

User Manual

MagniLink PCViewer

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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 equipment for persons with visual impairments. Development of new products takes place in close cooperation with users and professional staff within the low vision rehabilitation industry. LVI is quality-certified in accordance with ISO 9001 and environmentally-certified in accordance with ISO 14001.

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 Introducing MagniLink PCViewer

MagniLink PCViewer is a computer programme that displays images from a MagniLink camera system. The programme can control the camera properties, such as magnification level, artificial colours and brightness. If the system supports OCR, the OCR can process a text and read it aloud through speech synthesis (text to speech). The programme can also share the computer screen with ZoomText or SuperNova software.

2.1 Minimum system requirements

- Microsoft Windows 7.
- 2 integrated USB 2.0 ports.
- i3 processor, 1 GB RAM (32 bit) 2 GB RAM (64 bit).

2.2 Recommended system requirements

- Microsoft Windows 7.
- 1 integrated USB 3.0 port.
- i5 or i7 processor, 4 GB RAM, external graphics card with at least 512 MB inbuilt memory.

LVI has tested the software on several computers without any problems, but there is no guarantee that the system will function on all computers that comply with the specifications. LVI recommends testing the software on the computer where the system is to be used, in order to ensure compatibility. Better performing computers will facilitate better camera performance.

3 Installation of software

NOTE



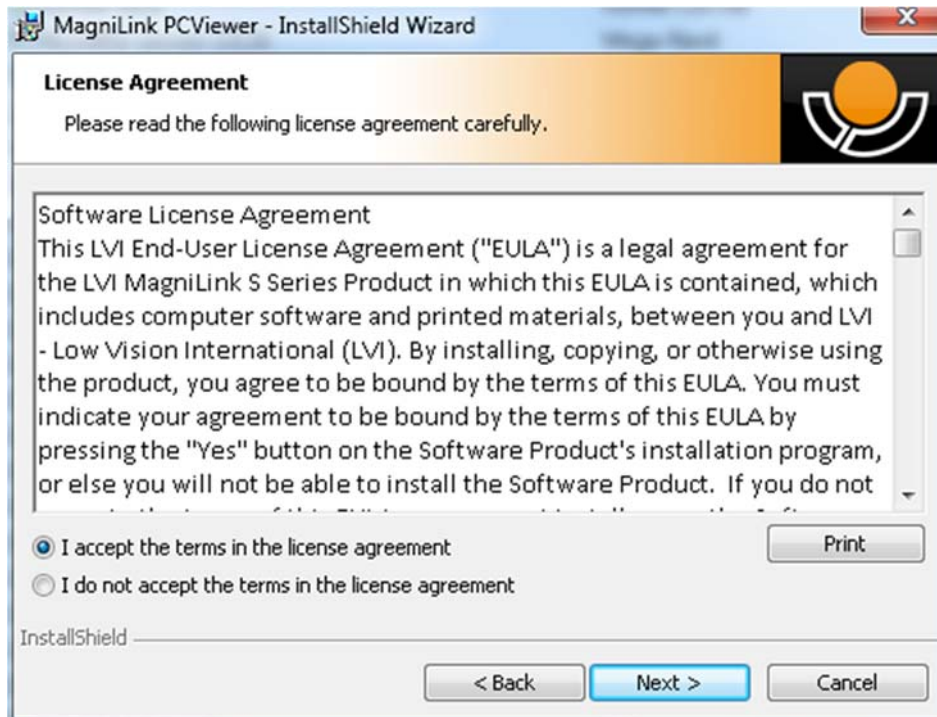
Installation requires administrator privileges on the computer in question and is performed on the user account currently in use.

Insert the USB stick containing the software into one of the computer's USB ports. Start the installation by clicking on the **"Setup"** file, which can be found in the **"MagniLink PCViewer"** folder.

When the installation program starts, follow the instructions on the screen to complete installation of the software, or see below for a more detailed description.



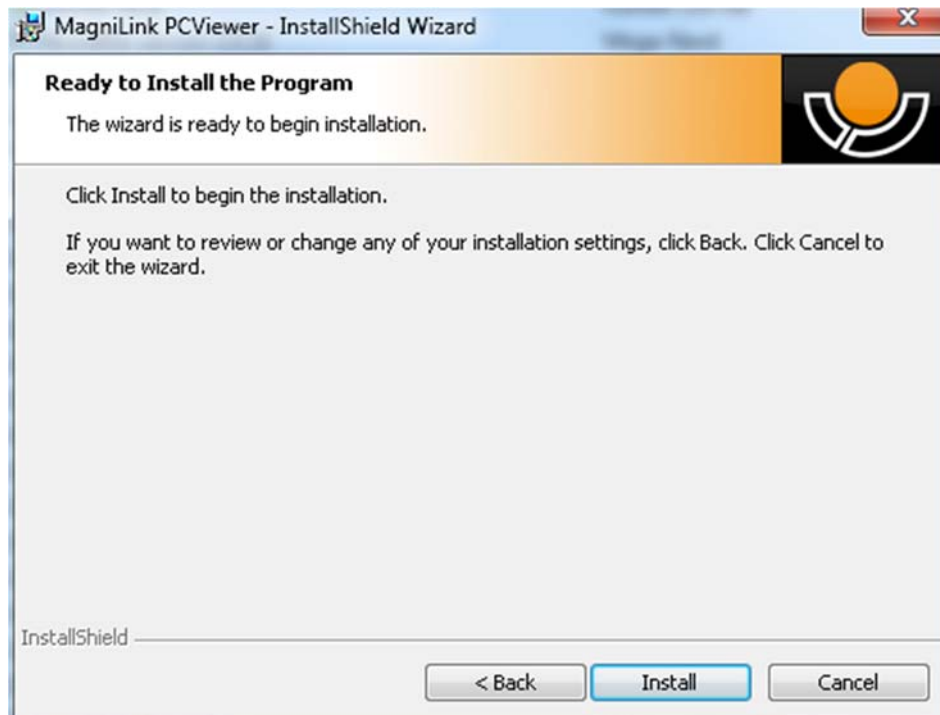
Select **"Next"** in the dialogue box **"Welcome to the InstallShield Wizard for MagniLink PCViewer"**.



