MakeMe3D

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Convert your own videos in 3D!

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1.1 About MakeMe3D

MakeMe3D creates real 3D-Videos from old movies!

MakeMe3D supports:

· **Anaglyph 3D glasses** (red/cyan, red/blue, green/magenta and yellow/blue): You need the old-school, colored 3D-glasses to watch anaglyph videos.

· **Shutter technique**: To use the modern "Shutter technique" you need a Nvidia 3D Vision Glasses Kit (compatible with the 3D Vision Video Player) and fitting hardware like the Syncmaster 2233RZ, Acer GD235HZ, Acer GD245HQ, Alienware OptX AW2310 or the Viewsonic FuHzion VX2265wm. The notebook Asus G51J-3D and the 3D-Beamer Acer H5360 are also supported. Please visit the Nvidia website or look into the Nvidia 3D Vision Glasses Kit manual to inform yourself about more supported hardware.

· **Polarized glasses**: This glasses can be used with hardware like the notebooks Acer 5740DG or Aver 5738DG or the monitors Zalman ZM-M220W or iZ3D 22W.

1.2 Package content

The product package that you have bought comprises the MakeMe3D program, including help files. If you purchase the box version, this also includes a DVD booklet with a hard-copy manual. You will find the license and serial number in the manual. If you have purchased the program online you will receive the serial number via email .

1.3   System requirements

You need to have a running Windows operating system to install the program. The program is supported by *Windows 2000, Windows XP* (*Home*, *Professional* and *Media Center Edition*) *Windows Vista* and *Windows 7* (32Bit and 64Bit). You are also recommended to install any updates that are currently available for your relevant operating system .

· a computer with at least a 1 GHz processor with SSE2 support. (Fast 2 or 4 core processors are recommended)
· at least 1 GB RAM (2 GB recommended)
· around 15 MB of hard disk space for installing the program
· several gigabytes of free storage space for the converted videos
· CD/DVD-ROM drive (optional)
· mouse or compatible input device

1.4   Support

If any unexpected problems crop up when you are using MakeMe3D, you can contact our support center with confidence .

Important: To help us provide you with effective support, please have the following information to hand :

· **information about the program you bought:** the program name, in this case MakeMe3D, and version number (which can be found under About).
· the **operating system** that you are using.
· a brief description of the problem and how often it occurs (occasionally or regularly). If you have a screenshot of the error message available, attach it to your query if you are sending it by email .
- the number of cores your CPU owns (which can be found under settings)

Web:

You can reach our Support-Center via the contact form under http://www.makeme3D.net

1.5   Copyright

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1.6 Installation

The procedure for installing MakeMe3D on your system is as follows :

1. Save your current data and shut down all open programs.
2. Start the intallation by double-clicking the exe file you have downloaded .
3. The Setup Wizard configures the application for you .

The setup wizard will guide you through the nearly fully automated installation process. As general the following rules apply:

- The button "**Next**" is used to proceed to the next installation step.
- The button "**Back**" is used to return to the previous installation step.
- The button "**Cancel**" is used to abort the installation.
- As usual, the installation makes **no changes** to your system until you click on "Install".

The setup wizard helps you by choosing the installation location with the buttons "Change" and "Disk Usage":

- Use "**Change**" to open a folder browser were you can change the installation location for MakeMe3D.
- Use "**Disc Usage**" to check if the hard drive you want to install MakeMe3D on offers enough free space.

Furthermore you can customize your installation with the following features:
· **Create desktop shortcut :** Allows you to access the Start Center via a shortcut on your desktop
· **Create QuickLaunch shortcut :** Allows you to access the Start Center via a shortcut in the quick start section of the taskbar .

Part II
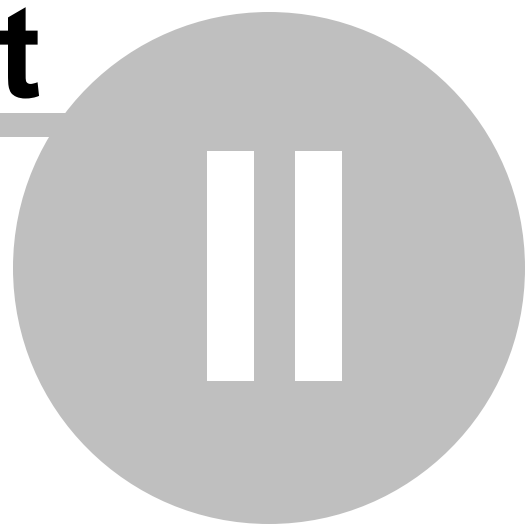
2 First steps

The training period for handling MakeMe3D is extremely short and the program will soon produce the best results for your videos.

Program start

Registration

Demo version

Update

Settings

- General
- Preview
- Convert

2.1 Program start

After you installed MakeMe3D successfully, you can start it via ‚Start > All Programs >Engelmann Media > MakeMe3D > MakeMe3D'.
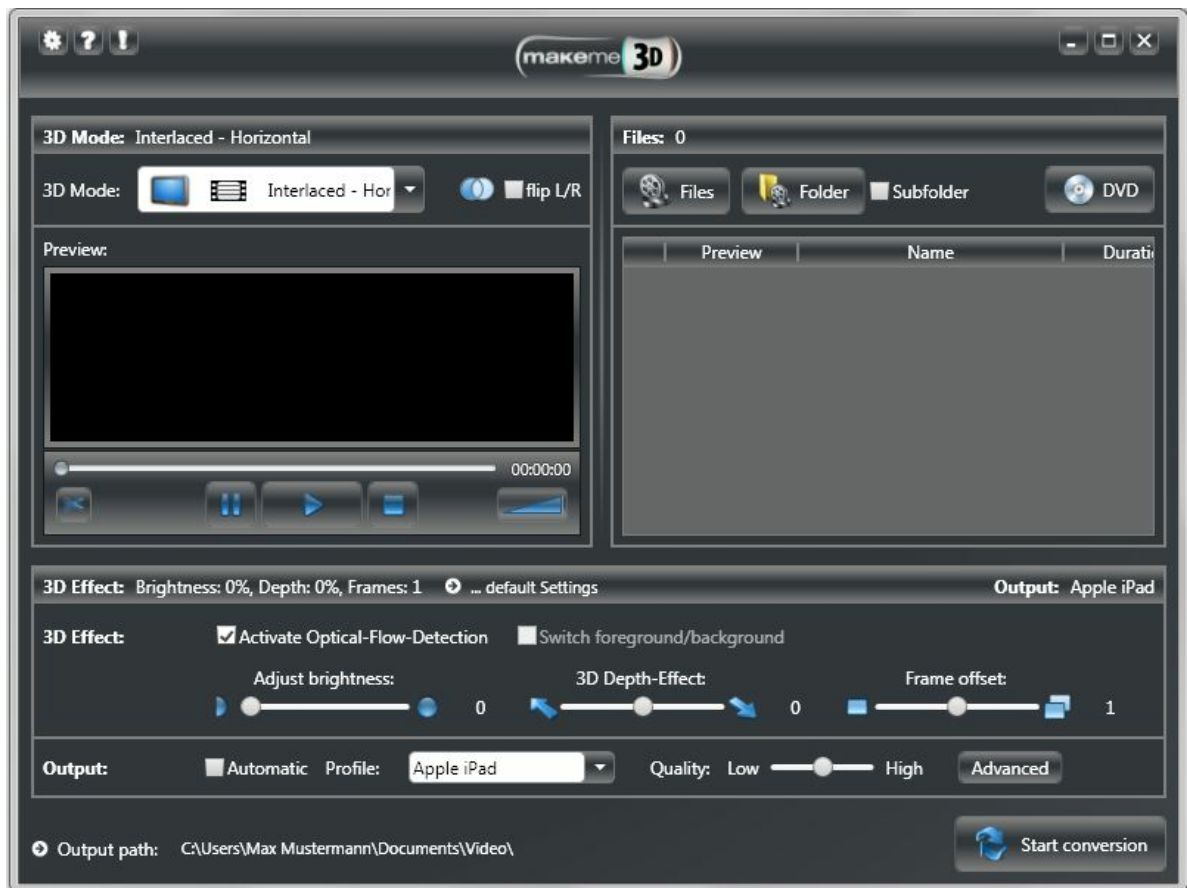
2.2   Registration

