MAGIX

VIDEO PRO X3

Manual

Copyright

Foreword

Thank you for choosing MAGIX Video Pro X3! Your new software offers you the tools to edit video material at a professional level, including many special functions like DVD authoring, multicam editing, and keyframe animation.

The intuitive functionality featured by MAGIX Video Pro X3 will help you achieve great results even after a relatively short introductory phase. Thanks to the optimal hardware support, you can import your audio and video recordings from any source to your computer. Cut them and optimize them; add effects, titles, and transitions. MAGIX Video Pro X3 provides all of the detailed editing options you need for ambitious video projects. When you're finished, you can export your projects or burn them to disc in any conventional format.

This documentation offers you an overview from the beginning, plus a quick start with the program. The sections at the end provide a detailed and systematic description of the numerous functions.

Have fun using MAGIX Video Pro X3,

The MAGIX team

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Support

Dear MAGIX customer,

Our aim is to provide convenient, fast and solution-focused support at all times. To this end, we offer a wide range of services:

- Unlimited web support:
  As a registered MAGIX customer, you have unlimited access to web support offered via the convenient MAGIX service portal on http://support.magix.net, including an intelligent help assistant, high-quality FAQs, patches and user reports that are constantly updated.
  The only requirement for use is product registration on www.magix.com
- The online community - on-the-spot support and a platform for exchange:
  MAGIX customers have free and unlimited access to the online community at www.magix.info, which includes approx. 100,000 members and offers the opportunity to ask members questions concerning MAGIX products as well as use the search function to search for specific topics or answers. In addition to questions & answers, the knowledge pool includes a glossary, video tutorials and a discussion forum. The multiple experts, found round-the-clock on www.magix.info guarantee quick answers, which sometimes come within minutes of a question being posted.
- Email support for MAGIX products:
  8 (eight) weeks of free email customer service (starting from the purchase date) is automatically included with the purchase of any new MAGIX product. MAGIX guarantees fast processing of your request and an immediate reply.
  Premium email support:
  If you experience problems after the 8 weeks of free email support have expired, you can purchase a Premium email support ticket in the MAGIX Shop for USD 12.99 | CAD 13.99 | GBP 9.99 | AUD 18.99 | ZAR 120.00 | EUR 12.99 | SEK 119.00 | NOK 99.00 | DKK 99.00. This ticket applies to a specific problem and is valid until it is solved; it is therefore not restricted to one email.
  Reporting evident program errors is exempt from this regulation.

Please note: To be able to use the Premium email support and free product email support via the Internet, you have to register your MAGIX product using the serial number provided. This can be found on the CD case of your installation CD or on the inside of the DVD box.

- Additional telephone service:
  Besides the large number of free customer service offers, we also offer a fee-based telephone customer service.

Here you can find a summary of our technical support telephone numbers:

http://support.magix.net/

Mail (Europe): MAGIX Development Support, P.O. Box 20 09 14, 01194 Dresden, Germany

Mail (North America): MAGIX Customer Service, 1105 Terminal Way #302, Reno, NV 89502, USA

Please have the following information at hand:
- Program version
- Configuration details (operating system, processor, memory, hard drive, etc.), sound card configuration (type, driver)
- Information regarding other audio software installed

MAGIX Sales Department

You can reach the MAGIX Sales Department workdays for help with the following questions and problems:

- Orders
- Product consulting (pre-purchase)
- Upgrade requests
- Returns

Europe

Monday - Friday, 09:00-16:00 GMT

U.K.: 0203 3189218
Denmark: 699 18149
Sweden: 0852500858
Finland: 09 31581630
Norway: 0210 30665

North America

9 am to 4 pm EST Mon-Fri
Phone: 1-305-722-5810

Uninstalling the program

If you would like to uninstall MAGIX Video Pro X3, you can do so via the control panel under "Software". Or go to "Programs > MAGIX > MAGIX Video Pro X3 > Service and Support > Uninstall MAGIX Video Pro X3".

Serial number

A serial number is included in each product. This serial number is required for the installation of the software and enables usage of additional bonus services. Please store this number in a safe place.

What can a serial number do?
With a serial number your MAGIX Video Pro X3 is clearly assigned to you and only you. This way improved and more targeted customer service is made possible. Abuse of the software can be prevented with a serial number, which ensures that optimum the price/performance ratio continues is guaranteed.

Where can the serial number be found?
The serial number can be found on the reverse side of your CD/DVD case. If your product is packed in a DVD box, then you'll find the serial number on the inside.

For the versions that have been especially optimized for the Internet (download versions), you'll get your serial number for activating the software directly after purchasing the product via email.

When will you need the serial number?
The serial number is required when you start or register MAGIX Video Pro X3 for the first time.

Note: We explicitly recommend registering your product (free), since only then are you entitled to download updates and use MAGIX support (view page 10) services.

Unlocking MAGIX Video Pro X3

After MAGIX Video Pro X3 has been installed and the serial number has been entered, the software can be used for 30 days. After these 30 days have expired, MAGIX Video Pro X3 must be activated.

System requirements

For Microsoft® Windows® XP / Vista® / 7

- Intel® Core™ Duo with 1.83 GHz, AMD® Dual core with 2.0 GHz
- 1 GB RAM
- 1 GB hard disk memory for program installation
- Multichannel sound card recommended for surround sound editing

Minimum requirements for AVCHD/HD editing

- Intel® Core™ 2 quad processor with 2.83 GHz (Intel® Core™ i7 recommended)
- 4 GB RAM
- DirectX® 9.0c compatible graphics card, 512 MB graphics card space or more and Pixelshader 2.0, ATI X300 or higher, NVIDIA GeForce 6600 or higher
- Blu-ray burner to create Blu-ray Discs

System requirements for 3D playback

- Red/cyan glasses required for anaglyph 3D display (included).
- A special monitor is needed for viewing using polarized filter glasses.
- A 120 Hz monitor or a projector as well as compatible shutter glasses and graphics card are required for shutter playback.

Supported devices:

- IEEE1394/FireWire/DV/i.Link interface for use with DV/HDV camcorders
- USB camcorder (DVD/hard disk/memory card) and webcams
- VfW or DirectShow® compatible video, TV or graphics cards with video-in
- WDM-compatible TV tuner cards, DirectX®9 and BDA driver compatible DVB-T/-S tuner cards
- Blu-ray, DVD-R/RW, DVD+R/RW, DVD RAM or CD-R/RW burners

Introduction

What is MAGIX Video Pro X3?

MAGIX Video Pro X3 is a professional video editing program for Windows PC systems. High-performance, native HD editing, DVD authoring with up to 8 audio tracks, or keyframe animation with Beziér curve control is directed at users with higher standards.

The program is clearly divided into intuitive modules. Videos, photos, and audio from a wide range of sources can be transferred from various devices to PC. Longer movies can be automatically separated into chapters or scenes. You can also do the opposite and combine individual recordings to make a single movie.

Once your video is finished, you can use it in different ways: Transfer it back onto the tape or to your camcorder, export it in any conventional format, or burn it directly to Blu-ray, DVD, or another disc format.

What's new in MAGIX Video Pro X3?

Import options

- AVCHD import dialog (view page 62) with P2 memory card support
- Import (view page 62) for NXCAM, DVCPRO, and AVC Intra
- Importing of 3D stereo recordings (view page 154)
- Importing of Xara Designer Pro or Photoshop files for menu creation (view page 210)
- Memory and loadable project folders (view page 57) (e.g. for transferring edited objects to other projects)
- Optimized start dialog

Video editing

- New multi-track ripple mode (view page 46)
- Video monitor zoom and workspace around the active video for motion graphics and animations
- Stereo 3D editing (view page 152)
- Stereo 3D design templates
- Effects masks (view page 139) for controlling the intensity of effects
- Extended undo/redo handling (the number of possible undo steps may be set variably now)
- Revised effects dialog for position/size (view page 129) and camera/zoom
- MAGIX Xara Designer link

- Preview rendering (view page 276) (ranges may be rendered to increase performance. Access to objects and tracks is maintained in this process)
- Four-point editing (view page 100)
- Apply effects to selected objects (view page 117)

Output options

- AVCHD SmartRendering
- Burn Blu-ray™ Discs with H.264 (optional)
- Exports 3D stereo films (view page 152) as a file, disc, or to YouTube®
- Upload video to Facebook (view page 257) ®

Additional

- Increased speed via general performance boosting
- Newly designed dialogs

Features

Capture

MAGIX Video Pro X3 features the following recording options:

- AVCHD/DVCPRO/AVC-Intra/video DSLRs (and other drives)
- HDV cameras: HDV1 and HDV2 camcorders
- DV cameras: Mini DV camcorders or DV video recorders
- Video: Analog TV, video input, VHS recorders, webcams
- Audio: Microphones, cassette recorders, MiniDisc players, turntables
- Screen: PC monitor
- Single frame: Single and series images from webcams, video recorders, video cameras, or TV cards

Analog capture requires capture cards compatible with DirectShow. DV capture can be performed through an OHCI-compatible IEEE 1394 host adapter (FireWire or iLink). A TV card can be used to record programs from TV or from your video recorder.

