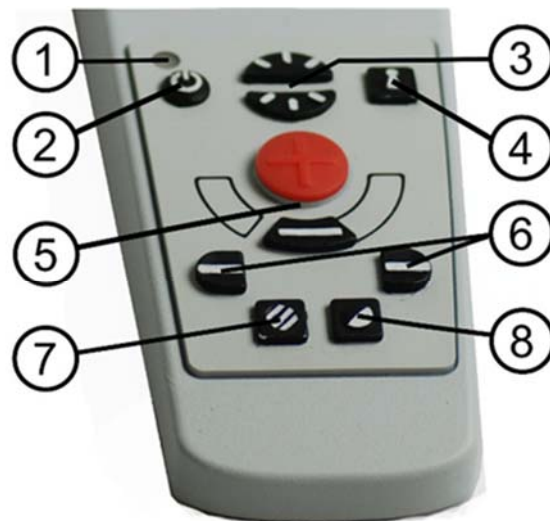
Here the camera can be connected to a monitor that supports HDMI or DVI.

3. External control panel

An external control panel can be connected via this input.

6.2 Using the hardware

6.2.1 Control box



1. LED

A green light indicates that the system is on. A flashing green light means that the system is starting up. A slowly flashing yellow light indicates standby. A red light indicates that something is wrong in the system. See the chapter on Troubleshooting page 29.

2. Power on/off

Press to start or shut down the system.

3. Lighting configuration

Used to configure the light intensity in order to optimize reading conditions. Press the upper half to increase the light intensity and the lower half to decrease it. For systems that have LED lighting, the intensity is adjusted by holding down the button (7).

4. Autofocus on/off

Press the button once to lock the focus. This can be used when you wish to write by hand. Autofocus is not affected by the pen or your hand. Press the button a second time, to reactivate autofocus.

5. **Zoom control**

Used to set the zoom. To reduce the zoom, press the lower key (minus) and to increase the zoom, pressure the upper key (plus).

6. **Reference line/Bar**

Adjust the position of the reference line. Press the right-hand button to move the horizontal line down. Hold the button in to change the reference line to vertical and move it to the left. The reference line then becomes a horizontal bar which diminishes the viewing area. To make the bar vertical, press the button again. The left button gives the opposite result.

7. **Picture mode**

Press the button to switch the picture mode between natural colours and grey scale.

Lighting adjustment

Hold the button down to temporarily enable adjustment of the lighting via the lighting configuration (3). When the lighting configuration (3) is used to adjust the lighting, there is no switching between colour and grey scale (only possible if the system has LED lighting).

Mirroring

A mirror image can be obtained by holding the button down for three seconds.

8. **High contrast modes with artificial colours**

Press the key to switch between the various colour combinations.

Rotation

By holding the button down for three seconds, the image can be rotated 180 degrees.

6.2.2 Position sensor



MagniLink S is equipped with a position sensor that is used to switch between reading mode (the user points the camera down and flips the lens into place) and distance mode (the user opens the lens). The settings for both modes are automatically saved when you switch from one to the other.

Settings that are automatically saved for these modes are:

- Artificial colours
- Negative/Positive/Natural colours
- Light
- Magnification level
- Reference line/Bar
- Rotation of camera image
- Mirroring of camera image

7 MagniLink ChromeViewer

MagniLink ChromeViewer is a programme used on a Chromebook to display images from a MagniLink camera system. The programme can control the camera properties, such as magnification level, artificial colours and brightness.

7.1 Minimum system requirements

- Chrome OS version 59
- 2 integrated USB 2.0 ports.
- Intel Celeron, 2 GB RAM

7.2 Recommended system requirements

- 1 integrated USB 3.0 type A port.
- Intel i5 processor
- 4 GB RAM

LVI recommends using an Intel-based Chromebook together with a MagniLink camera since we have noticed compatibility problems with ARM-based Chromebooks.

A USB 3.0 Y may be needed to supply sufficient power to the MagniLink camera system. A USB Y cable permits the use of 2 USB ports to drive a MagniLink camera system.

LVI has tested the software on a number of Intel-based Chromebooks without problems, but there is no guarantee that the system will work with all Chromebooks that follow the specification. LVI recommends testing the software with the Chromebook where the system is to be used, in order to ensure compatibility. Better performing computers will facilitate better camera performance.