When you start an application for the first time you will be asked to enter the serial number. You will find this number (depending on the version you bought) in the manual, on the packaging/CD cover or in an email that has been sent. Click *Enter serial no.* and enter the code in the five fields provided for this. Otherwise, the number can also be inserted from the clipboard. Click *OK* to activate the application .
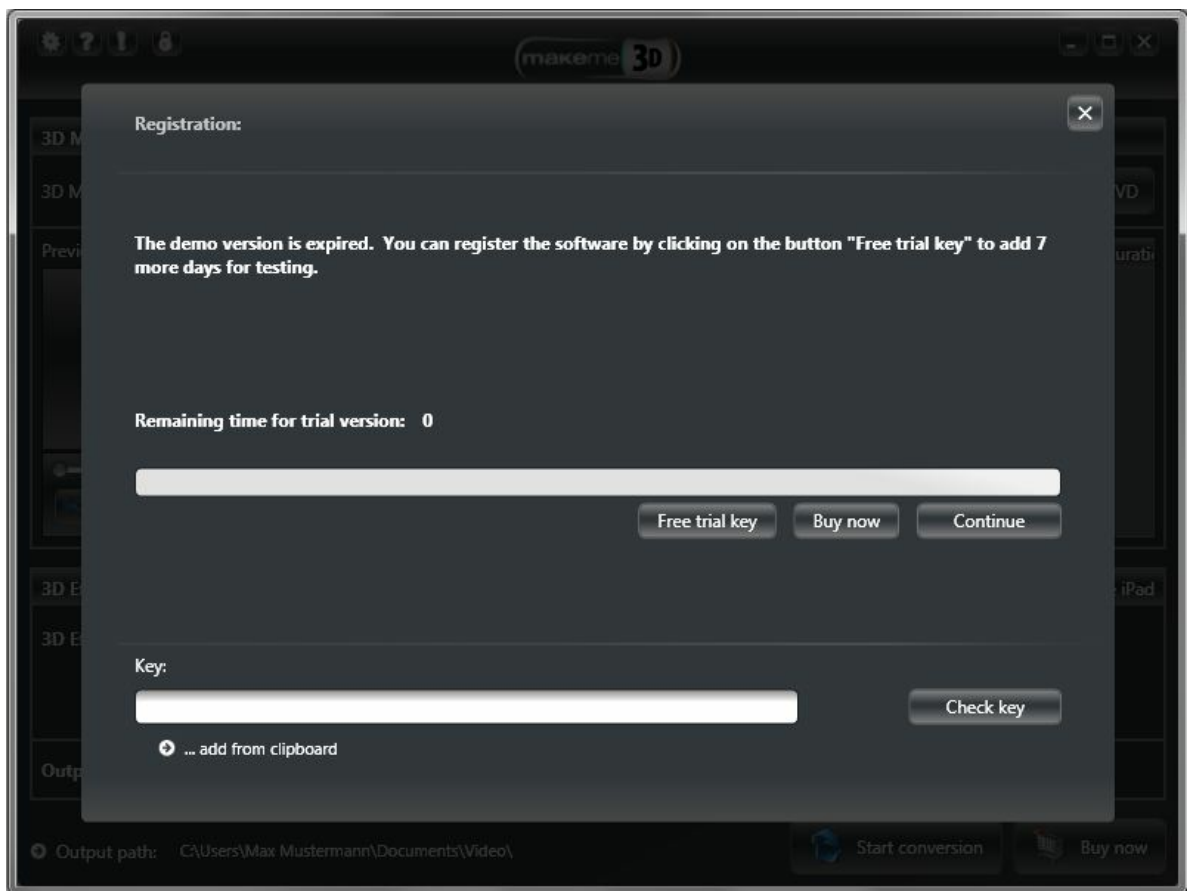
2.3 Demo version

You can use the full version of MakeMe3D for 3 days as a limited demo. You can test the software in every area during this period, only limited by the conversion time which is set to a maximum of 5 minutes.After this you need a valid license to use the program. It would give us great pleasure if our application could convince you during this period to become a new customer .

2.4 Update

You can update your software by going into the settings menu via the gear-shaped button in the upper left corner and then clicking on "Search updates". To do this, the program's internal Update Wizard connects to our update server to search for new versions of MakeMe3D. If the search is a success, you will be asked whether you want to download the update. (All registered users of our products generally receive free updates according to the relevant version number of their programs .)

Hint: Activating the "Activate automatic update" feature in the settings dialog will force the program to search for updates on every start-up.