Import/Export formats

Supported import formats:

Video: AVI, DV-AVI, MPEG-1, MPEG-2, MPEG-4, MTS, M2TS, MXV, MJPEG, QuickTime™, WMV(HD)

Audio: WAV, MP3, OGG, WMA, MIDI, Dolby®Digital Stereo, Dolby®Digital 5.1 (deluxe version)

Pictures: JPEG, BMP, GIF, TIF, TGA (supports scanners and digital photo cameras (TWAIN)

Supported export formats:

Video: AVI, DV-AVI, MPEG-1, MPEG-2, MPEG-4, MXV, MJPEG, Quicktime, WMV(HD)

Audio: WAV, MP3, Dolby$^®$Digital Stereo, Dolby$^®$Digital 5.1 (only deluxe version)

Pictures: JPEG, BMP

Note: MPEG-4, MPEG-2, and Dolby®Digital must first be activated online for free. MP3 export requires installation of Windows Media Player min. Version 10.

Note: To import and export AVC and MPEG-4 files, the MPEG-4 codec must be activated (view page 335). A dialog, will appear when the codec is required.

AVCHD standard support

Files from AVCHD cameras may be imported directly. Newer computers are capable of decoding and playing this format in real time.
MAGIX Video Pro X3 Caries out a performance test to ensure that the computer features enough computing power. If this test is negative, the AVCHD material will be converted into an MPEG-2 file to make sure it may be processed on older systems as well.

AVCHD Lite

MAGIX Video Pro X3 now also supports the AVCHD Lite standard, which is used by digital cameras for recording video (among other things).

AVCHD activation details

Attention: For AVCHD support, Dolby Digital Stereo and the MPEG-4 codec must be activated. To convert AVCHD videos to MPEG-2, the MPEG-2 codec must be activated.

Editing

- Program and source monitors: To provide an optimal overview, these two separate preview monitors are integrated for the source material and movie arrangement respectively.
- The project folder is used for storing your material. It's useful for selecting the necessary media for your current project. Use it to store video, audio,

titling files, and even edited versions or sections of films for use later in your projects.

- Picture optimization: This includes color improvement (RGB, saturation), sharpness (focus, feathering), brightness regulator (brightness, contrast), and the anti-flicker filter.
- Sound optimization: The equalizer allows you to manipulate the frequency spectrum, which is useful for reducing peaks, for example. The compressor limits the signal's dynamics. The StereoFX processor controls the position of the sound within the stereo panorama. The De-noiser and De-hisser are professional noise reduction tools for removing noise and hisses.
- Video effects: Such as creative filters, distortion, video mix (chroma key), movement effects (e.g. camera/zoom or rotation), cropping, picture-in-picture collages, video effect plug-in support, etc.
- Automatic scene recognition
- Slideshow Maker turns photo collages into spectacular multimedia shows automatically.
- MAGIX Soundtrack Maker creates background music automatically.

Burnable disc formats

- DVD
- WMVHD (high-resolution CD/DVD in WMV-Format, playable on PC)
- Blu-ray Disc
- AVCHD disc (on DVD and Blu-ray Discs)
- MultiDisc (DVD + WMVHD)
- Mini-DVD (DVD on raw CD)
- JPEG disc (for export of photos onto a photo disc)
- Project backups, backup copies, and 1:1 copies of DVDs

Savable window layouts

MAGIX Video Pro X3 offers a flexible user interface which allows windows to be adjusted for any working situation. Both preview monitors can be enlarged to fullscreen and moved around, e.g. to use multiple monitors more effectively. Even the project folder, the Arranger, and the Media Pool can be scaled and moved as a separate window.

Title effects with MAGIX 3D Maker

The title editor features the MAGIX 3D Maker 3D program for especially high-quality 3D subtitles and texts. The title editor opens when a title template is dragged from the "Title" folder onto the track. The title editor provides access to MAGIX 3D Maker via the "As 3D title..." button.

Multicam editing

MAGIX Video Pro X3 enables multicam editing for up to nine cameras. The different camera recordings may be played back in sync and edited together as a single version.

Batch conversion

Time-saving conversion of multiple movies and videos in a single target format via batch conversion (view page 241) is available under "File".

Batch capturing

When video material is imported from digital sources (miniDV cameras, DV video recorders, HDV cameras), scenes which you would like to use can be selected first and cut at once. To save space, HD files can be converted directly into MPEG format.

Color correction

MAGIX Video Pro X3 offers 3-way color correction (view page 122) for optimizing poor or incorrectly exposed videos. Color correction can be found in the Media Pool under "Effects".

HD audio support

MAGIX Video Pro X3 supports audio formats that conform to Intel's High Definition audio standard for sound cards. This means that MAGIX Video Pro X3 can be used to produce stereo signals at a sampling rate of 192kHz (32-bit) and 8-channel signals at a sampling rate of 96kHz (32-bit).

DVD authoring with up to 8 audio tracks

DVDs, Blu-ray Discs, and AVCHD discs may feature up to eight audio tracks. This is especially useful for creating multi-lingual discs or video data that contains different sound formats (5.1 Surround, stereo). More information about creating different audio tracks is available in the chapter "Dubbing (view page 189)".

Synchronization with external devices

MAGIX Video Pro X3 features synchronization with external devices via MIDI or SMPTE (master or slave).

Support of "Shuttle Pro V2" and "Shuttle Express" from Contour

For easy work, an easy preset has been created that enables controlling MAGIX Video Pro X3 with "Contour Shuttle Pro V2" and "Contour Shuttle Express" quickly and efficiently.

Multimedia editable DVD menus

Many templates for DVD menus that are later used on TV to aid in film and chapter selection are included with the program, some also in 16:9 widescreen format. These may simply be applied during burning to provide a professional appearance to the DVD.

Every menu template may be customized with personal photos, thematic animations, 3D titles, sound, intro videos, etc.

Media library

A license-free media library including music, video, and graphics files is included for free use and combination. All files are clearly arranged on your DVD in a well-arranged structure.

Tip: For additional multimedia content, you can also browse the online media catalog Catooh by clicking "File -> Internet".

Additional features

- Automatic scene recognition: Long films are divided into shorter scenes as they are imported or retroactively.
- Metadata logging during recording
- Import of non copy-protected DVDs, including all audio tracks and chapter markers
- Master audio level display on the timeline
- Alpha channel support for AVI videos
- Sample-exact positioning for audio objects on the timeline
- Project-transfer from professional audio programs Samplitude or Sequoia via EDL interface
- 6-channel PCM Surround on Blu-ray Discs

Notes for MAGIX Movie Edit Pro users

For users who are used to working with MAGIX Movie Edit Pro, the user interface can be switched to the "classical" Movie Edit Pro view via "Window -> Window arrangement".

For everyone who has never used MAGIX Movie Edit Pro, we recommend using Video Pro X's window arrangement. This arrangement provides the most options.

The following provides a detailed overview concerning the differences between MAGIX Video Pro X3 and MAGIX Movie Edit Pro:

Video monitors

- "Movie Edit Pro" mode only has a preview monitor which is used for both program and source monitor. When the project is stopped, files can be selected in the Media Pool and played back with the transport control. To play back the arrangement again, the arranger has to be clicked first.
- The "Video Pro X" window arrangement provides two preview monitors; a program monitor for previewing the project in the arranger, and a source

monitor for previewing files in the Media Pool. Both preview monitors have different transport controls for separate control of the preview in the Media Pool and playback of the project. More information about the preview monitors can be found in the corresponding section of the chapter "Inserting objects into the project (view page 51)".