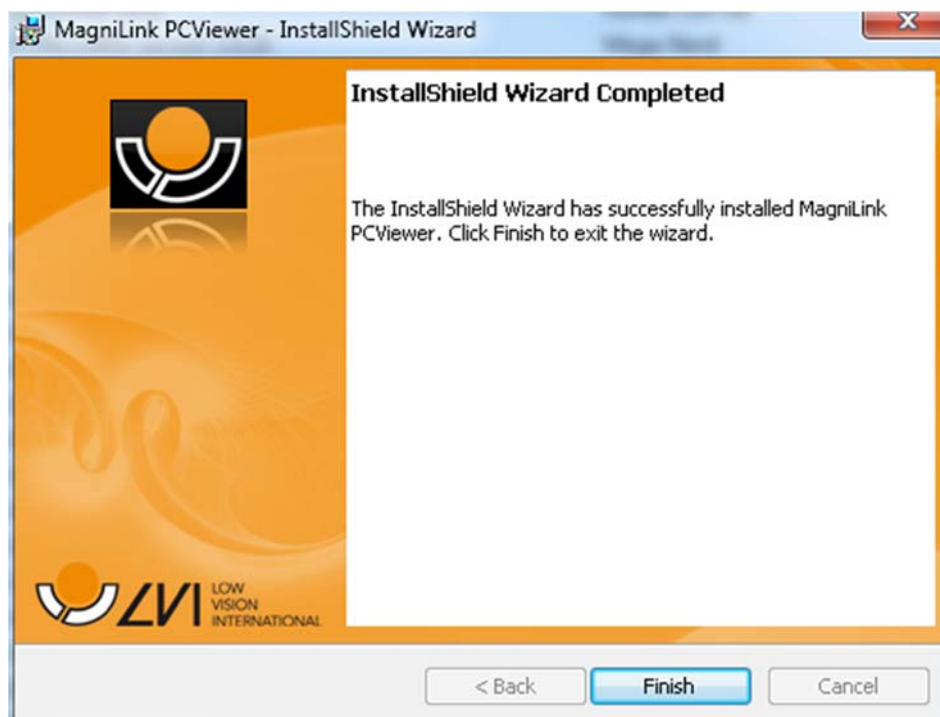
Read the text in "License Agreement", approve this by selecting "I accept the terms of the license agreement" and click on "Next" to start the installation.



If you have a camera with OCR functionality, then mark the language(s) for which you have a license. If you do not have OCR functionality, then do not select any languages. Then click "Next" to continue with the installation.



Select "Install" in the dialogue box "Ready to Install the Program".



Select "Finish" in the dialogue box "InstallShield Wizard Complete".

4 Licensing

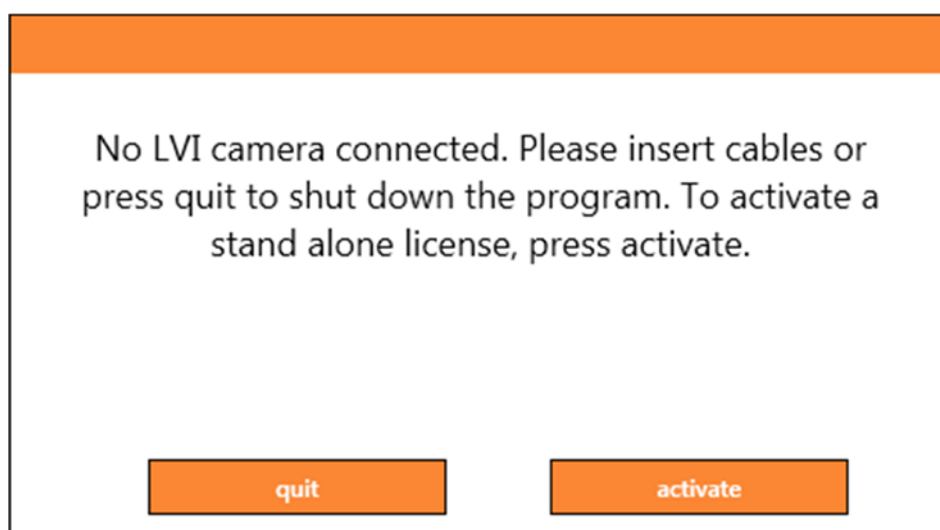
The camera system that is used with the software can be licensed with different functions.

- It is possible to license the system with or without OCR functionality.
- It is possible to license the system so that the software does not communicate with the internet.
- It is possible via the licence to remove the functions video recording and take picture.
- It is possible to license the system with voices in the following languages:
English (US), English (UK), German, French, Finnish, Italian, Dutch (BE), Dutch (NL), Swedish, Danish, Polish, Spanish, Portuguese, Norwegian, English (AU), Russian, French (CA), Arabic, Hebrew, Hungarian, Rumanian, Bulgarian, Czech, Slovakian, Croatian, Turkish, Greek.

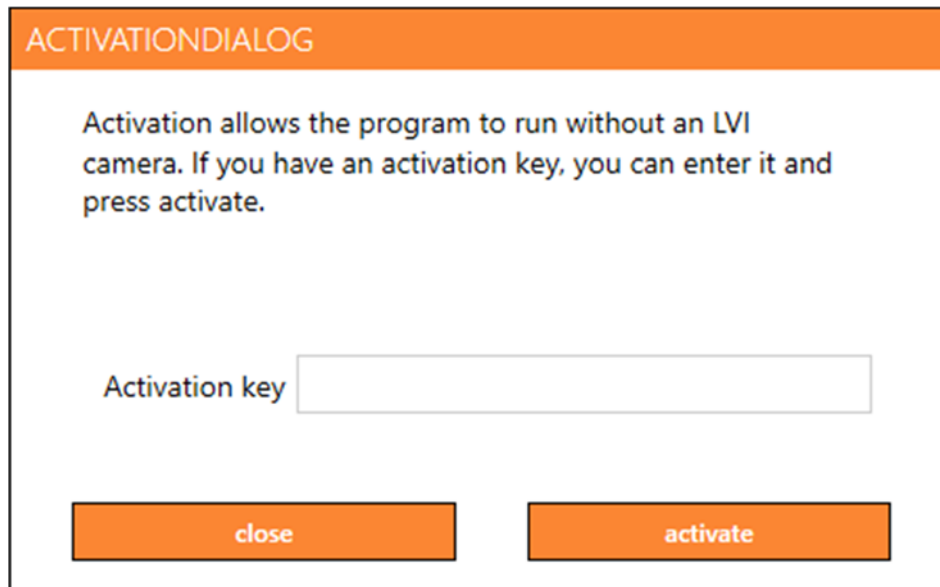
4.1 Computer license

By licensing the software to a computer, you can use the software without a connected camera. To license the software you will need an activation key. Activation keys can purchased from your LVI distributor.

To activate a computer license, launch the application without a camera connected. The following dialogue will be displayed.



Click on “activate”. If the application establishes contact with the activation server, the following dialogue box will be displayed.



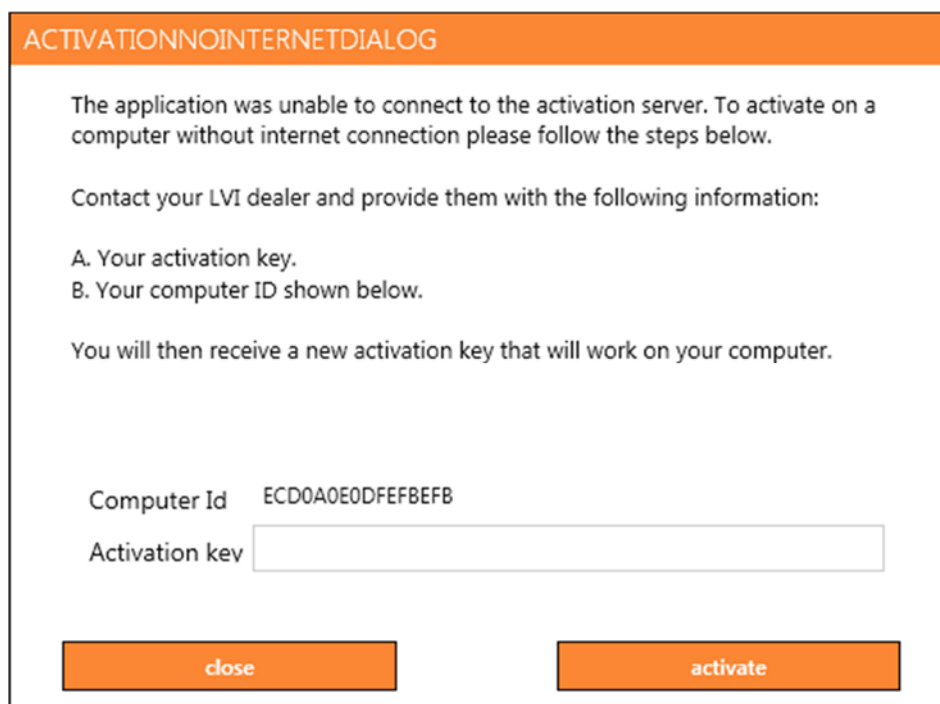
ACTIVATIONDIALOG

Activation allows the program to run without an LVI camera. If you have an activation key, you can enter it and press activate.