Note: The Wizard only transfers the data required to update the program and obviously not any personal information .
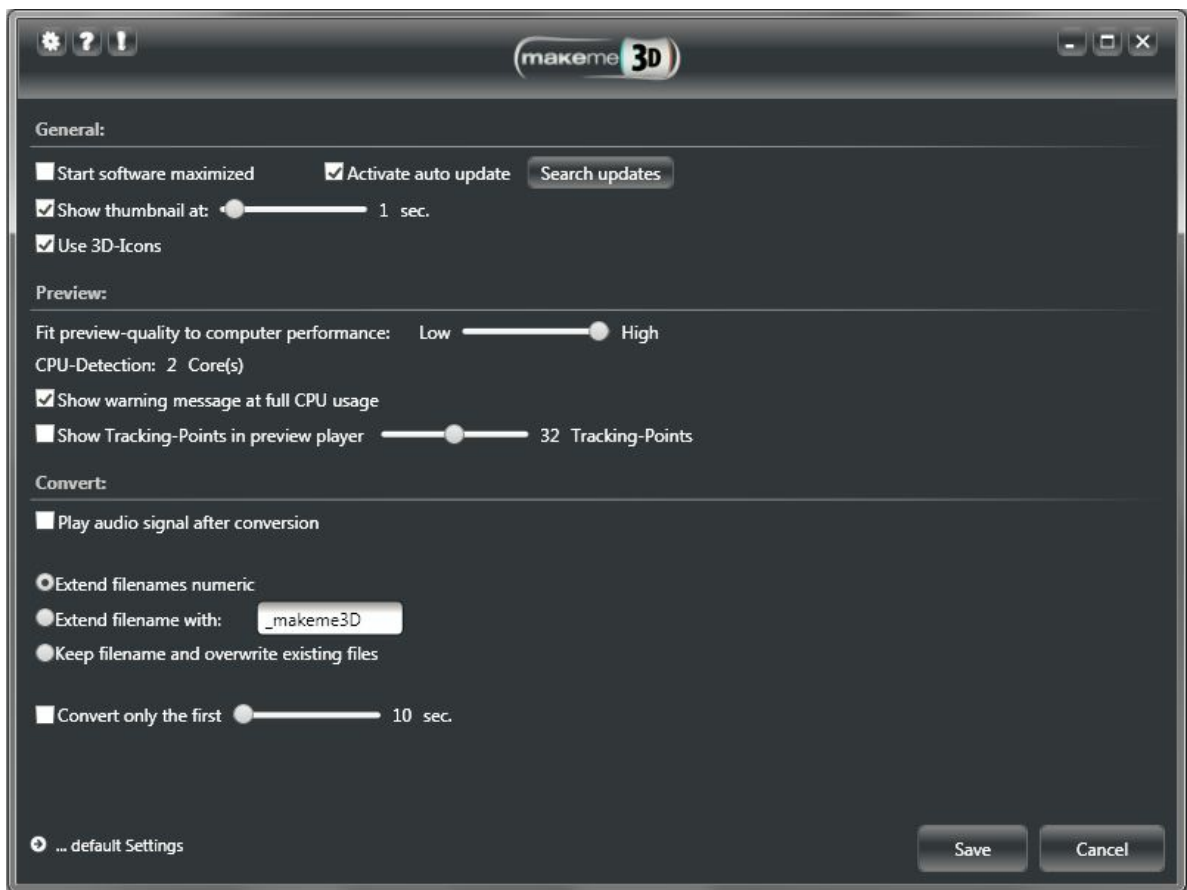
2.5   Settings

The program settings are separated into three topics: General, Preview and Convert. You can open the settings by clicking on the gear-shaped button in the upper left corner of the program.

General

Preview

Convert

2.5.1   General

Start software maximized: If activated, MakeMe3D will start in full-screen mode.

Activate auto update: MakeMe3D will search for updates on every start-up.

Show thumbnail at ... sec.: Declares which frame will be shown in the preview window after you have loaded a video (from the first frame on). This helps to get an actual picture of a video, because a lot videos have black screens for the first several seconds.

Use 3D-Icons: Shows the software icons in 3D. Which 3D mode is used depends on the chosen 3D profile.

2.5.2 Preview
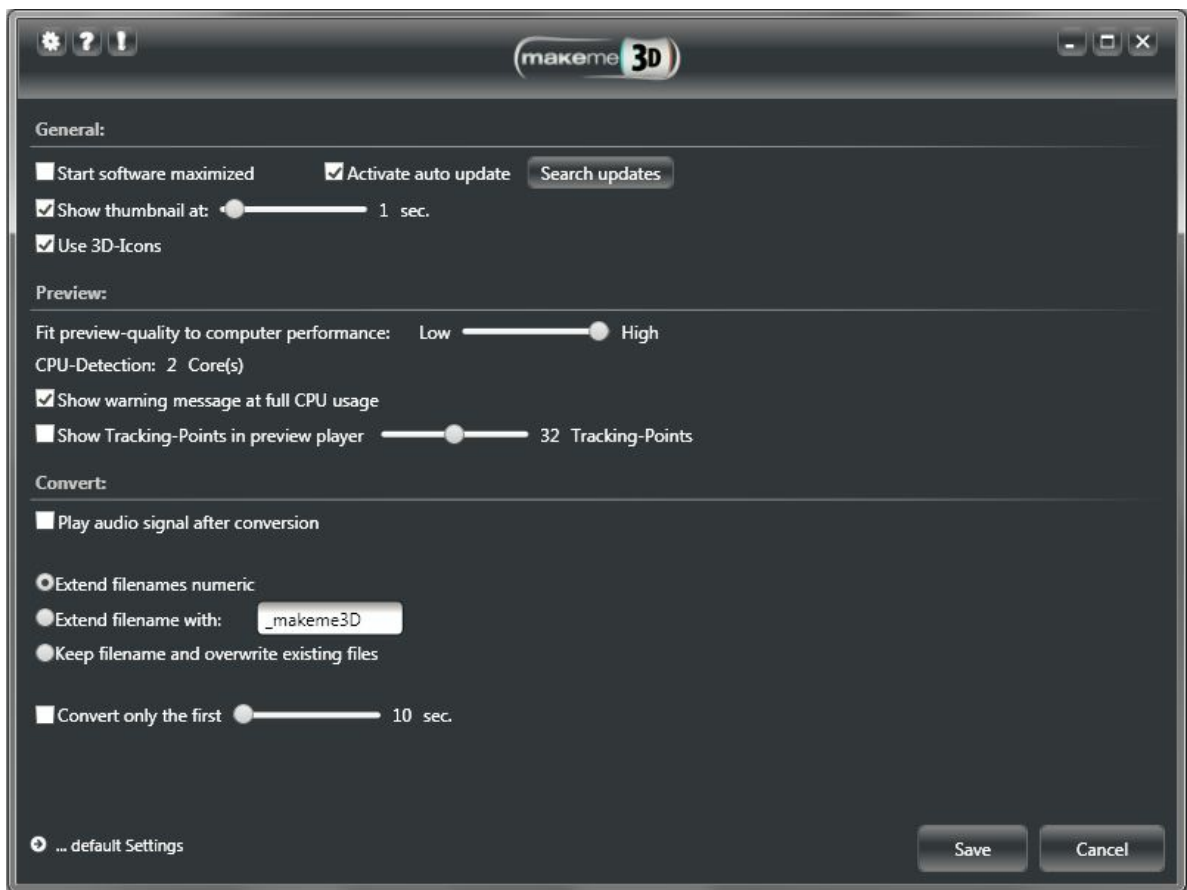
Fit preview-quality to computer performance: To prevent the waste of your computers resources, you can change the preview quality. The lower the quality of the preview is, the lesser is the resource usage of your computer.

Background: The real-time preview, especially if you use high definition content, is highly resource intensive. For high definition content, a quad core CPU is highly recommended. For lower resolutions (like PAL) a dual core CPU should be enough. However, this applies only to the real-time preview and not for the conversion. To optimize and/ or convert the video content, smaller CPU's like single cores with 1GHz are fine, yet a lot slower than high end CPU's.

CPU-Detection: This shows how much cores your CPU has. Please tell this our support if you have to ask for help.

Show warning message at full CPU usage: If activated, the program will prompt you a warning message if it uses nearly the full power of your. In this case, please try lowering the preview quality and/ or abandon the use of the real-time preview. You can use the "Convert only the first ... sec." option instead, to preview the optimization and/ or conversion (See "Convert" for more details).