Keyboard layout

The preset keyboard shortcuts are different and can be displayed in both modes via "File -> Settings -> Keyboard shortcuts". MAGIX Video Pro X3 also allows familiar shortcuts from Movie Edit Pro to be loaded if they are easier to work with. More information about keyboard shortcuts can be found in the chapter "Keyboard shortcuts (view page 328)" and in the shortcut pdf located in the program folder of MAGIX Video Pro X3.

Load files

- In MAGIX Video Pro X3, files are dragged (drag&drop) to the desired position in the arranger or loaded via the commands from the insert menu. For more about commands in the insert menu, read the section "Insert modes (view page 48)" in the chapter "Workspaces".
- In Movie Edit Pro, files can also be loaded form the Media Pool by double clicking them. Videos and image files are placed in the first track at the location of the playback marker, and the associated sound track lands on track 2. If another object is already there, then the new object will be appended behind the last object on the first track. Titles appear on tracks 3 and 4, and additional audio material on track 5. You may also change this behavior under "File -> Settings -> Program" via the tab "System" and under "Behavior on double click".

Space bar behavior

In either program, use the space bar on your keyboard to start and stop. Pressing the space bar again produces different effects according to the respective program:

- In Movie Edit Pro, the playback marker is placed at the last stop position.
- In MAGIX Video Pro X3, the playback marker is kept at the current position. This corresponds with the functionality of a tape recorder when stopped.

Playback behavior may be switched via "File -> Settings -> Program" and then the "Playback" tab.

Project folder

- In Movie Edit Pro, the project folder function is not available.
- MAGIX Video Pro X3 features the project folder as a separate folder on the right side, which serves as an intermediate store or catch-all for all kinds of

project material. More information about this is available in the section "Project folder (view page 57)" in the chapter "Workspaces".

Quick start

Program start

When you start MAGIX Video Pro X3 for the first time, the start dialog will appear.

This dialog allows you to either "Load an existing project" or "Create a new project". It also features the option "Create a new project folder". All data that belongs to the movie will be saved in this folder.
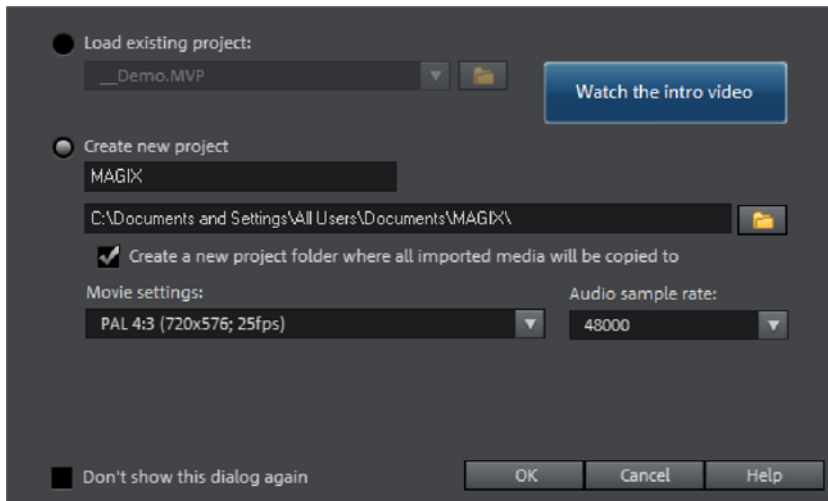
We're still at the very beginning, so let's stick with keeping an overview of everything. Click "OK" to end the dialog and continue.

Select, load, and play back videos

In the beginning, it's probably best to load a video file for test purposes and to get to know the program's functions.

- The Media Pool appears to the top right; four tabs provide access to all important elements that are required for video projects. The first tab displays all usable files (besides movies, also photos, images, audio files, and even RTF text files for captions) in the current folder.
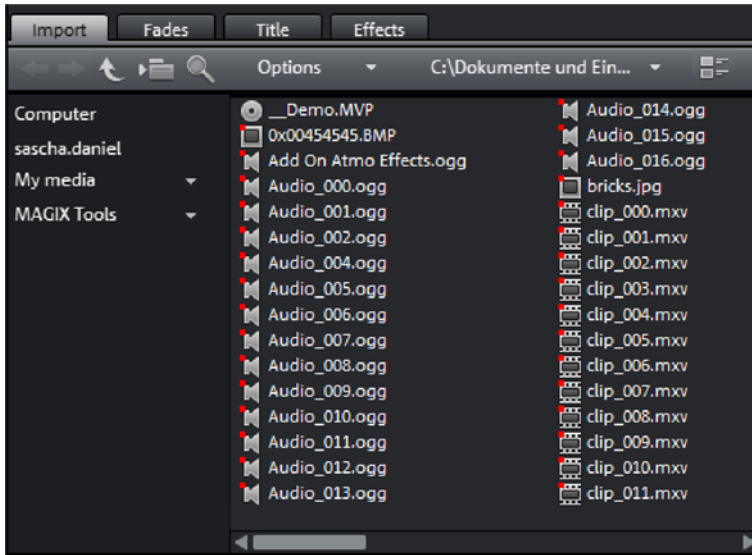
- The navigation functions exactly the same way as a conventional file manager: folders may be opened by double clicking them. The arrow keys jump a step ahead or back in the folder structure. You may also display a folder tree featuring the folder hierarchy and then use the seach function (view page 38) to locate files according to different criteria.

- All of the files in the file list can be loaded and used. Find a video file, e.g. in the format *.mpg, *mxv, or *.avi.
- In the upper-left area, you will see two preview monitors.

- The left program monitor is responsible for playback of objects in the arranger. The right source monitor displays a preview of files in the Media Pool.
- In order to be able to play back movie files from the Media Pool in the right source monitor, double click the file in the file list first. Double clicking loads the file in the monitor first.
  - To play the video, click the play button on the transport control under the source monitor to the right.

- This method lets you select and play back different video files. Drag the selected file (hold down the mouse button) from the Media Pool down into the arranger. An object appears at the location on the track where you release the mouse button to represent this video file.
- Each object can be moved in any way in the arranger with the mouse, i.e. horizontally on a track as well as vertically between tracks. Drag the video object on the first track all the way to the left to the beginning of the track.

Note: If the video also has a sound track available, then a corresponding audio object will appear underneath it on track 2 to symbolize the sound track. Both objects are connected as a group.

- Now that the first file has been loaded into the arranger, it can be edited, cut, and exported. Other files may also be loaded onto the tracks to combine movies, audio files, and photos.
- To play back the arranger, click the play button on the transport control under the program monitor to the left.

Tip: An even easier way to do this is to press the space bar on your keyboard.

- During playback, a vertical line will move across the arranger: this is the playback marker that displays the current position. You can reposition it by clicking at different locations as desired.
- You can also define playback ranges, e.g. to freeze a certain position independent of the playback marker. Clicking in the timeline above the first track lets you define an end point, i.e. the start point of the playback range. If you right click further on, the end marker will appear to indicate the out point of the playback range. The length of the playback area is shown in the center of the section display.

- The in and out points may be moved or set directly with the mouse. Left-clicking positions the in point, and the right mouse button sets the out point.

- To play back the range, click the "Play back range" button on the transport control under the program monitor.

Now you know how to load and play back media files in different ways. Would you like to try to make your own movie now?

- If you want to continue with your own film material, select the "New movie" option from the "File" menu and read the following chapters about video recording.
- If you wish to continue working with the test file, simply skip the following recording tutorial and begin reading the "Video editing (view page 28)" section.

DV recording

- Connect the DV device (DV camcorders or DV video recorders) to your PC. Switch the device's operating mode to "Video recorder" or "Playback".

- To open MAGIX Video Pro X3's recording dialog, click the red "Record" button on the transport control under the source monitor.

- Select "DV camera" from the recording dialog. Uncompressed DV capture requires approx. 220 MB per minute of video. If you would instead like to record using the more space-saving MPEG format, then you should first activate the "Record DV as MPEG" option.
- This opens the actual recording dialog. Check to see if a DV camera driver has been selected.
- Name your recording. It's worth choosing a logical name which will allow you to find it easily again on the hard drive.
- You can access the appropriate place on the camcorder tape by using the remote control buttons: shuttle forwards, backwards, and start/stop playback. To start recording, click the "Record" button. Keep an eye on the remaining hard-drive space.
- Cease capturing with the "Stop" button and exit the record dialog.