Activation key

close **activate**

Enter your e-mail address and your activation key, then click on “activate”. You can now start using the software without a camera.



ACTIVATIONNOINTERNETDIALOG

The application was unable to connect to the activation server. To activate on a computer without internet connection please follow the steps below.

Contact your LVI dealer and provide them with the following information:

- A. Your activation key.
- B. Your computer ID shown below.

You will then receive a new activation key that will work on your computer.

Computer Id ECD0A0E0DFEFBEFB

Activation key

close **activate**

The following dialogue box is displayed if there is no internet connection or the application is unable to connect to the activation server. Follow the instructions and contact your LVI distributor in order to activate the applications.

5 Using the software

The software can be started from the icon on the desktop, from the start menu or using the short cut command Ctrl + Alt + S.

5.1 Functions via menus

The application consists of a window with tabs and groups of buttons. There is a tab for application settings and another tab for handling the camera. Depending on whether the system is licensed for OCR, there is also a tab for handling the OCR processed text.

5.1.1 Camera tab

The following tab will only appear if there are one or more cameras connected.



Change colours

Used to change between natural and artificial colours.



Decrease magnification



Increase magnification



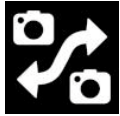
Overview mode

Reduces magnification to overview mode. Click again to restore the magnification. When overview mode is active, a sight is displayed in the middle of the video window.



Change Image Source

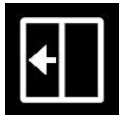
Used to swap image sources (if there are more than two sources).



Change camera
Used to swap cameras.



Change split mode
Change between vertical and horizontal split mode.



Move split left
Moves split mode to the left.



Move split right
Moves split mode to the right.



Pan left



Pan right



Tilt down



Tilt up



Position 1
To save the position, hold down "Ctrl" while pressing the button. The camera image will then move into the saved position when pressing the button.

2

Position 2

To save the position, hold down "Ctrl" while pressing the button. The camera image will then move into the saved position when pressing the button.

3

Position 3

To save the position, hold down "Ctrl" while pressing the button. The camera image will then move into the saved position when pressing the button.



Lock autofocus

Locks the autofocus mode. This can be used when you wish to write by hand. In this way, autofocus is not affected by the pen or your hand. Press the button a second time to reactivate autofocus.



Focus up

Reduce focus distance. When this function is used, autofocus is turned off.



Focus down

Increase focus distance. When this function is used, autofocus is turned off



Reduce brightness/contrast



Increase brightness/contrast



Reference line/bar left/up

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



Reference line/bar right/down

Same as the previous command but in the opposite direction.



Reduce lamp brightness



Increase lamp brightness



Take snapshot

A dialogue box "Save pictures" opens. A file name (with the day's date and time) and a folder (My Pictures) are automatically suggested. Just press "Enter" to save the picture. If you wish to save the picture somewhere else, or with another name or in another format, (the standard is JPG), you can change this manually. To save a picture quickly, hold down "Shift" when you press the button.



Show pictures

Press to view the saved pictures. Mark the picture you wish to view and press Enter or select Open. The picture is normally opened in Windows' standard picture-viewing programme where, among other things, the picture can be enlarged. To view the most recently saved picture quickly, hold down "Shift" when you press the button.



Start/stop video recording

Press to open the "Save video clip" dialogue box. A file name (with the day's date and time) and a folder (My video clips) 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. Stop the recording by pressing the button again. To start video recording quickly, hold down "Shift" when you press the button.



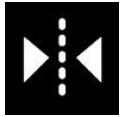
Show video recording

Press to view the saved video files. Mark the video you wish to view and press Enter or select Open. The video is normally opened in Windows' standard media player software. To view the most recently saved video recording quickly, hold down "Shift" when you press the button.



Rotate the camera image

Rotates the camera image clockwise. To rotate anticlockwise, hold down Shift when you press the button. To rotate steplessly, hold down Ctrl.



Mirror the camera image

Press again to reverse the mirror image.



Freeze the camera image

Press again to release the freeze.



OCR process (Only shown if the system has a licence for OCR)

When OCR processing is complete, the programme changes to the OCR tab and the text is read. If there is already text under the OCR tab this is replaced. Hold down Shift when you press the button to insert the text on a new page.



Whole image (Only shown if the system has a licence for OCR)

When this is active, the whole camera image is shown. Otherwise edit in the image, depending on how large the camera window is.



Notepad

Opens images from the camera in the notes tool.



Next split screen mode

Switches to the next split screen mode. In order to switch to the previous mode, hold down Shift when clicking on the button.



Always on top

Activates/deactivates "always on top"



Help

Opens the user guide in the standard application for showing PDF files.

5.1.2 OCR tab

The following tab is only shown if the system has an OCR licence.



Save documents

A dialogue box opens. A file name (today's date and time) is suggested automatically. It is possible to save the text as a Word file (.docx), PDF file, text file (.txt), WAV file (.wav) or zip file.



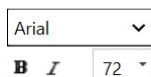
Open document (with OCR processing)

A dialogue box opens. From the dialogue box, select the file you wish to open. It is possible to open PDF files and image files, .bmp, .jpg, .png, .gif and .tiff, as well as saved zip files.



Change colours

Changes colours of the OCR processed text.



Font

Used to change the font of the OCR text. It is also possible to choose bold and italic text. The used font does not impact the OCR result.



Start/Pause reading



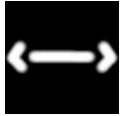
Stop reading

The next reading will begin from the start of the text.



Change display mode

Changes the display mode for OCR processed text. The display modes available are "page view", "row view", "word view", "image view", "image and word" and "image and row".



Silent display mode

Switches to silent display mode. There are two silent modes; one where the text is moved horizontally on one line and one where the text is moved vertically in a column.



Read previous

With this button, the user can go backwards through the text. If the reading mode is set as character, one character is read for each keystroke. If the reading mode is word, you move backwards through the text word by word. If the reading mode is sentence, you move backwards one sentence. If the reading mode is block, you move backwards one block.



Read next

With this command, the user can move forward in the text. If the reading mode is set as character, one character is read for each keystroke. If the reading mode is word, you move forward through the text word by word. If the reading mode is sentence, you move forwards one sentence. If the reading mode is block, you move forwards one block.