Show Tracking-Points in preview player: After activating this option, you can watch the work of our object recognition software in the preview window. Furthermore you can change the number of Tracking-Points to use (The recommended value is 32). This option actually has no effect on the optimization and is only for a scientific presentation of our technique.

2.5.3 Convert
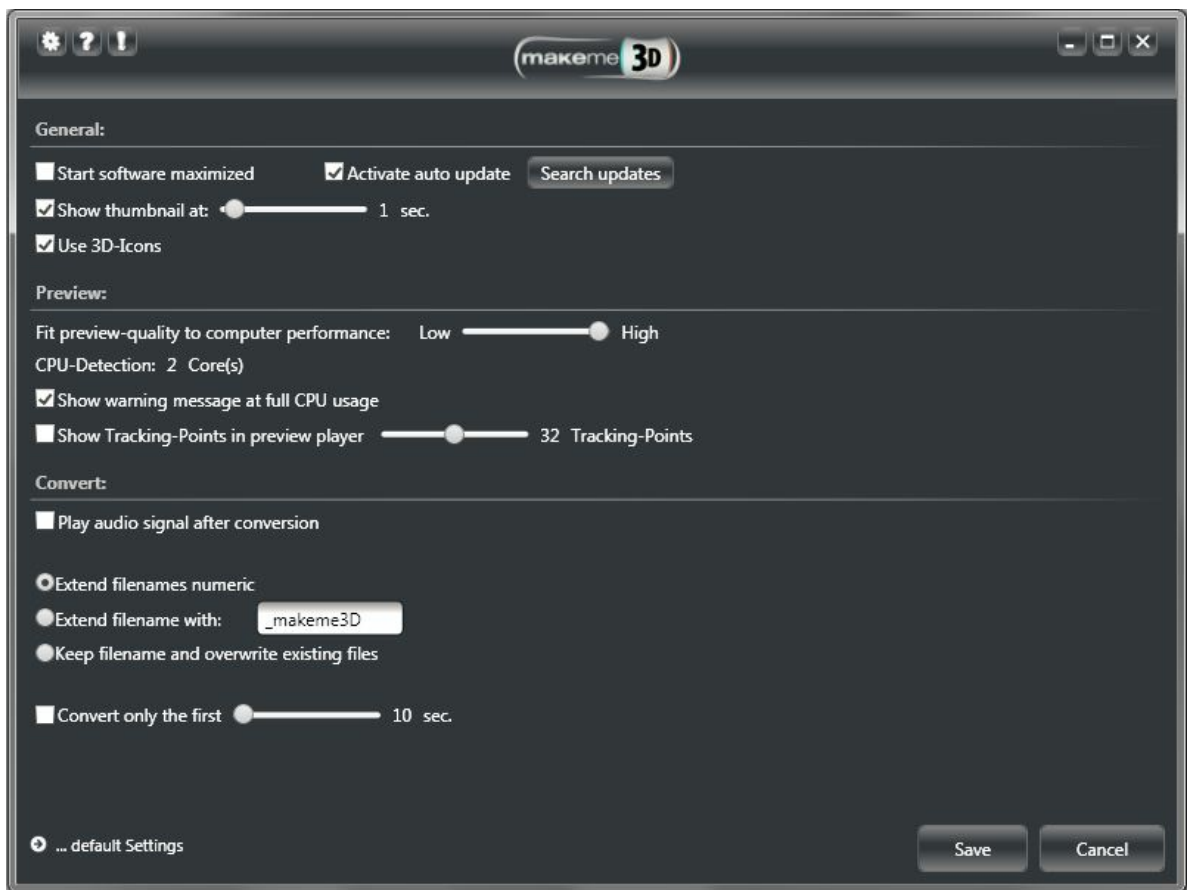
Play audio signal after conversion: Activate this option to make the program play a short audio signal after the conversion has finished.

Filename rules:
· **Extend filename numeric:** Adds a number to the newly created files, to differ between the original and the optimized video.
· **Extend filename with:** Adds the inserted extension (like the default "_makeme3D") to the newly created files.
· **Keep filename and overwrite existing files:** Keeps the filename of the source file and overwrites it with the new one. **Attention: You will loose your original source file!**
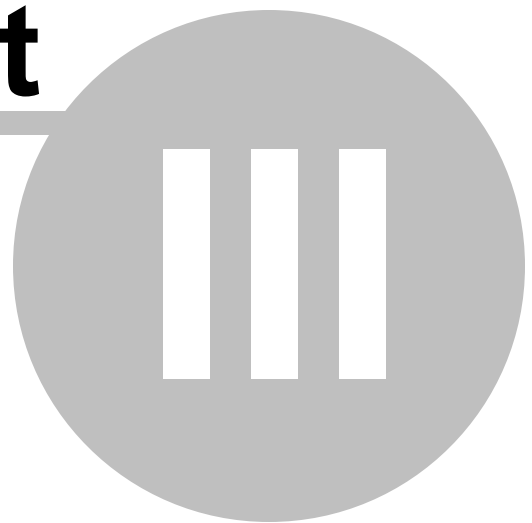
Convert only the first ... sec.: Even if you use the real-time preview, this option offers you to check the quality of the optimized videos in a more "realistic" way. You can watch the first seconds of the optimized video in full screen and with the player of your choice, checking if all works like you want it to.

Part III

3 Introduction

MakeMe3D is in large parts exclusively operated with the mouse. Navigation and selection of single options are made with clicks of the left mouse key. The right mouse key is reserved to one or the other context menu. The videos to be converted are added by means of an integrated file explorer.

Program structure

Brief instruction

- Load video
- 3D options
- 3D conversion (output)
- Advanced settings
- Start conversion

3.1 Program structure

The program surface is separated into four main areas: 1) the preview, 2) a list, containing the videos which should be optimized, next to the preview, 3) the options area in the bottom third and 4) the 3D modes in the upper left corner.