Tip: In the DV recording dialog, you can set clips from the DV video which will then be recorded one after the other (batch capturing).

How to capture analog video

1. Wiring

Connect the video out of your DVD or VHS recorder to the video in (TV, video or video in graphics card) of your computer, and the audio out to the audio in on your sound card.

Due to the variety of device configurations, it is difficult to say which cables function best with your setup. If you're not sure, check the manual of your VCR or your TV, video, or graphics cards.

Example:

Europe: Many VCRs and DVD players have a SCART, 3 RCA (2 for stereo sound, 1 for video), or S-Video/optical audio line out. In such case, you will need a SCART to RCA adapter, a cable with 3 RCA jacks, or an S-Video cable.

North America: Many VCRs and DVD players have a 3 RCA (2 for stereo sound, 1 for video), or S-Video/optical audio line out. In such case, you will need a cable with 3 RCA jacks, or an S-Video cable.

SCART/Cinch adapter   SCART/Cinch adapter   Stereo RCA/mini
                       with 3 RCA jacks   phone jack adapter

Most sound card inputs are mini phone jacks. To connect the VCR audio out to the sound card audio in, you will need a stereo RCA / mini phone plug adapter.

Therefore, you will most likely have to buy a cable with 3 RCA plugs and a stereo cinch/mini jack adapter from your local supplier.

2. Program start and record

- To open MAGIX Video Pro X3's recording dialog, click the red "Record" button on the transport control under the source monitor.

- Select "Video" from the record dialog. If you would like to burn your video directly to a DVD, then first activate the box "Burn directly to DVD".
- This opens the actual recording dialog. In the record dialog, select the appropriate driver for your video and audio cards (if you have more than one installed). A video preview window is now displayed.
- Name your recording. It's worth choosing a logical name which will allow you to find it easily again on the hard drive.
- Start recording now by pressing the "Record" button in the dialog and end it by pressing the "Stop" button. Pay attention to the number of "dropped frames": If you get a reading of more than 10 dropped frames per minute, then reduce the video quality to prevent your PC from overloading.
- Cease capturing with the "Stop" button and exit the record dialog.

Video editing

Timeline mode
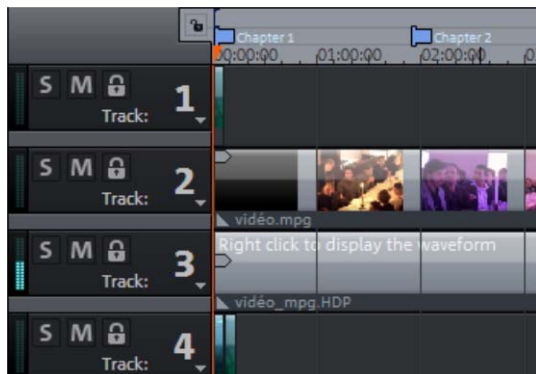
All editing is done in the arranger. Your movies are displayed according to time, i.e. the longer the representative object in the track, the longer the associated movie.

Handles: All objects may be shortened by moving the mouse to one of the lower corners of the object until it turns into a stretch symbol. You can now stretch the object as much as you like. At the top corners of every object, you'll find two fade handles that can be adjusted to fade an object in or out. The handle at the top center can be used to adjust the volume of audio objects and the transparency of video objects.
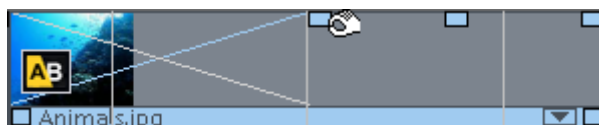
Object selection: For advanced effects editing, the objects must be selected first. Each object can be selected by clicking it. Objects will change color to show that they have been selected. Multiple objects can be selected by holding down "Shift". You can also click and drag out a rectangle to select multiple objects. All objects included in the rectangle will be selected.

Editing effects: Selected objects can be edited with the effects from the Media Pool.
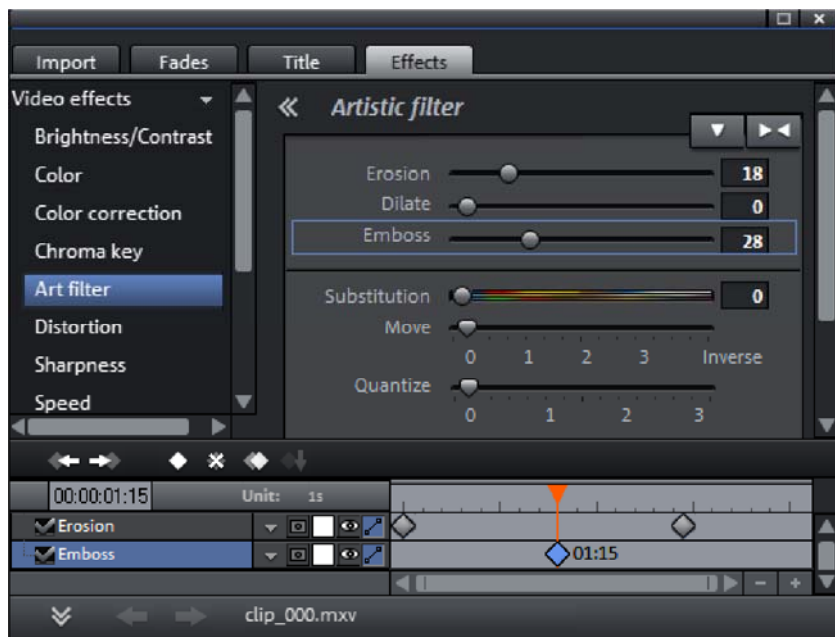
The settings for each effect may be adjusted directly in the Media Pool. Most effects are controlled with keyframe animations or effects curves. The intensity of the effect is controlled dynamically via individual points (keyframes) or via a drawn curve (effects curve). Every button for the keyframes or effects curve animations can be found after the effect is selected in the lower area of the Media Pool.

Note: To activate an effects curve, an initial keyframe must be set first.

Context menu: The context menu also offers a series of editing options for objects. This may be opened by right clicking on an object. Different trim editors can be opened which enable an exact cut with different transition parameters. For video objects, there is another context menu than for audio and title objects.

Remove unusable scenes

One of the most important work steps during import of your footage is cutting out unusable scenes from the material. There are two options for this:

- Variant 1: The complete material is loaded into your project first and the unusable scenes are cut out.

- Variant 2: Cut the material prior to importing it, and then proceed to import only the scenes you need. This process is recommended for long movies with a lot of editing; it functions either via the Media Pool or the project folder.

Cut videos in the project

Let's assume that you have already imported your film material into a project and would like to edit it now.

- Play back your video by clicking "Play" on the program monitor's transport control (or simply press the space bar on the keyboard).
- If during playback you have reached a scene that you would like to cut out, click on the playback button in the transport control a second time. The playback marker stays near the start of the scene to be removed.

Tip: In case of long films or to speed up searching, you may also fast forward the video following the action on the program monitor. To do so, drag the playback marker while holding down the mouse key across the timeline (but not too fast!).