Switch reading mode

This command selects the reading mode that is to be employed when the "Read previous" or "Read next" command is entered. The modes available are: character, word, sentence, block and view. The modes that can be selected change depending on the display mode.



Volume and speed

The upper slider sets the volume and lower regulates the speed of the speech.



Pages

Shows all OCR processed pages. Click one of the pages to change page.



Notepad

Opens the OCR page in the Notes tool. Hold shift to open all pages.



Next split screen mode

Switches to the next split screen mode. In order to switch to the previous mode, hold down Shift when clicking on the button.



Always on top

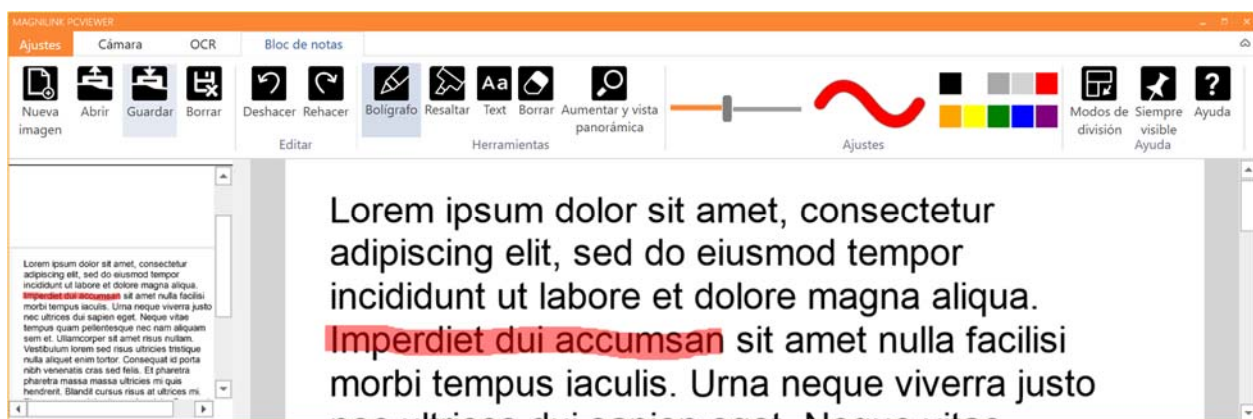
Activates/deactivates "always on top"



Help

Opens the user guide in the standard application for showing PDF files.

5.1.3 Notepad tab



The notes tool consists of three components.

- At the top is a menu bar with buttons.
- On the left is a list of pictures. By clicking a picture, you can navigate to it. You can delete an image by clicking in the upper right corner.
- A surface where you can draw, enlarge and pan in the picture.



New image

Opens a new blank page.



Open

Opens the bild. The system can open images in .jpg and .png format.



Save image

The system can save images in .jpg and .png format.



Delete

Deletes the current page.



Undo



Restore

Restores after pressing undo.



Pen

Draw with a pen.



Highlight

Highlight with a highlighter.



Text

Insert text. You can move text around after inserting.



Delete



Magnify and pan

Magnify and pan the image.



Size

Sets the size of pens and text.

**Color**

Changes the pen and text colour

**Next split screen mode**

Switches to the next split screen mode. In order to switch to the previous mode, hold down Shift when clicking on the button.

**Always on top**

Activates/deactivates "always on top"

**Help**

Opens the user guide in the standard application for showing PDF files.

5.2 Functions via the keyboard

Most functions can be handled using the keyboard. The shortcut commands can be changed in settings. Below are the standard settings for shortcut commands.

F1	Natural colours
F2	Positive colours forwards
Shift + F2	Positive colours backwards
F3	Negative colours forwards
Shift + F3	Negative colours backwards
Up arrow	Increase magnification
Down arrow	Reduce magnification
Ctrl + O	Overview mode
C	Change camera
X	Change split mode
Z	Change image source
Shift + left arrow	Move split left/up
Shift + right arrow	Move split right/down

Ctrl + 1	Save position 1
Ctrl + 2	Save position 2
Ctrl + 3	Save position 3
Shift + 1	Go to position 1
Shift + 2	Go to position 2
Shift + 3	Go to position 3
Ctrl + J	Autofocus on/off
Shift + up arrow	Reduce focus distance
Shift + down arrow	Increase focus distance
Right arrow	Increase brightness/contrast
Left arrow	Reduce brightness/contrast
Ctrl + left arrow	Reference line left/up
Ctrl + right arrow	Reference line right/down
Ctrl + 6	Reduce lamp brightness
Ctrl + 7	Increase lamp brightness
Ctrl + R	Rotate image clockwise
Ctrl + Shift + R	Rotate image anti clockwise
R	Rotate image clockwise steplessly
Shift + R	Rotate image anticlockwise steplessly
Ctrl + I	Mirror camera image
Ctrl + F	Freeze camera image
Ctrl + A	Always on top
Ctrl + H	Hide menus
F12	Open user guide
F9	Settings
F11	Standard settings
F7	Take a picture and open in Notepad
Ctrl + C	Copy image or text
Ctrl + M	Minimise application
F8	Next view

Ctrl + F8	Previous view
Ctrl + Minus	Reduce menu size
Ctrl + Plus	Increase menu size
F5	Save picture
Shift + F5	Save picture quickly
F6	Open picture
Shift + F6	Open picture quickly
Ctrl + F5	Start video recording
Ctrl + Shift + F5	Start video recording quickly
Ctrl + F6	Open video
Ctrl + Shift + F6	Open video quickly

The following commands are only available together with cameras that are licensed for OCR.

F4	Start OCR The text from OCR processing replaces existing text.
Shift + F4	Start OCR enter The text from OCR processing is entered on a new page.
Ctrl + L	Whole image Changes between whole image and cropped image.
Ctrl + V	Paste The pasted text replaces existing text.
Ctrl + Shift + V	Paste and add The pasted text is added to a new page.
Ctrl + S	Column selector Activates or deactivates the column selector. When the column selector is active, only those columns that are intersected by the column selector are OCR-processed.
V	Changes between camera tab and OCR tab
Alt + F5	Save documents
Alt + F6	Open documents
Up arrow	Increase magnification
Down arrow	Decrease magnification

Shift + Plus	Increase font size
Shift + Minus	Decrease font size
1	Start reading
2	Stop reading
B	Change display mode
N	Silent mode
3	Read previous
4	Read next
5	Switch reading mode
Page Down	Next page If several pages have been scanned, you move to the next page.
Page Up	Previous page If several pages have been scanned, you move to the previous page.
Delete	Remove current page If several pages have been scanned, you remove the current page.
8	Reduce volume
9	Increase volume
6	Reduce speaking speed
7	Increase speaking speed
Ctrl + 0	Next voice
A	Pan left (If the document is magnified)
D	Pan right (If the document is magnified)
W	Pan up (If the document is magnified)
S	Pan down (If the document is magnified)

The following commands are used to control Notepad functions.

Ctrl + N	New Page
----------	----------

Ctrl + O	Open image
Ctrl + S	Save image
Ctrl + Z	Undo
Ctrl + Shift + Z	Redo
Ctrl + P	Select pen tool
Ctrl + L	Select the highlighter tool
Ctrl + T	Select text tool
Ctrl + E	Select the eraser tool
Ctrl + F	Select the pan tool

5.3 Functions via the mouse

Some functions can be controlled by the mouse.