- **List:** The list contains all videos which will be optimized and gets filled via the integrated file browser. Selecting a video from the list will display it in the preview.
- **Preview:** The preview is used to show the content of the selected video and to check the results of the optimization settings ("Real-Time Preview" --> For more information check: First steps -> Settings -> Preview).
- **Options area:** This area provides all the basic options to manipulate the optimization and/ or the conversion of the videos. Click the "Advanced" button for more options.
- **3D modes:** This is were you can choose which 3D mode actually should be used - depending on which hardware you use.
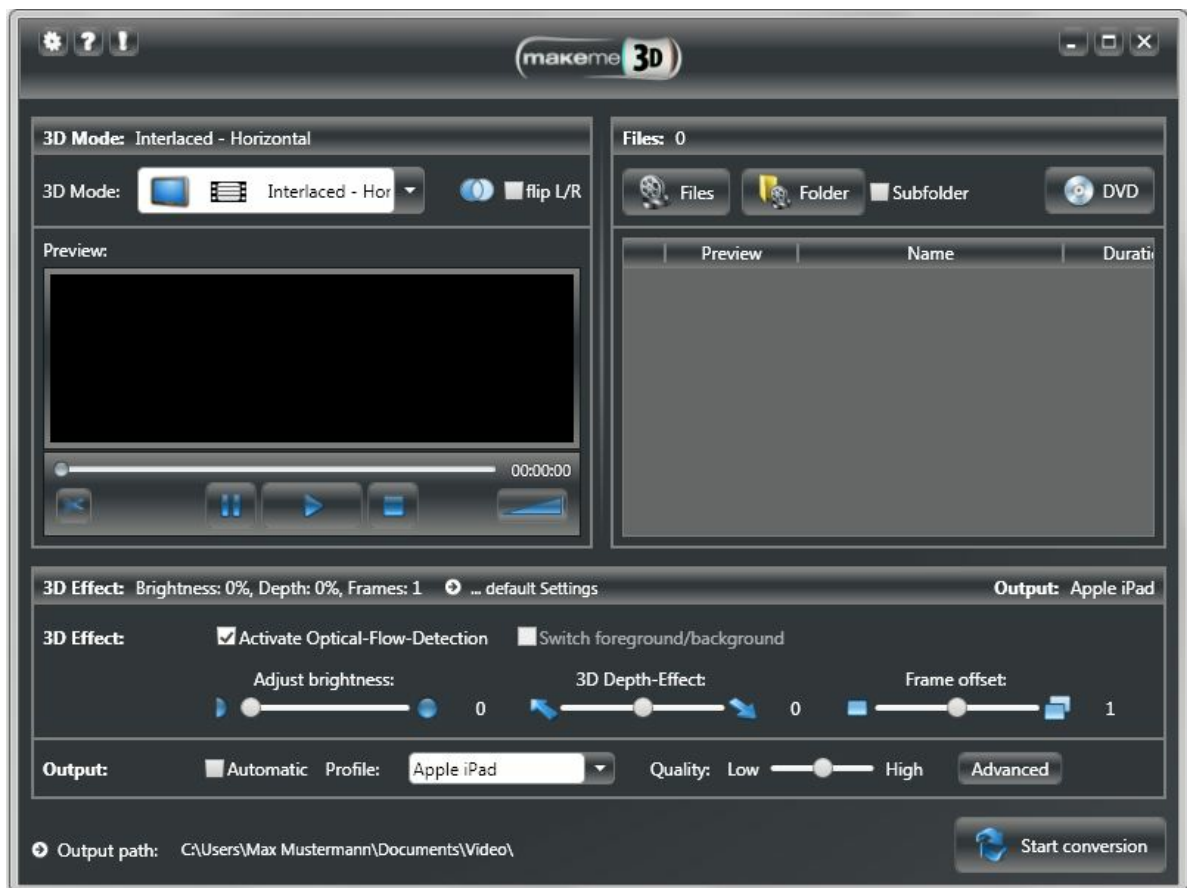
3.2 Brief instructions

The main parts of the program are briefly explained in the following topics:

Load video

3D options

3D conversion (output)

Advanced settings

Start conversion

3.2.1 Load video

Click on "Files" to open one or more files, on "Folder" to add whole folders or on "DVD" to load a video-DVD:

· **Files:** Loads one or more video files into the list.
· **Folder:** Loads all the video files, which the selected folder contains, into the list. Activate "Subfolder"

to load the video files in the contained subfolders, too.

· **DVD:** Reads the titles and chapters of a (non copy-protected) video-DVD and adds them to the list.

After you have loaded a file or DVD, select it in the list and you will get a preview in the preview window.

3.2.2   3D options

You can choose the 3D mode in the upper left corner:

- Stereo Horizontal (Shutter glasses)
- Stereo Horizontal (Shutter glasses) - half width
- Stereo Vertical (Polarized glasses)
- Stereo Vertical (Polarized glasses) - half width
- Interlaced - Horizontal
- Interlaced - Vertical
- Anaglyph Yellow/Blue
- Anaglyph Yellow/Blue - black and white
- Anaglyph Red/Cyan
- Anaglyph Red/Cyan - black and white
- Anaglyph Green/Magenta
- Anaglyph Green/Magenta - black and white
- Left and right eye

Both "**Horizontal**" modes are used for the shutter technique.

Both "**Vertical**" modes are used for the polarizing technique.

The "**half width**" option offers a distinct reduction of the needed file size (after the conversion) with a minimum loss of picture quality.

Anaglyph Yellow/Blue, Red/Cyan (compatible with Red/Blue) and Green/Magenta: The converted video can be watched with colored glasses.

Some movies are especially applicable for a 3D conversion if they are also converted to black and white. There for the black and white option is added in addition.

The option "**Left and right eye**" actually does not apply any of the established 3D viewing techniques to the video. However it creates the picture for the left and right eye and saves them in separate videos. This enables you to continue processing of this video with e.g. other programs (like cutting, creating special effects and so on).

Flip L/R: Some manufacturers are selling interchanged glasses. To prevent you from the, so called, "pseudo-stereo" effect, which appears while using this interchanged glasses with a "normally" created 3D video, you can flip the pictures by activating this option. This does nothing more than interchange the pictures in the movies, too.

3.2.3   3D conversion (output)

This options are used to manipulate the 3D conversion:
· **Adjust brightness:** Sometimes it happens that one or another 3D mode is responsible for some color lose in your video. If that happens, you can adjust it with this control.
· **3D Depth-Effect:** Every person is different and because of this (and actually because of the width your eyes are apart) every one has a slightly different feeling for 3D. To consume this differences you can change the intensity of the 3D Depth-Effect with this control. Scrolling to the right will bring the picture more to the front while scrolling to the left will push it further back. Just play a little bit with this setting until you find the best position for your look and feel.
· **Frame offset:** MakeMe3D calculates the 3D video by comparing up to two things. The first is the foreground and background of every single frame in the video. The second one are the frames itself. The frame offset specifies which frames should be compared. The number "1" is chosen as the default value, which means, the program compares the current frame (Frame 0) and the next frame (Frame 1). This is needed, because MakeMe3D calculates the 3D pictures by the differences between this frames.

Background: The meaning of this option is quit simple. If you want to convert an action movie with fast cuts and scenes, it will be better to compare only frames next to each other or even only one frame, because the next frame could be a totally other picture. - The frames have enough differences between each other.

Otherwise, using this method with a calm movie wouldn't be a great success, because the frames next to each other showing nearly the same picture. In order to get enough information about these pictures we need more differences. - Which we can achieve by comparing frames which are more apart. Setting the offset to 2 or 3 will be better in this case.

This options are used to manipulate the output file:

· **Automatic (File type)/ Non automatic (Profile):** Choose the desired file type/ the desired target device.

Automatic (File type):

If you choose this option, MakeMe3D will take care of all the details like resolution, bitrate, framerate and the audio type. The following options are available:

- **AVI:** Video is MPEG-4-SP, Audio is MP3
- **MP4:** Video is AVC, Audio is AAC
- **WMV:** Video is WMV, Audio is WMA

The optimization and picture quality is based on the source quality.