- Set the playback marker exactly at the start of the unwanted material. The zoom function is recommended to get a better view of longer videos (the +/- buttons in the bottom right corner of the arranger).
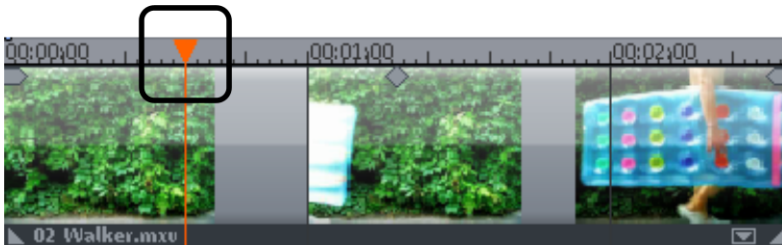
- Press the "T" key on the keyboard. This will have the effect of cutting the current scene into two sections at the position of the playback marker.
- Repeat these steps for the end of the unusable scene. Find the end of the scene, place the playback marker as close as possible to the end point, and then press the "T" key on the keyboard again.
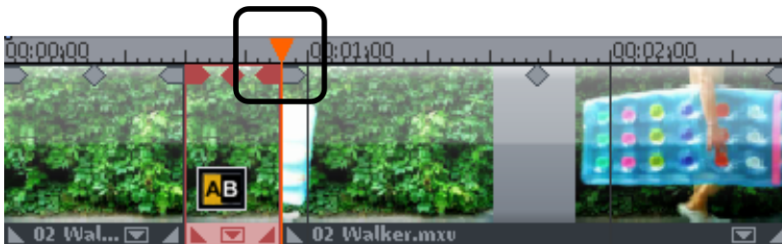
- Now you have "isolated" the unusable scene and may delete it from the movie using the "Del" key on the keyboard. Before this, the scene must be selected by clicking it with the mouse.
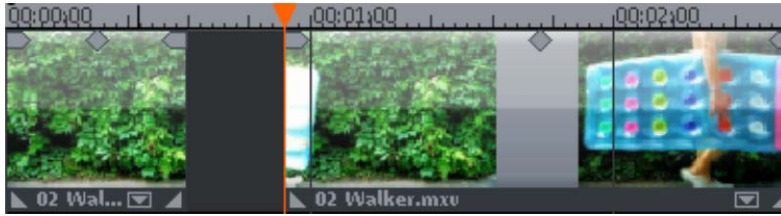
- If you didn't work accurately during cutting, don't worry; you can use the object handles to stretch or shorten the remaining objects to recover or exclude material from the deleted section.
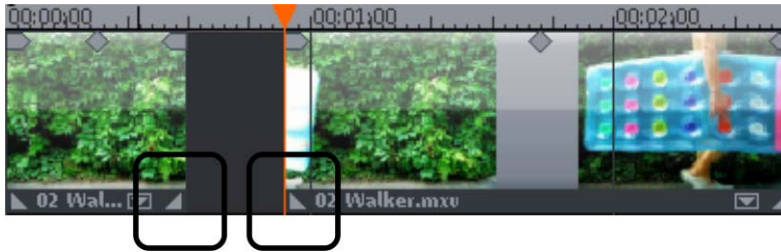
- After deletion, a gap will appear in the film sequence at the position of the removed material. How can you remove the gap from the movie? Easy: Pull the later scenes up to the earlier scenes until they "dock" with each other. Please make sure that the later scenes are all taken along during the pull, otherwise the gap will have simply moved to the back of the film sequence. To pull up later objects, use "All tracks" mouse mode, since this automatically takes the objects on all tracks found later on the timeline along with the object being moved.
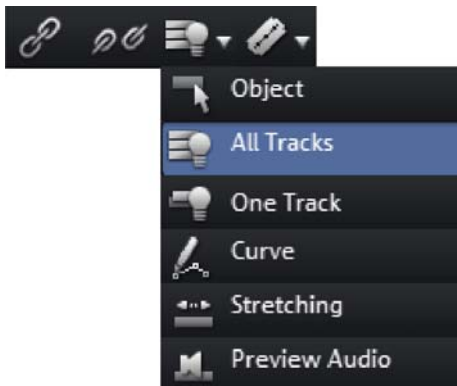
Note: If your project has not only a video track but also a sound track, then it is often necessary to cut both of these tracks simultaneously. After importing from the camera, video and sound tracks are automatically grouped, which is why all cutting and moving actions have an effect on video and sound tracks simultaneously. However, if you have added a separate soundtrack which has not yet been grouped with the video sequence, then you should group them before starting to edit. To do so, select the video object and the audio object via "Ctrl" + click, and in the "Edit" menu select the "Group" option (or click the group tool).

Feel free to experiment with the editing functions. Nothing can go wrong, since all editing functions (like all editing processes) are nondestructive. This means that all original material will remain unchanged on your hard disk.

Importing individual scenes from longer movies

If you have saved a longer video as a file on your hard disk and only want to use a section of it for your project, then proceed as follows:

- Double click the desired file in the Media Pool. Double-click the file to load it in the source monitor and play it back using the transport controls.
- Find the range which you would like to import. Position the playback marker above the transport control at the start position of the range and click the "Set in point" button.

- Next, position the playback marker at the end of the section and click the "Set out point" button.

- The currently selected range appears highlighted in blue in the range display. You can playback this range separately with the "Playback range" button.

- All range limits can be moved by holding down the mouse button and dragging. Once the range matches the section that you want to import, click

on the preview monitor and drag the section onto the track. An object will appear featuring the material you wanted to import. If you're not sure where you would like to use the section in the project, you can drag it into the project folder instead of onto the track.

Tip: You can also edit files that are located in the project folder in the same way. A shortened file also contains information in the project folder about in and out points so that you don't always need to reset these in case the video needs to be re-imported at a later time. You can also drag each file directly from the Media Pool into the project folder.

Regroup scenes

You will often want to move specific scenes or even groups of scenes to a different place within a film. This happens completely intuitively: Single scenes can be selected in any view by clicking them and moving them to the desired position (drag & drop). You can also create scene groups which can be moved together: "Ctrl" + mouse click lets you select more than one scene, "Shift" + mouse click lets you select all of the scenes that lie in between.

Finally, here are three tips for more extensive arranger work:

- With the mouse modes "All tracks" or for "One track" (view page 46) doesn't just move the selected scene, but all objects that are located behind the object (one track) or all tracks (all tracks).
- The commands "Group (view page 291)" and "Ungroup (view page 291)" let you combine any scenes into groups which can then be moved together as a block.
- If cutting and moving around parts of your project has left it a little unorganized, try using the project folder. The project folder is better suited for intermediate storage of all of the objects you want to use in your movie. You can either move all of the objects directly from the arranger into the project folder by dragging them there (they will be removed from the corresponding track), or you can copy the objects and paste them into the project folder. Hold down "Shift" while you click to select multiple files. You can also drag sections of files or files from the Media Pool and drag them directly into the project folder.

Note: Please ensure that the project folder is reserved for the respective project at hand. The contents will be saved together with the project and made available the next time the same project is opened, but not when another project is opened.

Enriching movies

Burn DVDs and Blu-ray discs with interactive menus

You can burn your projects onto DVD or Blu-ray discs with an interactive menu.

Note: Authoring for DVDs and Blu-ray discs is the same for both formats.

For multiple films that are subdivided into individual chapters, the disc selection menu becomes even more important, allowing you to jump to each movie or chapter using your remote control. To make sensible chapter divisions in your movie, it should be split into sensible sections. Place the play marker where you'd like to have it and choose the option "Chapter marker" from the "Edit" menu (keyboard shortcut: Shift + Enter). If you select the option "Automatic chapter markers", a chapter marker is automatically placed at the beginning of every scene.

You can switch to the "Burn" screen by pressing the corresponding button at the top right.

The "Burn" screen has two views: "Preview" and "Edit". The "Preview" screen provides fast loading for a menu template followed by burning. More detailed editing such as activation/deactivation of menu entries, creation of new menu pages, or individualization of templates takes place via the "Edit" screen.

Once the menu is finished, you may burn a disc to watch via your player.

Export video as file

Besides burning the project, it may also be exported as a video file. When exporting the file, the entire arrangement is combined as a single file that may be saved to any folder on the hard drive. The available export formats are listed in the menu "File -> Export film".

In order to load a video onto the Internet, the menu item "File -> Internet" provides a direct connection to MAGIX Online Album and the Internet portals YouTube®, Vimeo, and Facebook® .

Workspaces

This chapter will provide an overview of the screens that are available in MAGIX Video Pro X3. Detailed explanations about the individual elements are located further on in the manual.