In camera mode.

- The scroll wheel can be used to zoom in or out.

In OCR-mode

- Left mouse button is used to start or pause the speech.
- By rolling the scroll wheel, the picture and font size can be increased or reduced.
- Press and hold the right mouse button or the scroll wheel and move the mouse to navigate the picture (only possible if picture has been magnified).

It is possible to open a document by dragging it into the application.

5.4 Information and settings window

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

5.4.1 About the application

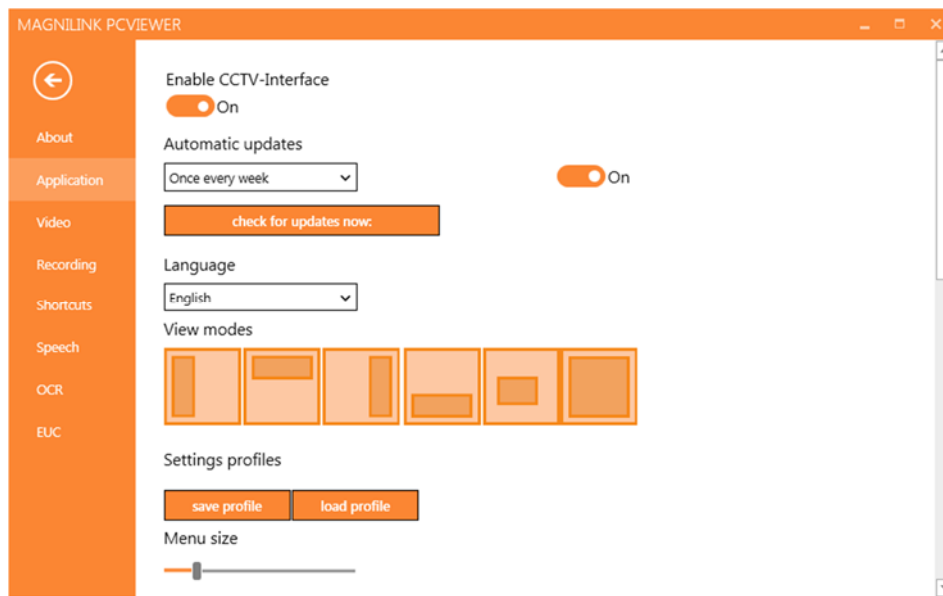


Information regarding the software version and license can be found under this tab.

To deactivate a computer license, press "remove license". The license will then be deactivated on the server and it will be possible to activate it on another computer.

If you want to update the camera license or activate a computer license, you can do it by pressing the "enter license" button.

5.4.2 Application Settings



Activate CCTV interface

If this function is activated, MagniLink PCViewer supports working with the magnification software from ZoomText and SuperNova.

Automatic updates

This can be set if MagniLink PCViewer is to search for updates. You can also set how often it will search: "Once per day", "Once per week" or "Once per month". You can also choose to make updates manually by clicking "search for updates now" (note: an internet connection is needed for both automatic and manual updates).

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

Split screen mode

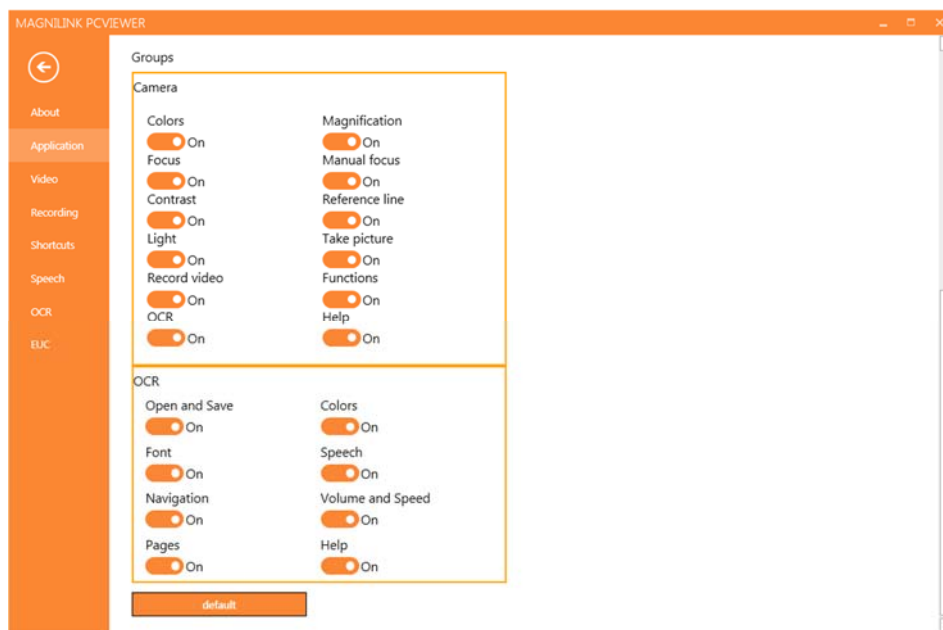
It is possible to choose the mode you want when changing split screen mode.

Settings profiles

It is possible to save and load settings profiles.

Menu size

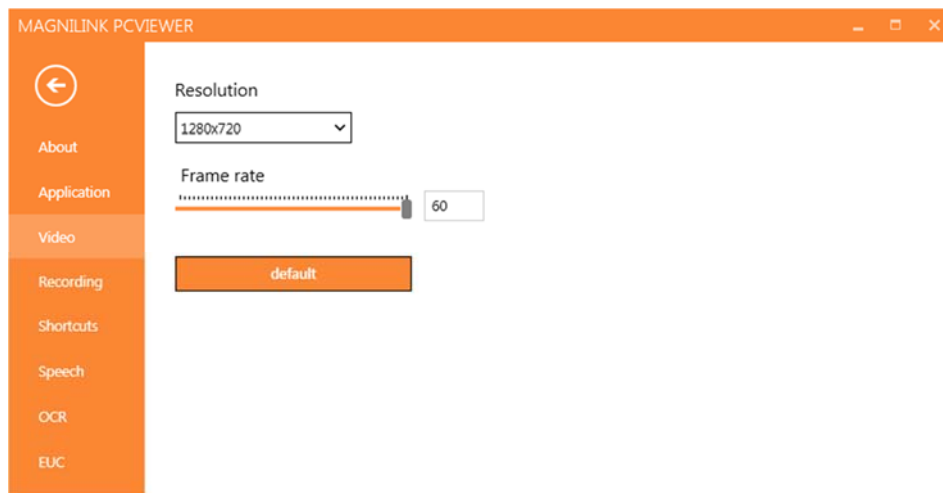
The size of the menus and buttons can be changed here.



Groups

It is possible to choose which groups of buttons appear in the menus.