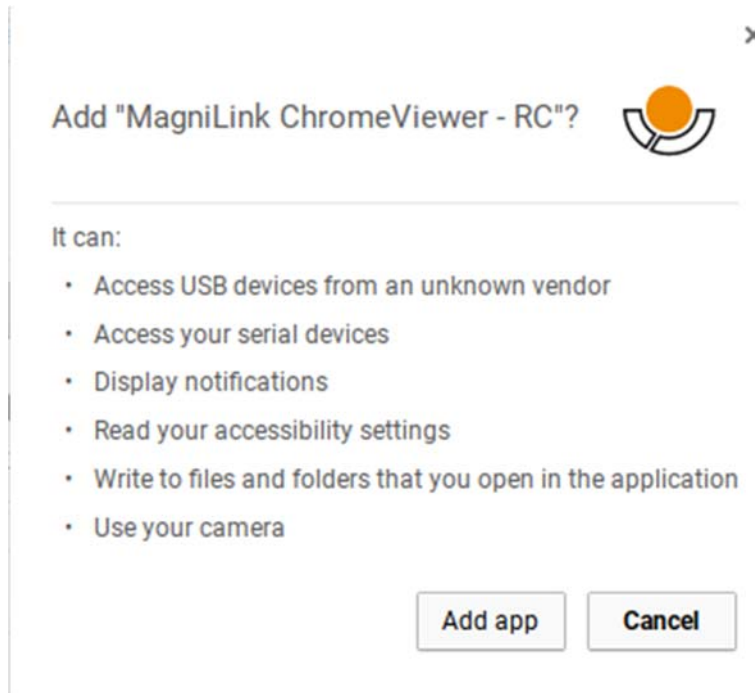
7.3 Installation of software

MagniLink ChromeViewer is available for download via the Chrome Web Store. If you cannot find the application with the search function on the Chrome Web Store, there is a direct link on our website that takes you to the installation page.

The link opens a new page with the Chrome Web Store and the MagniLink ChromeViewer is selected automatically.



Click **ADD** to start the installation.



You will then see an information box explaining what the application is able to do; click **Add app** to go on.



When the installation is finished, you can start the application by clicking **START APP** or search for the application via App Launcher.

Via App Launcher you can also permanently add MagniLink ChromeViewer to the start area.

7.4 Using the software

7.4.1 Functions via the keyboard

The MagniLink camera is shown as a Chrome App and most functions can be managed via the keyboard. Various menus allow the short cut commands to be changed. Below are the standard settings for the short cut commands.

- | | |
|----------|--|
| 1 | Natural colours |
| 2 | Positive image with heightened contrast
Artificial colours; White/Black, Yellow/Black, Green/Black, Red/Black, Yellow/Blue, White/Blue. Press 2 repeatedly to switch between the various colours. (Shift + 2 to cycle backwards) |
| 3 | Negative image with heightened contrast
Artificial colours; White/Black, Black/Yellow, Black/Green, Black/Red, Blue/Yellow, Blue/White. Press 3 repeatedly to switch between the various colours. (Shift + 3 to cycle backwards) |
| Ctrl + P | Take a snapshot
Press Ctrl + P to open the "Save file" dialogue box. A file name (with the day's date and time) and a folder (Downloads) are automatically suggested. Just press Enter to save the picture. If you wish to save the picture somewhere else, or with another name, you can change this manually. |
| Ctrl + M | Start/stop video recording
Press Ctrl + M to start recording. Stop recording by pressing Ctrl + M. When recording stops, the dialogue box "Save file" opens. A file name (with the day's date and time) and a folder (Downloads) are automatically suggested. Press Enter to save with the suggested name. If you wish to save the video in a different folder, or with another name, you can change this in the dialogue box. |
| 8 | Preset split screen mode
Press 8 repeatedly to switch between the preset split screen modes for the primary screen. The window can also be controlled via the mouse or with Chrome OS standard commands. |