Non automatic (Profile):

With this option, MakeMe3D offers you a whole lot of different profiles for different devices. Furthermore you can change the details by yourself with the following options:

· **Quality:** It is possible to vary the output quality with this control, where "Low" stands for a low quality but also a small file size and a fast conversion and "High" stands for good quality but, at the same time, a very big file size and a longer conversion time. Conclusion: If you want to use the video on a small device with even smaller space for data, use a low quality. If you don't have this restrictions (and you own, at least, a dual core CPU), don't be afraid to use the highest quality possible.
- **Advanced:** Opens a setting menu with advanced options.

3.2.4 Advanced settings

After clicking on "Advanced" you can manually change different audio and video settings*. (Only available if the output is not set to "Automatic").

·   **Video > Resolution:** You can change the resolution of the converted video here. Basically, the higher the resolution, the higher the quality, but also the higher the file size. Furthermore, please consider that giving a source video with a resolution of "320x240" a new resolution of "1920x1080" won't work, because the program is not capable of adding the missing picture information.

·   **Video > Bit rate:** Same as with the resolution. The higher the bit rate, the higher the quality, but also the higher the file size. However, giving a source video with a low bit rate an explicit higher bit rate won't hurt the picture quality, but also will not significant improve it. A better solution is to use a considerable higher bit rate, which will increase the picture quality and saves space.

·   **Video > Frame rate:** Lowering the frame rate is a good method to reduce the file size. However, it can happen that a video with a lower frame rate stalls.

·   **Audio > Channels:** Number of the channels you want to use: "Mono" (1. channel) or "Stereo" (2. channels).

·   **Audio > Bit rate:** Same as the video bit rate, but for the audio stream. Good quality is mostly achieved with bit rates around 128 kbps.

·   **Audio > Sample rate (Hz):** Sets the sample rate of the audio stream. "44.100 Hz" is recommended.

·   **Extended Settings > Resize Mode:** Here you can choose which method should be used to resize the video if necessary.

-    **Stretch:** Stretches the image until it fits the screen. This can distort the picture.

-    **Normal:** Keeps the original aspect ration and only resizes the screen by either fitting the width or the height. (The missing image information will be filled with black, therefor this method can result in so called "black-

borders".
- **Non-Linear:** This is a technique were the image is resized till either the width or the height fits the new resolution. After this, the other dimension gets stretched only on the borders, leaving the image center untouched. Therefor only the borders can be distorted, but the image center will always look fine.
- **Pan&Scan:** Resizes the image till the smaller dimension fits the resolution and cuts the overlapping picture information.

· **Extended Settings > Keep Resolution:** If activated, keeps the resolution of the source file and overwrites the chosen resolution.

· **Extended Settings > Keep Frame rate:** If activated, keeps the frame rate of the source file and overwrites the chosen frame rate.

... default Settings: Resets all made settings to the default settings of the current profile.

*To get more detailed information about this options, look here: Convert videos > Advanced

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3.2.5   Start conversion

Choose your target directory ("Output path:" - in the lower left corner) and click "Start conversion".

Part IV

4　List and preview

The list on the right side of the preview is used to collect and manage the files you want to convert. Changes made in this list only apply to the program itself and not to windows, thus deleting a file from the list will not delete the original file on the hard drive.

You can find the following options above the list:

Files

Folder

DVD

Furthermore, by selecting a file you can use the preview on the left and by right clicking on the selecting file open a context menu which offers additional options.

Context menu

Preview

4.1　Files

Clicking this button opens an integrated file browser which you can use to load single or multiple files. Supported file formats are: AVI, ASF, FLV, DIVX, WMV, MKV, MOV, MPG, MPEG, TS, MP4, 3GP, 3G2, DVR, PVR, TPO, TOD, VRO and MOD. To make things easier for you, MakeMe3D will only display supported files if you are using the integrated file browser.

Hint: As usual with windows, holding the "Ctrl"-button down while selecting files enables you to select multiple files.

Hint: The selected files will be added to the list and not overwrite the already existing ones.

After you have added some files to the list, you can delete unwanted ones by simply selecting them and clicking on "Del" or using the context-menu entry "Remove". "Remove All" will clear the complete list.

4.2　Folder

Using this control enables you to add all files stored in one folder. It is possible to add the files of a whole folder structure via the "Subfolder" option.

Hint: The selected files will be added to the list and not overwrite the already existing ones.

After you have added some files to the list, you can delete unwanted ones by simply selecting them and clicking on "Del" or using the context-menu entry "Remove". "Remove All" will clear the complete list.

4.3   DVD

This control is used to read the structure of a DVD. As you may know, DVD's are not just one file but divided into "Titles" and "Chapters". MakeMe3D supports the conversion of whole titles as well as only converting single chapters. To select a title for the conversion, simply check the box in front of it. This will also check all boxes of the chapters of this title. If you only want to convert single chapters, check the boxes of this chapters. To exclude or deselect simply uncheck the box of the title/ chapter you do not want to convert.

4.4   Context menu

Right clicking on a file/ title/ chapter in the list opens the context menu which offers the following options:

· **Information:** Shows detailed information about the currently selected file.
· **Open folder:** Opens the windows explorer, pointing to the location of the currently selected file.
· **Cut:** Opens a new window which is used to cut the currently selected file.
· **Select:** Checks the box of the currently selected file and therefor marks it as a file which should be converted.
· **Deselect:** Reverts the activation of a file.
· **Select all:** Selects all files in the list to be converted.
· **Deselect all:** Deselect all files in the list.
· **Remove:** Removes the currently selected file from the list, but leaves the original file on the hard disc untouched.
· **Remove all:** Clears the list.

4.5   Preview

The preview window offers the following options:

Cut: Opens the cutter window.

Pause/ Play/ Stop: Playback controls of the player.

Volume: This slider controls the playback volume.

Hint: You can enlarge the preview window by simply enlarging the program (i.e. maximize it).

Attention: The real-time preview, especially while using the 3D filter, needs a lot of computing power and therefor powerful hardware. If the program will use nearly all resources of your PC, it will prompt a

warning message. Please readjust the program settings in this case (for more information look at "First steps -> Settings -> Preview").

Part V
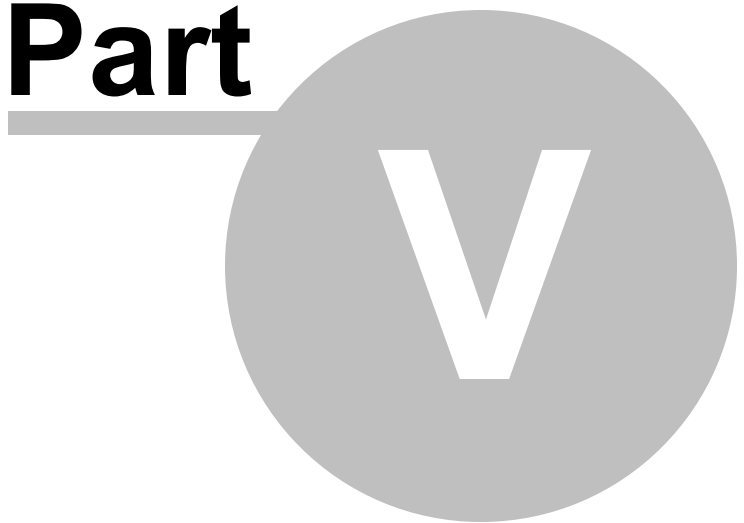
5 Editing videos

You can edit video files with MakeMe3D.