Activate main screen
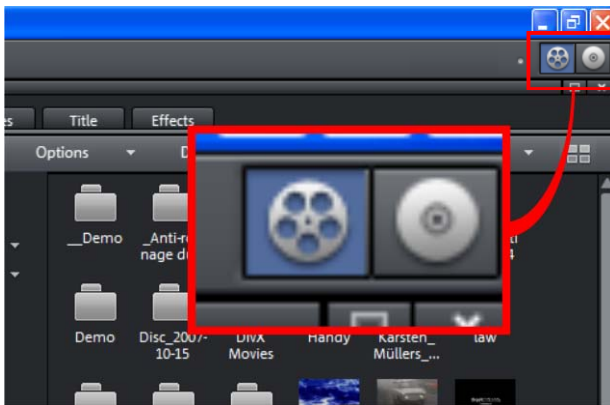
MAGIX Video Pro X3 contains two views where all work is executed:

- The "Edit" screen is the main view. Load the videos here and edit them in a project window.
- The "Burn" screen is a special view for burning discs. This especially involves design on a selection menu, for example as used by DVDs and other storage devices.

The above right allows you to switch between these screens.

"Edit" screen

1   Upper toolbar (view page 43): These buttons are useful for quickly accessing important commands.
2   Menu bar: This contains important MAGIX Video Pro X3 functions.
3   Program and source monitor (view page 51): Preview video and picture objects here.
4   Templates: Find the folders for transitions, titles, effects, and pans here. To preview a template, simply click on it.
5   Media Pool (view page 37): Load your photos and other media files via the Media Pool. Use the navigation buttons to access any drive or folder on your PC.
6   Buttons for overview and multicam mode: These switch to "Overview" mode. Overview mode displays all of the objects on the first track and enables quick sorting of scenes. The right button activates "Multicam" mode.
7   Lower toolbar (view page 44): Select "Timeline" mode or various different mouse modes for diverse editing functions.
8   Timeline: Defines the playback range. This also features a scaled timeline.
9   Peak meter: The peak meter shows the sum of the current sound track's volume.
10   Project folder (view page 57): Provides all of the collected files needed for the project.

11 Arranger (view page 54): All files may be dragged from the Media Pool or the project folder to the track via drag & drop.

12 Scroll bars: The lower scroll bars may be dragged apart and pushed together for zooming with the mouse. The right scroll bar zooms vertically into the tracks. Click on the edge of the scroll bars with the mouse button held down to change the visible window in the arranger.

Note: Various screen elements are only available via MAGIX Video Pro X3's basic settings ("File -> Settings -> Basic settings").

Media Pool

The structure and workflow of the Media Pool is similar to that featured by Windows Explorer; however, the difference is that only the used files are displayed. This is used to access and load multimedia files of all kinds: video files, audio files, fades, effects, and also complete projects.
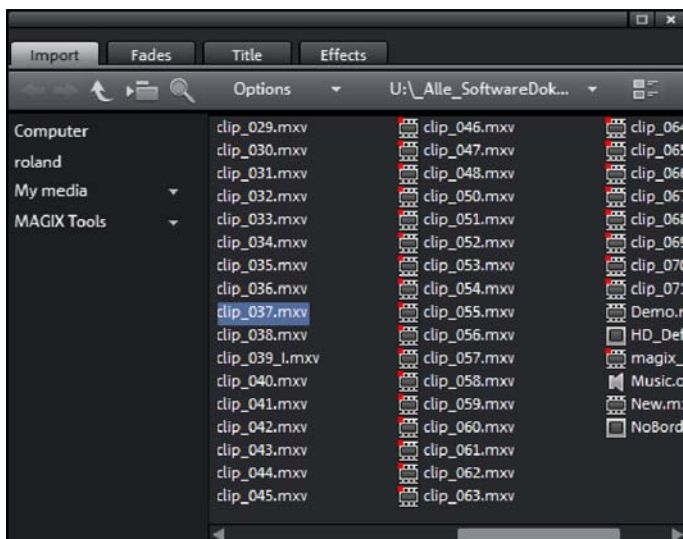
Preview function

A preview function for all of the files in the Media Pool can be started by double-clicking or by pressing the playback button on the source monitor.

The transport control function in the source monitor allows you to select sections from a longer video file in the Media Pool and load them. Please refer to the chapter "Inserting objects into the project (view page 51)".

Importing

Navigation buttons

The navigation buttons let you navigate through your computer's drives and folders.

Forwards/ back		These buttons access the previously viewed folders.
Up		This button accesses the next highest folder level.
Folder tree		This activates a folder tree to navigate through your computer system.
Search		The search function allows you to find specific files quickly. You may specify your search according to file type, date, or certain folders.
Browse history list and path details	G:\Dokumente und Einst	The path information for the current folder is displayed in the center above. Use the arrow button to open the menu to find the folders you previously visited.
Options	Options	All functions of the context menu (switch views, rename, or delete files, etc.) can also be accessed via the options button.
Display options		Settings for how detailed the entries should be listed may be made here.

Search

The Media Pool has an easy search function for finding files on the computer. It may be activated and turned off again with the shown button.
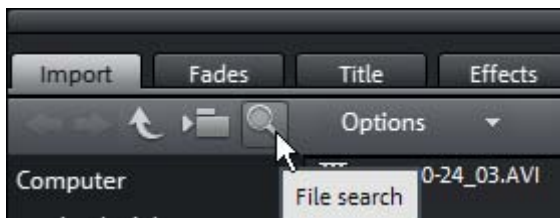
File name: Enter any part of the name of the file you are looking for in the "File name" field. The X symbol deletes the entry. A "?" may be used as a placeholder for a single character, and "*" for any number of characters.

File type: Here you can enter a file name extension. Multiple entries are separated using a semicolon. Below the entry field, various presets may be selected for often-used file name extensions.

Date: Here, you can set time period limits on your search. Choose an entry from the list.

Folder: If you don't want to search the entire computer, but only look on certain drives or in a single folder, you can define a certain search path.

Search depth: Here you have various options that determine whether additional locations should be searched.

- Search indexed locations and the selected folder
- Search indexed locations, the selected folder and personal files.
- Search indexed locations, the selected folder, personal files and the project file.

"Indexed locations" are folders, which are searched and cataloged in Windows via the index list. If the index list is activated, the files in the indicated folders will be indexed while the computer is idling, so that the user's search query may be completed faster.

Note: In Microsoft Windows XP, the indexing service is usually deactivated by default. The search functions in Windows Vista® may be installed with the current version of "Windows Search". They make it possible to easily add to the indexing service. Please refer to the installation instructions from Microsoft.

Computer

The link button "Computer" displays the drives in the Media Pool. All drives will be listed along with their drive letters and can be opened with a double click.

User directory

The second button featuring the user's name opens their personal folder in the Media Pool.

My media

The "My media" button lets you select "Projects", "My videos", "My music", "My images", and "Recordings".

Projects

Switches to the folder where your projects and videos are usually stored.

My videos

Displays all usable files found in "My documents\My videos."

My music

Displays the contents of the "My Documents\My Music" folder. MAGIX Music Manager also suggests this folder for importing your music collection into the database.

Slideshow music: This features the music that is included for dubbing.

My pictures

Switches to the "My documents\My pictures" folder. This folder is often used by digital cameras and scanners to store transferred images by default. The included MAGIX Photo Manager program also uses this folder (e.g. during image import).

Recordings: MAGIX Video Pro X3 specifies standards for all recordings.

MAGIX tools

The "MAGIX tools" link selects links to "Downloads", "Database", "Online Album", and "Internet Media".

Downloads: Use this button to access the media files that you downloaded with Catooh.

Database: Use this button to open the database view. Right-clicking opens the database search. The database first has to be created using the supplied additional program, MAGIX Photo Manager.

Online Album: This buttons opens MAGIX Online Album. This provides a shortcut to uploading and deleting data. To do this, you must first register on MAGIX Online Album.

There are many ways to upload data:

1. While holding "Ctrl" down, select the data to be uploaded in the Media Pool, and select "Copy" in the context menu (opened by right-clicking). Switch to the MAGIX Online Album screen, open the desired folder, and select "Paste" in the context menu.
2. In the Media Pool, click on "Online Album", and go to the desired directory. Open the Windows Explorer, select the desired data with "Ctrl" held down, and drag it into the Media Pool.

Both options will result in your desired data being uploaded to your MAGIX Online Album.

Hint: This function requires an Internet connection. To gain access, make sure you have your login information (email address and password) ready.

Internet media: This opens MAGIX Video Pro X3's integrated browser (view page 324). It offers you the possibility to collect media from the Internet to use in the current project.

Fades

This features all fades sorted into the various categories. One click on a category displays all of the blends that are contained.