5.4.3 Video Settings



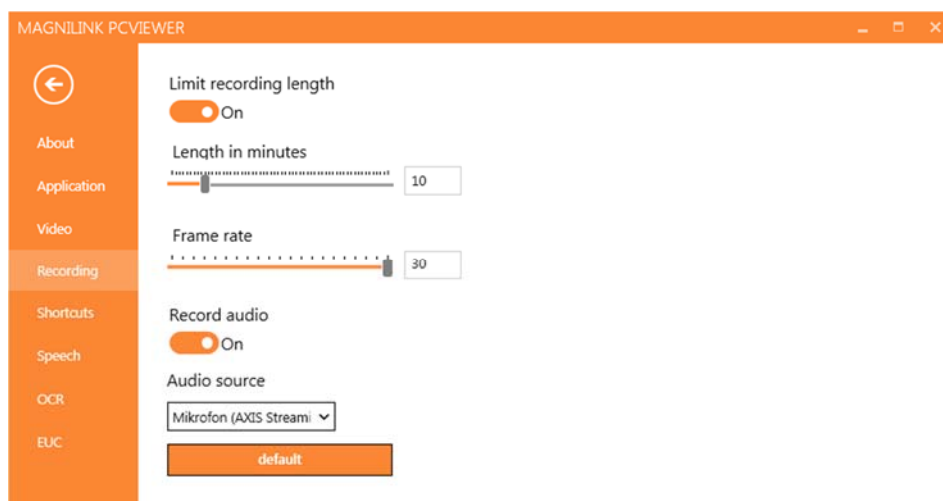
Resolution

Select from the camera's various resolution options. At resolution 1280x720, the frame rate can be set up to 60 Hz. At resolution 1920x1080, only 30 Hz is possible.

Frame rate

This setting allows the user to limit the frame rate. For the best video quality, the frame rate should be 60 Hz, but it may be appropriate to set the frame rate at 30 Hz for computers with a lower level of performance.

5.4.4 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.

Frame rate

The recording frame rate, the number of images recorded per second, can be set from 10 to 30 frames per second. A lower frame rate means a poorer quality video recording, but takes up less space on the hard disc.

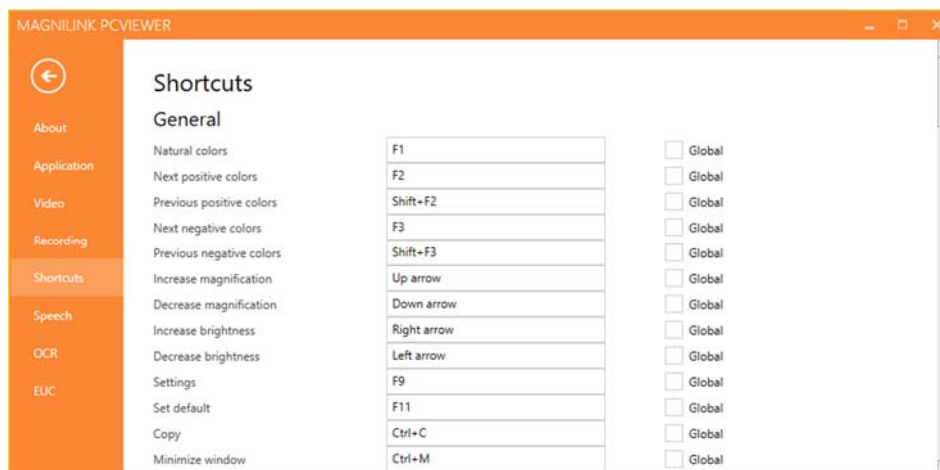
Record sound

If your computer has a microphone (internal or external), sound can be added to the recording.

Sound source

Select which microphone is to be used to record sound for the video. Normally only one sound source may be selected.

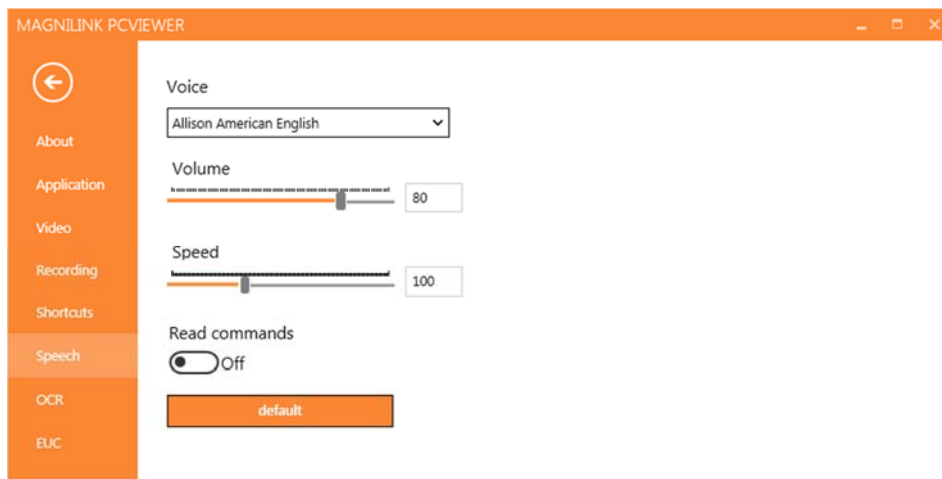
5.4.5 Short cut commands



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 enter the new keyboard combination. It is possible to set two different combinations for the same command. 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 for the other command.

It is also possible to make a keyboard shortcut global. A global keyboard shortcut can be used also when the application is inactive.

5.4.6 Speech Settings



Voice

If several voices are available, the user can choose between them.

Volume

Setting the sound level of the voice.

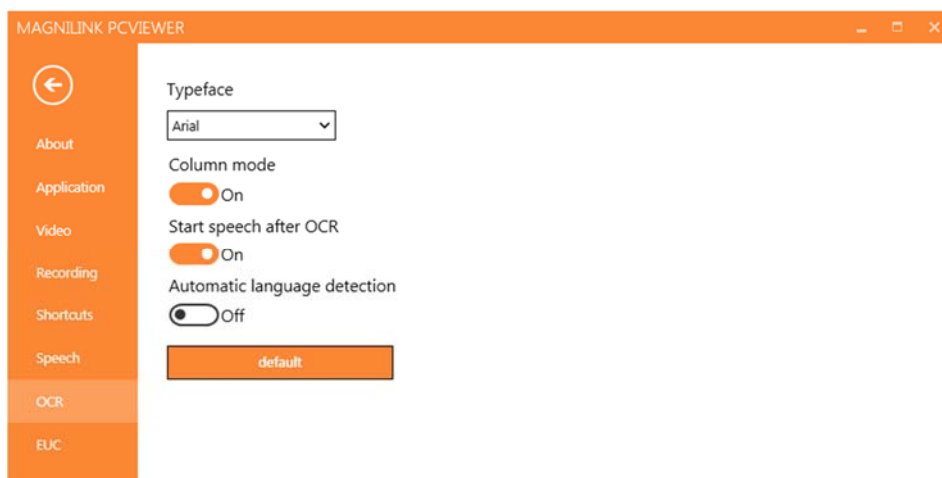
Speed

Setting the speaking speed.

Read command

When this is checked, the application reads out the menus when you use them.

5.4.7 OCR Settings



Font

Here the user can set which font is to be used to display the OCR

processed text. The font that is used has no effect on the result of the OCR processing.

Column mode

When this setting is active, the OCR engine processes the text by column, which is useful if text from a newspaper is to be OCR processed.