Video editor

5.1 Video editor

Select a file, title or chapter and click the "Cut"-button beneath the preview or use the "Cut"-entry in the context menu if you want to edit it before you start the 3D conversion. Using the editor is pretty simple. Choose the starting point of the scene you want to convert via the slider and click on "Start". Now choose the end point of your scene and click "Stop". That's it. If you are converting this file, only the scene from the "Start"-point to the "Stop"-point will be converted.

Part

VI

6 3D options

After you have added the files you want to be converted to the list, you can adjust the 3D settings.

Descriptions

6.1 Descriptions

The so called "stereoscopic effect" describes the phenomenon that our brain creates a 3D picture of the two pictures seen by our eyes. This is possible because of the different angles the eyes see the same thing. To achieve this in a movie it is necessary that we have two pictures, one for the left and one for the right eye, with different angles, too. And that the right eye only sees the right picture and the left eye sees only the left. This can be achieved using different techniques:

Shutter technique
(Stereo Horizontal, Stereo Horizontal - half width, Interlaced Horizontal)

The shutter technique, basically, is really simple. While the picture for the right eye is shown, the liquid crystal glasses turn your left eye blind and otherwise. There are some problems though. To get a smooth video experience, it is necessary that the display refresh rate is at least 50Hz. The shutter technique is using 60Hz to prevent flicker. Because you have two pictures and they are shown one after another it doubles up to a total of 120Hz needed which is only supported by special monitors.

Polarized glasses
(Stereo Vertical, Stereo Vertical - half width, Interlaced Vertical)

This technique is based on the polarization of the pictures. One of them is horizontally polarized, the other one vertically. The glasses are made to let through only one of them. The con of this technique is that you are not allowed to cock your head.

Anaglyph glasses
(Yellow/ Blue, Yellow/ Blue - black&white, Red/ Cyan, Red/ Cyan - black&white, Green/ Magenta, Green/ Magenta - black&white)

The old-school, color coded 3D technique which already is known for centuries (actually invented in 1853 by Wilhelm Rollmann in Leipzig, Germany). The two pictures are colored with two different colors (the standard is red for the left, cyan for the right eye). By viewing them through glasses with the correct color code the complementary color gets filtered and two different pictures appear, put together to a 3D picture by our brain.

Left/ Right eye

The option "Left and right eye" actually does not apply any of the established 3D viewing techniques to the video. However it creates the picture for the left and right eye and saves them in separate files.

After you have chosen the 3D method you want to use, you can manipulate the settings for it:
· **Adjust brightness:** Sometimes it happens that one or another 3D mode is responsible for some color

lose in your video. If that happens, you can adjust it with this control.

·   **3D Depth-Effect:** Every person is different and because of this (and actually because of the width your eyes are apart) every one has a slightly different feeling for 3D. To consume this differences you can change the intensity of the 3D Depth-Effect with this control. Scrolling to the right will bring the picture more to the front while scrolling to the left will push it further back. Just play a little bit with this setting until you find the best position for your look and feel.

· **Frame offset:** MakeMe3D calculates the 3D video by comparing up to two things. The first is the foreground and background of every single frame in the video. The second one are the frames itself. The frame offset specifies which frames should be compared. The number "1" is chosen as the default value, which means, the program compares the current frame (Frame 0) and the next frame (Frame 1). This is needed, because MakeMe3D calculates the 3D pictures by the differences between this frames.

Background: The meaning of this option is quit simple. If you want to convert an action movie with fast cuts and scenes, it will be better to compare only frames next to each other or even only one frame, because the next frame could be a totally other picture. - The frames have enough differences between each other.

Otherwise, using this method with a calm movie wouldn't be a great success, because the frames next to each other showing nearly the same picture. In order to get enough information about these pictures we need more differences. - Which we can achieve by comparing frames which are more apart. Setting the offset to 2 or 3 will be better in this case.

Part VII

7 Convert videos

The following topics will help you finding the optimal settings for your videos.

Profiles

- Descriptions

Advanced

- Resolution
- Bitrate
- Framerate
- Resizing
- Audio settings
- Extended settings

Automatic conversion

Start conversion

7.1 Profiles

MakeMe3D offers you a lot of pre-configured profiles if you choose to use the non-automatic conversion. You can choose the quality level with the corresponding slider, where low stands for the worst quality and high for the best.

Descriptions

7.1.1 Descriptions

The following profiles are supported:

- **Android:** This profile is for Android based devices like smartphones. It creates a MP4 file with H.264/AVC video (Baseline@Level 1.3) and AAC audio.
- **Apple iPhone:** Creates iPhone compatible MP4 files with H.264/AVC video (Baseline@Level 1.3) and AAC audio.

    Hint: If you want to show the video on a TV, choose a higher resolution and bitrate.
- **Apple iPod:** Same as the iPhone profile except for the aspect ratio, which is 4:3 instead of 1.5:1.
- **iPod touch:** Same as the iPhone profile.
- **Apple Mac:** Creates the same files as the iPhone profile, except for the resolution, the bit rate and the aspect ration, which are adjusted to fit the bigger display size.
- **iPod nano:** The same as the iPhone profile with adjusted settings to meet the smaller display and the supported bit rate.
- **Apple iPad:** The same as the iPhone profile but offers higher resolutions, another aspect ratio and higher bit rates.

    Hint: Don't use a resolution higher than 720x576. It is possible to play videos with higher resolutions but

the iPad resizes them, even if you show them on a TV, to fit this standard.
· **Apple TV (4:3):** The same as the iPod profile but offers higher resolutions.
· **DVD NTSC*:** Creates DVD compatible videos with the NTSC standard. The video is MPEG2 with MP2 audio, saved in a MPG file.
· **DVD PAL*:** The same as the DVD-NTSC profile but using the PAL standard.
· **Flash Video:** Creates FLV files with H263 video and MP3 audio.
· **H264:** Creates MP4 files with H.264/AVC video (Baseline@Level 1.3) and AAC audio.
· **DivX Home:** Creates videos which are compatible to all DivX certified devices. The video is MPEG4-SP with MP3 audio, saved in AVI files.
· **Xvid Home:** The same as the DivX profile with little adjustments to offer a higher compatibility with non certified devices.
· **Mobile 3GP:** Creates 3GP files with MPEG4-SP video and AMR audio. Please choose frame rate, bit rate, aspect ratio, ... to meet the requirements of your mobile phone.
· **Handy MP4:** Creates MP4 files with MPEG4-SP video and AAC audio. Please choose frame rate, bit rate, aspect ratio, ... to meet the requirements of your mobile phone.
· **MP4 (MPEG-4)*:** Creates MP4 files with MPEG4-SP video and AAC audio. Please choose frame rate, bit rate, aspect ratio, ... to meet the requirements of your device.
· **MPEG-2*:** Creates MPG files with MPEG2 video and MP2 audio. Is non-conform to the DVD standards but should be playable on most players.
· **Sony PSP (H264):** Creates MP4 files with MPEG-4-AVC (H.264) video and AAC audio.
· **SVCD NTSC*:** Same as the MPEG-2 profile except for refresh rate and resolution which are NTSC conform.
· **SVCD PAL*:** Same as the MPEG-2 profile except for refresh rate and resolution which are PAL conform.
· **Windows Mobile:** Creates WMV files with "Windows Media Video" (WMV3) video and "Windows Media Audio" (WMA2) audio. Supports Windows based mobile devices such as smartphones, pocket PC's, etc.
· **WMV:** Creates WMV files with "Windows Media Video" (WMV3) video and "Windows Media Audio" (WMA2) audio. Supports Windows based devices such as desktop PC's, XBox360, etc.