To load a fade, click it and drag it onto the object that should be faded into. Alternatively, you may select the object that you would like to fade into and double-click on Fade in the Media Pool.

Title

This displays the title settings and the title editor (view page 113). These presets are sorted into different categories and may be loaded by double-clicking or drag & drop. The 3D title templates are also located here.

The text featured by title objects may be changed directly in the program monitor by double-clicking.

Effects

This provides access to the effects that are sorted into the various categories. Read more about this in the chapter "Effects (view page 116)".

Video effects

These are the various effects which can be applied to videos and stills. The effects can be set after an object is selected in the respective effects dialog which appears. For more information, see the "Video effects in the Media Pool (view page 119)" chapter.

Movement effects

These are movement effects you can use to animate the frame by using zoom or camera movements. For more information, go to the "Effects and titles" chapter in "Movement effects in Media Pool (view page 129)".

Audio effects

In addition to many different audio effects presets (echo, reverb, equalizer, compressor, etc.), you can also use the included synthesizer. A synthesizer can be dragged onto the arranger like a multimedia file. It will be displayed as a synth object. Use the corresponding control console to edit the synth

sounds and melodies. The control console opens automatically when the synthesizer is dragged onto the arrangement for the first time. A synth object can be opened for further editing later by double clicking.

Design elements

Multi picture-in-picture: These are various effects presets for image stacking.

Collages: These work similarly to normal picture-in-picture effects, but more objects are used. Depending on the collage, arrange the selected objects one after the other and drag the collage onto the first object.

Portrait effects: Select individual effects which are especially suited to vertically formatted photos.

Image objects: These are various image objects like black bars, thought bubbles for cartoons, etc.

Intros/Outros: These are beginning and end scenes for films with various themes.

Visuals: Graphical displays of any played sounds which can be combined with other video material.

Various file list view modes

In the file list, all of the supported multimedia files and subfolders of the currently selected folder are displayed. Three different views (list, detail, large symbols) can be set by right clicking on the Media Pool context menu.
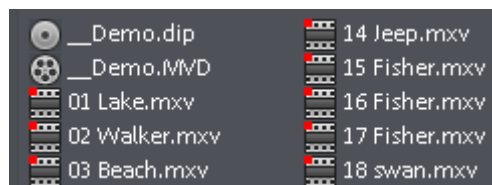
List: Only file names are listed. This view mode displays the most files simultaneously.

Details: In the details section the type, size, and date of modification are shown for every media file beside its name. The list can be sorted by clicking on any of these details.
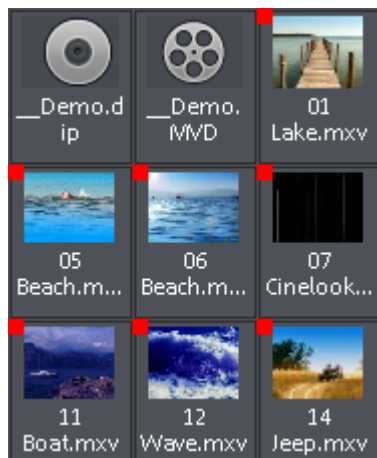
Large icons can be quite useful because they show a preview frame for each movie and picture file. This allows you to sort through the material quicker. One disadvantage is that it takes longer for the file list to be displayed.

Toolbars

Upper button bar

The upper button bar can be found in the monitor to the top left. It has the following functions:

New project

Creates a new MAGIX Video Pro X3 project. A dialog with settings for a new disc project or a new film (view page 266) opens to get started.

Keyboard shortcut: Shift + N

Load project

With this option you can load a project or a media file. Please note that all media files associated with it must be loaded along with a project. MAGIX Video Pro X3 will search for all used sounds and video files in the folders in which they were located when the move was saved.

Keyboard shortcut: Ctrl + O

Save project

The current movie is saved with the name displayed in the project window. If you have not yet specified a name for your project, a dialog will open wherein MAGIX Video Pro X3 asks you to do so.

Please note: In the project file (*.MVP), all information about the used media files, cuts, effects, and titles are saved, but not the picture and sound material itself. This is found in the recorded or imported media files that remain unchanged during the entire MAGIX Video Pro X3 editing process. To save the full movie into a dedicated directory, for instance to continue editing on a different PC, please use the command "Copy movie and media into directory".

Keyboard shortcut: Ctrl + S

Program settings

Opens the program settings (view page 267).

Keyboard shortcut: Y

Context help

By choosing the context help entry from the "Help" menu, or by clicking on the button in the top toolbar, the mouse cursor will turn into an arrow with a question mark.

Then, when you click on any button of the main screen, program help describing the control element in question will open.

Keyboard shortcut: Alt + F1

MAGIX News Center

The MAGIX News Center features links to current online tutorials and tips & tricks on the software application examples. The "News" is indicated by color according to content:

- Green indicates practical tips & tricks for the software
- Yellow reports the availability of new patches and updates
- Red for special offers, contests and questionnaires

If no new messages are present, the button will appear gray. When the MAGIX News Center is clicked, all of the available information will be displayed. Click the messages to reach the corresponding website.

Lower toolbar

The following buttons are available:

Select a movie to edit

Using the dropdown menu, you can control various movies within a project.

Undo

With this command you can undo the last changes you made. This way, it's no problem if you want to try out critical operations. If you don't like the result, then you can always revert to the previous state by using "Undo".

Clicking on the arrow next to the button opens a list of changes made until now, allowing you to undo several changes made in sequence.

Note: You can adjust the length of the list to your needs in program settings (view page 267). In general: The longer the list, the more RAM is used.

Keyboard shortcut: Ctrl + Z

Redo

This function undoes the previous "Undo" function.

Clicking on the arrow next to the button opens a list of changes made until now, allowing you to undo several changes made in sequence.

Note: You can adjust the length of the list to your needs in program settings (view page 267). In general: The longer the list, the more RAM is used.

Keyboard shortcut: Shift + Y

Delete items

This command deletes the selected objects.

Shortcut: Del

Title editor

Opens the Title editor (More Informationen can be found in the section "Title editor" on page 113) for the selected photo, video, or title object.

Keyboard shortcut: Ctrl + T

Set chapter marker

Places a chapter marker at the position of the playback marker. This creates a chapter entry in the disc menu in case the movie is being burned to disc.

You can rename the chapter markers by right clicking and selecting "Rename". The new name will appear in the chapter menu (view page 201).

Shortcut: Shift + enter

Object grid

Use this button to switch the object grid on and off. When the object grid is switched on, the objects snap into place beside one another so that everything fits in seamlessly.

Form group

Orders all selected objects into groups. As soon as an object from the group is selected, all other objects in the group will be highlighted as well so that you can work on them collectively.

Keyboard shortcut: Ctrl + L

Ungroup objects

This turns all selected objects into free-standing objects again.

Keyboard shortcut: Ctrl + M

Mouse modes

MAGIX Video Pro X3 offers special mouse modes for different kinds of editing. These may be selected using the small arrow next to the button.

Mouse mode for individual objects

This is the preset mouse mode where most work is performed.

Select objects by left-clicking them. You can move an object by holding down the mouse over it while dragging it to the desired position.

Keyboard shortcut: Alt + 1

All tracks

This mouse mode behaves similar to "Object" mouse mode.

During movement of objects, all of these will be moved behind the selected object. The complete background component of the arrangement, i.e. all objects and gaps on all tracks, will therefore be maintained during any movement.

This is practical in order to move a complete arrangement, e. g. to insert new opening credits or to close gaps.

Shortcut: Alt + 2

One track

This mouse mode behaves similar to the mouse mode "All tracks".

When moving objects, only those objects will be moved that are located on the same track behind the selected object.

Shortcut: 8

Curve mouse mode

This mouse mode is used especially for drawing effects curves.

The effects curve controls the intensity of the effect: The more higher the curve point, the more intense the respective effects parameter at this location. The curves can be used for video and image objects on the image tracks and also for audio objects on the audio tracks.

More information about this can be found in the chapter "Animate objects", section "Editing object effects curves".

Keyboard shortcut: Alt + 3

Stretch mouse mode

This special mode is for customizing the length of objects.

With timestretching, audio objects can be expanded or compressed using the handles at the bottom. The duration of the audio material is therefore lengthened without changing the pitch. Playback of the video objects is accelerated/decelerated with the help of the handles at the bottom.