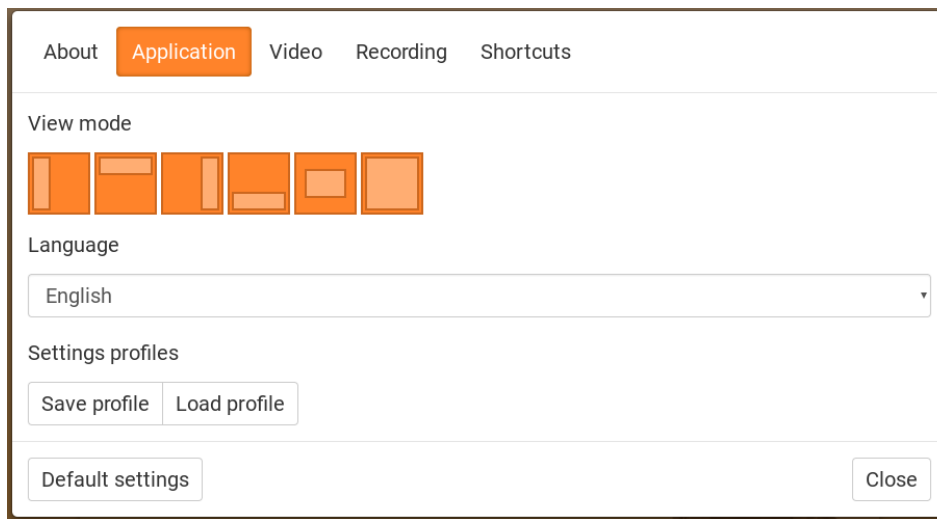
9	Information and settings window Under this window, different settings for the application can be applied.
0	Scan for LVI camera Press 0 to scan for a MagniLink camera system. This can be useful if several LVI cameras are connected to the computer. In this case a dialogue box opens from which the active camera for the application can be selected. If the camera does not start for some reason, it can also help to scan for a MagniLink camera system.
Up arrow	Increase magnification
Down arrow	Decrease magnification
Left arrow	Reduce light intensity/contrast
Right arrow	Increase light intensity
Ctrl + Left arrow	Reference line left/up
Ctrl + Right arrow	Reference line right/down
Ctrl + R	Rotate the camera image clockwise Every time this key combination is pressed, the camera image will rotate 90° clockwise (90°, 180°, 270° and 0°).
Ctrl + Shift + R	Rotate the camera image anticlockwise Every time this key combination is pressed, the camera image will rotate 90° anticlockwise (270°, 180°, 90° and 0°).
Ctrl + I	Reflect camera image Reflects the camera image. This is a handy function if, for example, you want to use the camera as a magnified cosmetic mirror.
Ctrl + F	Freeze camera image By pressing this key combination, the camera image freezes; to release the image, press the same key combination again. To save a frozen image, press Ctrl + F.

Ctrl + A	Deactivate/activate "always on top" Short cut command activates the "Always on top" function for the application window. If "Always on top" is activated, the camera image will be placed over other open applications. This means that another program can be in focus and that you can for example use Google Docs whilst looking at the camera image.
Ctrl + 6	Reduce lamp brightness
Ctrl + 7	Increase lamp brightness

7.4.2 Information and settings window

The Information and settings window consists of a number of different tabs that contain application information and alternative settings.

7.4.2.1 Applications Settings



Split screen mode

Select which of the split screen modes to use by pressing 8.

Language

Change the language of the software. The software is set to use the same language as the computer's default. If this language is not available, English is automatically selected as default.

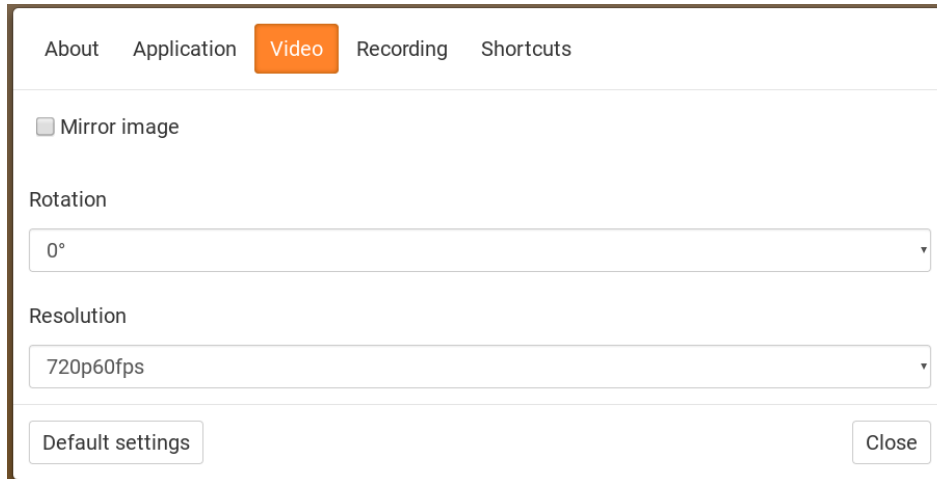
Available languages:

- English
- German
- Danish
- Spanish
- Finnish
- French
- Dutch
- Norwegian
- Swedish

Profile

Import or export settings Use the Export Settings button to easily save the current settings configuration to the hard disc or to Google Drive, for example. Use the Import Settings button to import your exported settings.