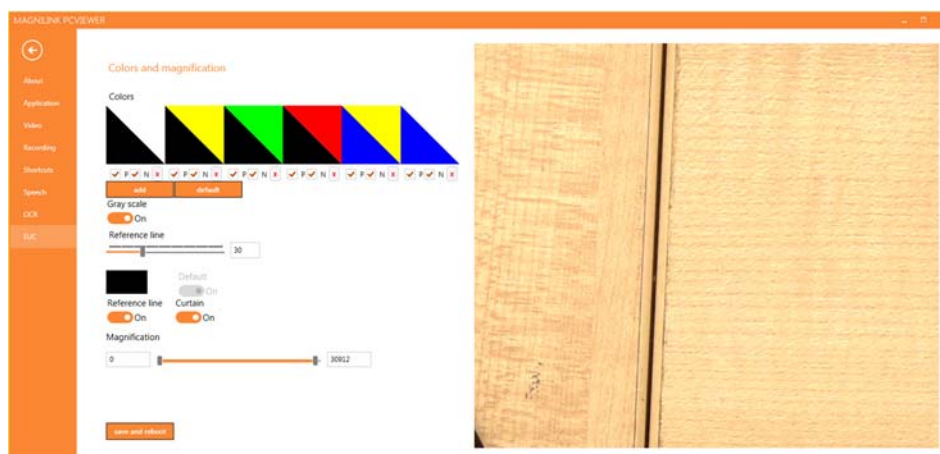
Start speech after OCR

If this box is ticked, text will automatically be read aloud after an image has been OCR processed.

Automatic language identification

When this function is activated, the application attempts to identify the language that has been OCR processed and change the voice accordingly.

5.4.8 EUC



The camera can be configured under this tab. If you wish to save changes in the camera, press "Save". When you do this, the camera restarts and the configuration has been saved.

Artificial colours

It is possible remove and change the cameras artificial colours.

- To remove a colour combination, press X
- To add to a colour combination, press enter.
- To change a colour combination, press one of the triangular zones and a colour dialogue will appear. Select colours and press OK.
- To remove either the positive or the negative component. Click out box P or N.

- To restore the colours, press Standard.

Grey scale

Choose if you wish to have grey scale or not.

Reference line

Set the size and colour of the reference line and choose if you wish to have reference line, bar or both.

Magnification

Set the maximum and minimum magnification.

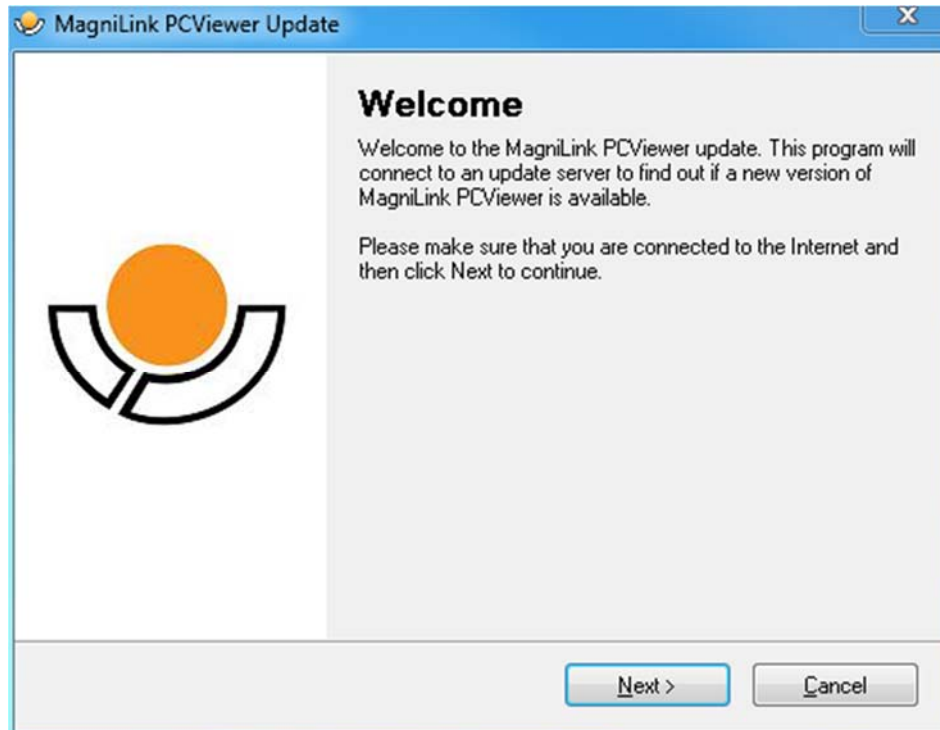
5.5 Quality of OCR processing

In order to optimize the results of the OCR conversion, you should bear in mind the following.

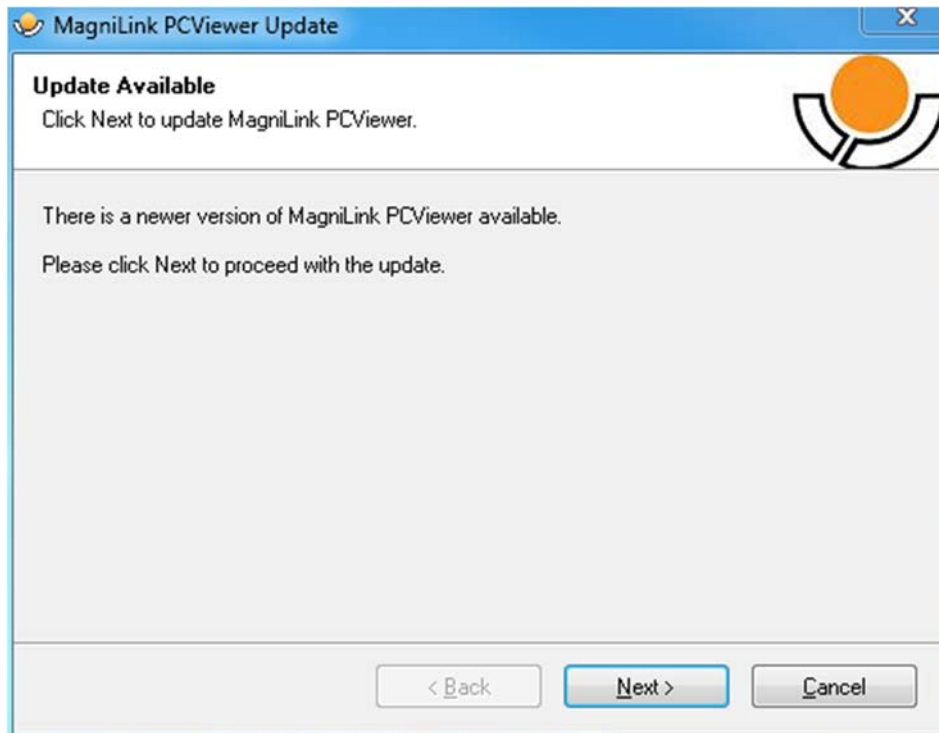
- Ensure the magnification is sufficient. Very small text produces poor results in the OCR software. A minimum of 12pt is recommended for the lowest magnification on the reading camera.
- Avoid glossy paper as this results in reflections in the image. This impairs the results of the OCR conversion. If you intend to use glossy paper, we recommend that the light on the unit is switched off.
- Certain fonts can be difficult for the OCR engine to interpret.
- It is important that the text contrast is sufficient.
- It is important that the OCR engine's language is the same as that of the text.
- The camera's resolution should be set to at least 1280x720, see Video settings for more information.