Hint: Please refer to the documentation of your player to inform yourself if it supports this format.

7.2 Advanced

If you use the non-automatic conversion, use the "Advanced"-button to enter a menu were you can further manipulate the settings of the chosen profile.

Resolution

Bitrate

Framerate

Resizing

Audio settings

Extended settings

7.2.1 Resolution

The universal rule is: The higher the resolution, the better the picture quality - however this applies only if the resolution of the source file already is high. Please acknowledge that a low resolution video cannot magically achieve high resolution details by only upscaling it. Quiet the contrary will happen

because the higher resolution will reveal that the low resolution source has nearly no detail.

Because of this it is better to stay with the original resolution of the source file. Why it is better to rescale a video sometimes anyhow? Because different devices work with different resolutions it could be necessary to do so. Playing high resolution videos on devices with a low resolution display often results in artifacts and sometimes in stuttering because the device needs to rescale the video in real-time to fit the screen resolution. In this case it is better to rescale the video to the display resolution, even if it is higher.

The conclusion of all this is, that you only have to rescale videos if you want to use them on devices with different display resolutions. Keep in mind that this applies also if you want to use a device with a low resolution but use e.g. a TV for playback. In that case use the TV resolution, not the devices resolution. To archive your videos it is best to stay with there original resolution.

Hint: If you don't know the original resolution, just check the information window (Look at "List and preview -> Context menu" to find out how you reach it) or use the "Keep resolution" option in the settings menu.

7.2.2   Bitrate

The bit rate declares how much information of the video is saved. Raising it will result in a bigger file size of the converted video, but also in a better picture quality and vice versa. However, please acknowledge that a a video with a low bit rate cannot magically achieve much better picture quality by only giving it a higher bit rate. Furthermore the bit rate is closely connected to the resolution. The higher the resolution of a video, the higher needs the bit rate to be and, again, vice versa.

There is one exception though. If you are cross converting from one video format to another, it could be possible that you can achieve the same picture quality with a lower bit rate, even with a higher resolution. This is due to the development and the better techniques newer formats use. The four most common formats are MPEG-1, MPEG-2, MPEG-4 and H.264, where the oldest one is MPEG-1 and the newest one is H.264.

An example:

If you own a video with MPEG-1, 4000 kbit/s and a resolution of 576x480 you probably can convert this video with H.264, 2000 kbit/s and a resolution of 720x576 without any loss of quality (Depends on video content).

7.2.3   Framerate

It is highly recommended that you keep the frame rate of your source file (the change of the frame rate can result in stuttering).

However, some devices are insisting on a specific frame rate. If you own a device like that, you can change the frame rate with this option. Please refer to the devices documentation to inform yourself about the supported frame rates.

7.2.4 Resizing

To avoid black borders the option "Keep resolution" has to be disabled. If this is the case various options for image display are available:

·   **Stretch image**: Serves for adjusting a video to the target resolution but changes the original aspect ratio. Depending on the original format the video is stretched horizontally or vertically. This leads to a certain distortion which may be more or less strong, depending on the video.
·   **Normal:** Serves for adjusting the videos to a changed target resolution by leaving the original aspect ratio unchanged. The missing spaces are filled with black.
·   **Non-Linear:** Serves for adjusting the videos to a changed target resolution by leaving the original aspect ratio unchanged and filling possible black border with picture material (depending on the original format). Aims at using the full screen of the display.
·   **Pan & Scan:** Serves for adjusting a video to the target resolution by leaving the original aspect ratio unchanged but by enlarging the image so that it fills the target display completely. Edges may be cut (depending on the original format).

7.2.5 Audio settings

You can use the audio settings to improve audio quality or reducing the file size:

Channels: You can change this option if you want to create mono files. Be aware that changing stereo sources to mono will result in a loss of quality. We recommend that you use the settings of the source file.

Bitrate: The bit rate is a scale of how good the audio quality is - therefor using a higher bit rate will result in a higher audio quality but also in a higher file size and vice versa. Anyhow, using a much higher bit rate will not result in a much higher audio quality because, analogue to the video bit rate, the technique can't add audio information which is not available. We recommend that you use around 96 kbps to 128 kbps for speech and higher (up to 320 kbps) rates for soundtracks and music.

Samplerate: Using a lower samplerate will result in a loss of audio quality. We recommend to use the same rate as the source file does.

7.2.6 Extended settings

Keep resolution: With this option enabled, MekeMe3D will always use the resolution of the source file. Keep in mind that there are devices (especially mobile devices) which only accepting one resolution or need to rescale the video to fit the display resolution. In this cases it is possible that this devices will stutter, show only a part of the video or even reject playing it back.

Keep framerate: MakeMe3D will keep the frame rate of the source file if you enable this option. Again, keep in mind that there are devices which need a specific frame rate and may be reject playback of files with different frame rates.

7.3   Automatic conversion

If you are using the automatic conversion, MakeMe3D offers different pre-configured settings which you can use to convert your videos:

· **AVI (MPEG-4):** Creates AVI files with MPEG4-SP video and MP3 audio. This setting is highly compatible to different devices, such as your PC, some mobile devices and DVD players with MPEG-4 support.
· **MP4 (H.264):** Creates MP4 files with AVC/H.264 (Baseline@Level 1.3) video and AAC audio. This format is used by devices like the Xbox 360, the Playstation 3 and the Playstation Portable.
· **MPG (MPEG-2):** Creates MPG files with MPEG-2 video and MP2 audio. This format is highly compatible with DVD players.
· **WMV (WMV9):** Creates WMV files with Windows Media Video and Windows Media Audio. This format is created by Microsoft and therefor compatible with most of Microsofts products.

Hint: The automatic conversion keeps such things as the frame rate and resolution from the source video. Furthermore, the settings are automatically chosen to keep the highest possible quality.

7.4   Start conversion

You can choose the output path via "Output path" in the lower left corner of the program.

A simple click on "Start conversion" will start the conversion of your video files. All videos in the list will be converted with the same settings. While the program is converting, you will be informed by a progress window which displays the following:

- The current file in progress
- The target format
- The video and audio settings you made for the conversion
- The intensity of the optimization

You can enable "**Shutdown computer after conversion**" to automatically shutdown your PC after the conversion has finished.

You can open the windows explorer, pointing to the output path, via "**Open output path**".