7.4.2.2 Video Settings



Mirror image

When this function is active the camera image is mirrored.

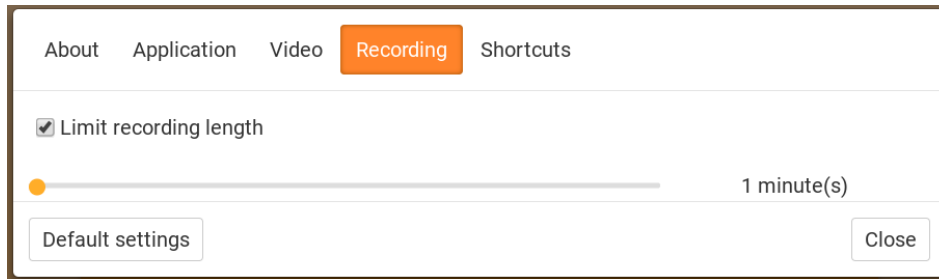
Rotate image

The angle of rotation of the camera image can be set here. MagniLink ChromeViewer supports rotation of the camera image to the following angles: 0°, 90°, 180° and 270°.

Resolution

Select from the camera's various resolution options. The best picture quality is achieved by selecting the highest resolution. A lower resolution may be needed if the application is used on a computer with low performance.

7.4.2.3 Recording Settings



Limit recording length

Activate this function if you wish to limit the length of recording.

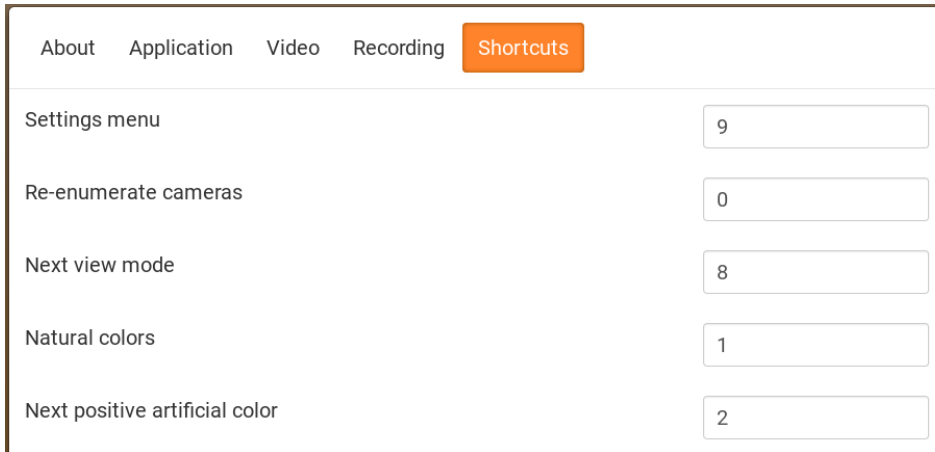
Length in minutes

If you chose to limit the recording length, you can set the limit in minutes here, from 1 to 60 minutes.

Carefully read the following information before using the video recording function.

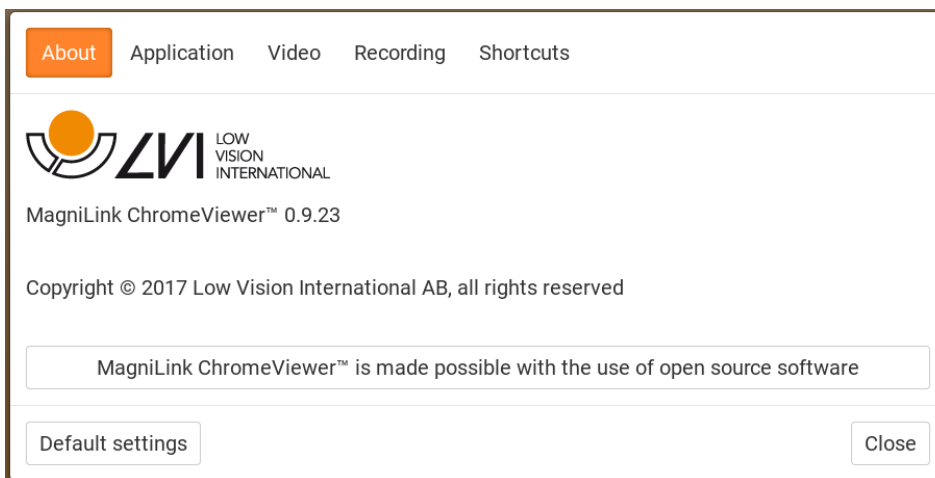
MagniLink ChromeViewer can record video sequences from a MagniLink camera system to WebM (.webm) format. It is not possible to record sound. The video recording is started with the keyboard (Ctrl + M) and a red indicator is displayed at the bottom right of the video window while video is being recorded.