6 Update software

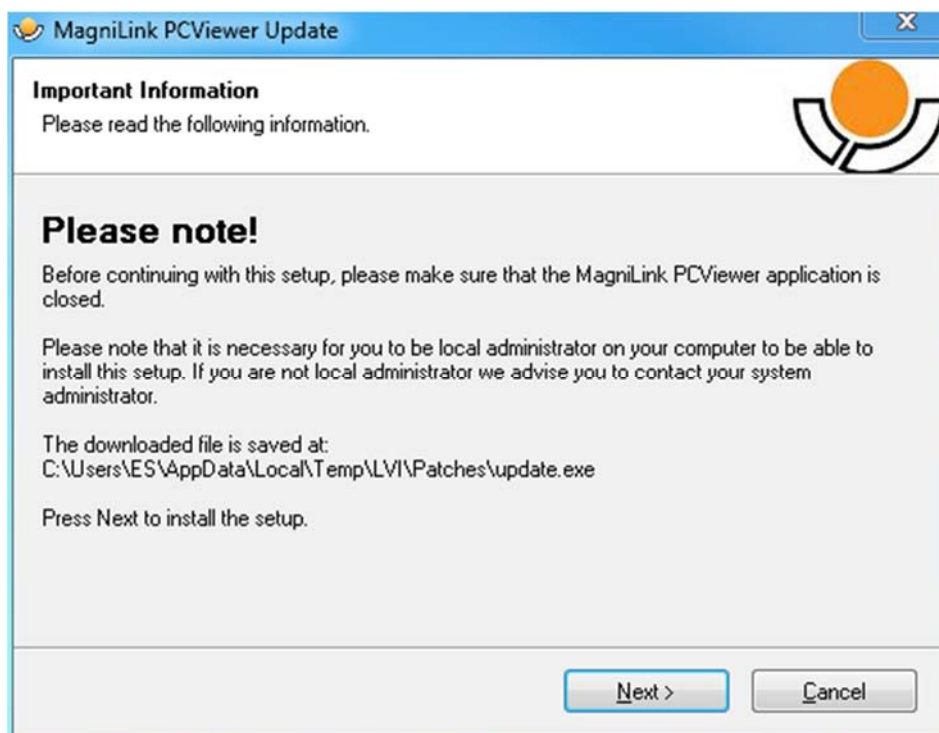
When a new version of the software is released, an update can be made. Follow the instructions below when the application finds a new version.



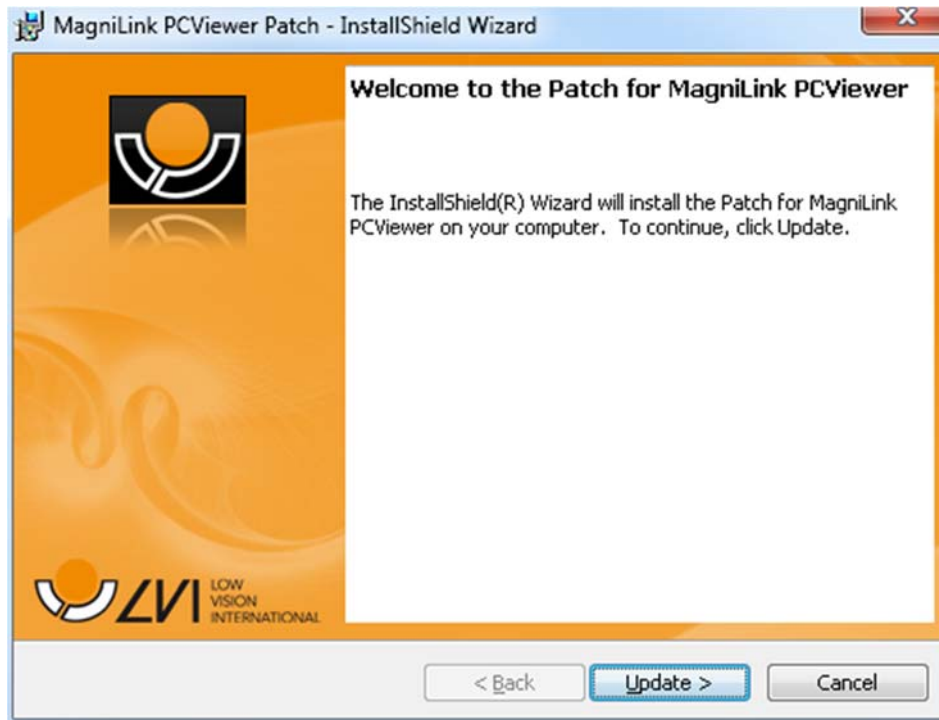
Click **"Next"** in the dialogue box **"Welcome"**. If there is an update, the following dialogue box is shown.



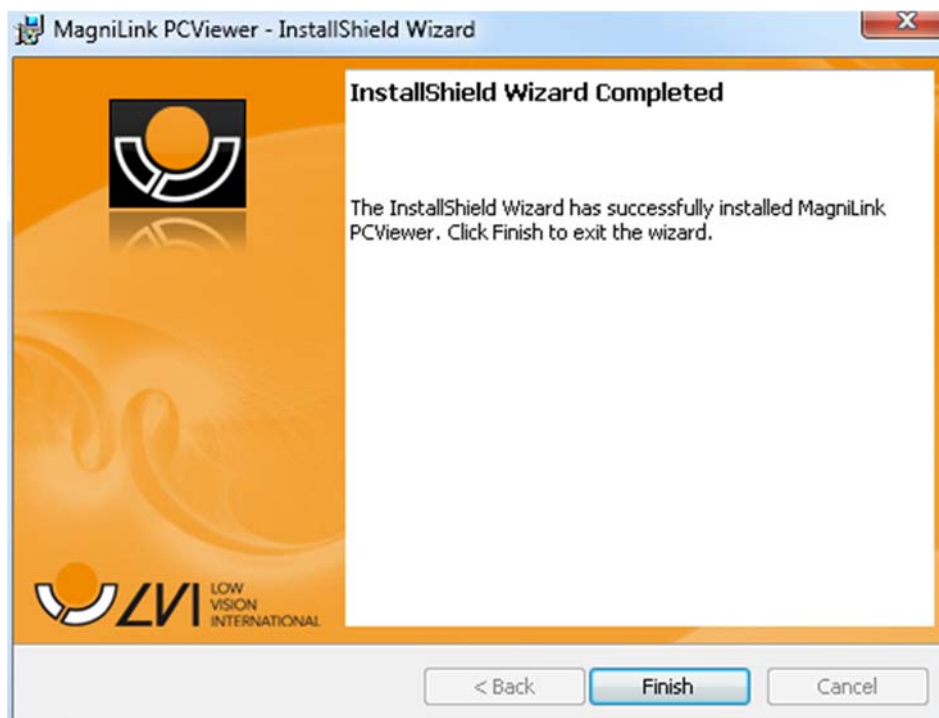
Click **"Next"** in the dialogue box **"Update available"** to start downloading the update.



Ensure that you close MagniLink PCViewer before clicking **"Next"** in the dialogue box **"Important information"**.



Click "Next" in the dialogue box "Welcome to the Patch for MagniLink PCViewer".



Click "Finish" in the dialogue box "Installshield Wizard Completed".

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