7.4.2.4 Settings for short cut commands



Here the short cut commands used for the application can be changed. To change a short cut command, tab to the command that is to be changed and then press Space or Enter and then enter the new keyboard combination. If a combination already being used for another command is entered, the other command will be erased. A new keyboard combination will need to be entered in order to change the command.

7.4.2.5 About the application



Information regarding the software version and copyright can be found under this tab.

8 Working with the reading camera

Your reading camera is now ready to use. It is important that the workplace around your MagniLink is comfortable, and that you sit correctly. This is so that you can use the camera for as long as possible without putting undue strain and stress on your neck and back.

You should bear the following in mind:

- Your chair should be positioned close to the table on which the equipment is located, and you should not sit in the chair for too long. We recommend a good office chair with adjustable height.
- The seat of the chair should be at a height that does not cause your legs to become numb; legs should be at an angle of 90 degrees and you should rest your feet on the floor.
- The reading table should be at a height at which you can rest your lower arm horizontally on it. It is important that the table is neither too high nor too low for you. The ideal solution is if the screen is slightly below eye level and in as straight a line in front of you as possible.
- Shut out daylight. Lights in the ceiling, table lamps and light from windows can cause reflections on the monitor. For this reason, avoid placing lights where they shine directly at the screen or at yourself.

9 Troubleshooting

If the indicator light is flashing:

A red light or a flashing red light indicates a system error. Restart the system by disconnecting and reconnecting all cables and rebooting the system. If a red light is still displayed, contact your service technician.

10 Technical information

Magnifying area HD camera	1,4 - 75 x (15,4" 16:9 screen)
Magnifying area FHD camera	1,1 - 75 x (15,4" 16:9 screen)
Power output	5 W
Power output, standby	1.7 W
Weight	1.7 kg
Refresh rate	60 Hz
Dimensions BxDxH	350x270x390 mm
Operational temperature	0 to 30°C
Storage and transportation temperature	-20 to 60°C



Disposal of old electrical and electronic equipment (applies for EU countries and all other European countries that have specific collection systems)

If the product or its packaging has this symbol on it, it is not to be handled as regular domestic waste. It should instead be deposited at a suitable collection centre for the recycling of electrical and electronic equipment. By ensuring that this product is properly taken care of, you are helping to prevent the negative impact on health and the environment that might otherwise result from inappropriate disposal of this product. Recycling helps in the management of our natural resources. For more detailed information regarding the recycling of this product, you can contact your municipality, your waste management company or the store where you purchased the product.

11 Declaration of Conformity

DECLARATION OF CONFORMITY

according to the Medical Devices Directive, 93/42/EEC with amendments from
directive 2007/47/EC

Type of equipment: *Reading Aid*
Brand name or trademark: *MagniLink*
Type designation: ***MLS-HD, MLS-FHD***
Product class: *Class 1.*
Manufacturer: *LVI Low Vision International AB*
Address: *Verkstadsgatan 5
S-352 46 Växjö
Sweden*
Web: <http://www.lvi.se>
Phone: *+46 470 - 72 77 00*
Fax: *+46 470 - 72 77 25*

As the manufacturer, we declare under our sole responsibility that:

- the product complies with the provisions of the Council Directive 93/42/EEC with amendments from directive 2007/47/EC.
- we will keep the technical documentation described in section 3 of Annex VII available to the national authorities for a period ending at least five years after the last product has been manufactured.
- the device meets the Essential Requirements of Annex 1 which applies to it, taking into account the intended purpose of the device.
- to follow the requirements regarding products placed on the market as described in section 4 of Annex VII.

Manufacturer

Manufacturer's authorized representative

Date

Signature

Position

12-11-2012



Managing Director

Clarification

Erik Bondemark

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