Warning! If the object to be stretched or compressed is going to be animated with an effects curve, then the option "Connect curve length with object length (view page 149)" should be set for the effects curve.

Keyboard shortcut: Alt + 4

Preview audio

This mode allows you to preview audio objects (as long as the mouse button is held down).

In this mode, objects cannot be moved or changed.

Keyboard shortcut: Alt + 5

Paste modes

MAGIX Video Pro X3 provides various options for how an object selected in the Media Pool can be pasted into the project.

Apply automatically

Pastes the file selected in the Media Pool into the arranger. Video and image objects will always be placed behind the last object into the first track; audio and text objects are separated into different tracks.

Single-track ripple

Inserts an object from the Media Pool at the position of the playback marker and simultaneously moves the objects on the track following it.

- The single-track ripple behaves similarly to the intelligent ripple, the difference is that only the objects on the target track are moved. Bordering tracks are unchanged.
- In contrast to automatic insertion, all objects will be inserted at the position of the playback marker.
- Videos and images are placed on the first track. If another object is found at the playback marker position, then it will be cut continued at the end of the inserted object (so that the inserted object can start exactly at the point of insertion).
- Objects lying further along the track will be moved further down.

Multitrack ripple

The object selected in the Media Pool will be inserted on the target track at the position of the playback marker. All objects found at the playback marker position will be split and moved down the length of the inserted object. All objects on the track located further on will also be moved.

- The multitrack ripple behaves similarly to the intelligent ripple, but the difference is that all objects on all tracks following the playback marker's position will be moved.
- In contrast to automatic insertion, all objects will be inserted at the position of the playback marker.

- Videos and images are placed on the first track. If another object is found at the playback marker position, then it will be cut continued at the end of the inserted object (so that the inserted object can start exactly at the point of insertion).
- If other objects are located at the playback marker position, these will also be separated and moved further along the track.
- Objects lying further along on all tracks will be moved further down.

Replace

Replaces the selected object with an object selected in the Media Pool.

Overwrite

Overwrites the object in the target track at the position of the start marker with the object selected in the Media Pool.

Hint: In contrast to "Replace", no length adjustment takes place. With "Replace", any downstream objects are moved, while "Overwrite" overwrites downstream objects as well (sometimes only partially), depending on the length of the object being inserted in comparison to the object being overwritten.

Cut button

You can access the individual options using the dropdown menu.

Split

This command cuts a scene at the point where the playback marker is positioned. This way, two free-standing objects are created.

Keyboard shortcut: T

Remove start

This command cuts a scene at the point where the playback marker is positioned and removes the material before the playback marker.

Keyboard shortcut: K

Remove end

This command cuts a scene at the playback marker position and removes the material behind the back marker.

Shortcut: U

Hint: If the commands "Split" and "Remove beginning/end" are applied without a selection, all objects at the position of the playback marker are cut.

Remove scene

This command allows you to completely remove selected objects. The parts that follow will be automatically moved to the end of the object in front of the object to be removed.

Shortcut: Ctrl + Del

Split movie

Splits the movie at the playback marker position into two sections within one project. These can be individually controlled using the "Window" menu or the button "Select movie for editing" (see above).

Keyboard shortcut: Alt + W

Mute button

This button mutes the sound output. Clicking the triangle provides selection of the audio track for multi-audio tracks

Mixer

This option allows you to display or conceal the real-time mixer. You will find further information, especially with regard to the integration of effects plug-ins, in the chapter "Mixer".

Keyboard shortcut: M

Program and source monitor

MAGIX Video Pro X3 features two video monitors: a program monitor for object image output in the arranger and a source monitor for previewing files in the Media Pool or project folder.

Time code

The time display may be displayed via the context menu in the program monitor. Select the entry "Display play duration". This displays the current position of the playback marker. The context menu also provides selection of the foreground color, background color, and transparency.

If the time code is activated, it will be calculated into the video that is exported. This also applies when burning a disc.

Setting up the preview monitor

The program and source monitors may be set up variably:

- You can adjust the size of each of the monitors. This can be accomplished by clicking the screen with the right mouse button and selecting the desired size from the context menu, either from the presets submenu or self-defined ("Other resolution").
- You may also position both of the monitors freely. Click on the top bar of the monitor window and drag it down to any position you want. This may be a separate monitor, for example, where you may maximize the window.
- The option "Display playing time" displays a large time countdown in the program monitor. This displays the current position of the playback marker. The foreground and background colors as well as the transparency may be adjusted via the context menu.

Tip: Useful presets for the arranger and video monitor are provided via the tab "Display presets (view page 273)" in the program settings.

Fullscreen view

The option "Video monitor fullscreen" in the context menu maximizes the monitors. Alternatively, simply double-click on one of either monitors or select the desired monitor by clicking it and then press "Alt + Enter".

You can also shift the monitor into full screen mode and access it via the context menu (right mouse button). There, you can also hide and display the basic transport controls.

"Esc" returns to the normal view (or click on "smaller" button to the right in the fullscreen mode).

Film overview

The option "Film overview" in the "Window" menu enables an overview of the entire Arranger. All objects in the Arranger will be displayed in the program monitor. The overview display is especially recommended for work with long movies because the reduced overview in the program monitor and the zoomed detailed view in the Arranger present a good combination.

The film overview can be used for moving around in the movie and for editing certain parts:

- When you click on a certain object in the program monitor, the Arranger will zoom into that object.
- You can use the mouse to draw a frame in the preview monitor – the corresponding section will be zoomed in the Arranger.
- When you move the playback marker in the program monitor, the Arranger playback marker will also move correspondingly.

Tip: If you use this option very often, then try using the corresponding keyboard shortcut ("Shift + A").

Monitor zoom

The preview images of both monitors may be zoomed in and out to examine specific details in the image more closely (zoom in) or to reduce the image so that black edges result for use of animations (view page 151).

- Click on the preview monitor and zoom out of the video image by holding down "Ctrl" and using mouse wheel.

Transport control

Both transport controls enable the video material to be played back.
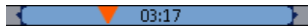
 Range: Change the range between the in and out points by clicking above the playback functions.

 Playback marker: This marker indicates the location of the image currently displayed on-screen.

 Set in/out points: Defines the start and end of the playback range.

 To the start: This button sets the playback marker to the start of the current area.

 Playback by a frame: This button sets the playback marker just behind the current frame and plays it back.

 Play/stop (pause): The playback button in the middle starts playback. A second click ends playback.

Tip: In the menu "File -> Settings -> Program -> Playback", you can set whether the playback marker will go back to the start position (stop) after the second click or following the appropriate shortcut (space bar), or if it should stay at the current position (pause function).

 Range playback: This button plays back the current range.

 To the end: This button sets the playback marker to the end of the current range.

 Jog wheel: Using this wheel, you can move by single frames within the video and position the playback marker exactly at high zoom levels.

 Shuttle control: The further the slider control is moved to the side, the quicker the arrangement is played in the corresponding direction. This way a certain position can be reached quickly.

Arranger
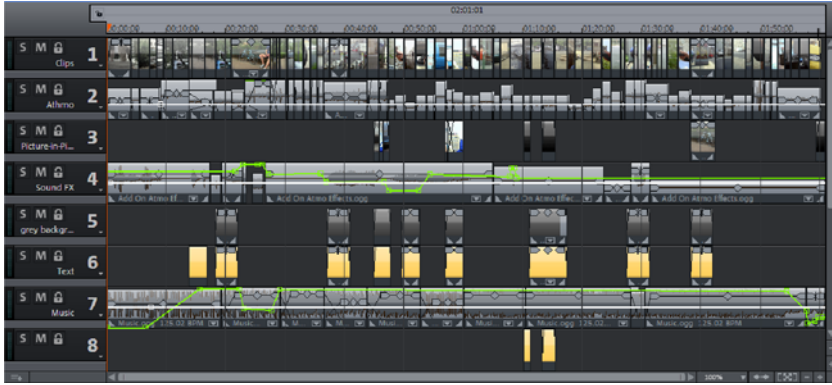
The arranger offers a professional editing screen for post-production.

Tracks

The arranger offers tracks for multimedia material positioning and editing. The number of tracks displayed may be specified in the file menu under "Movie settings".

In principle, any object type may be placed on any of the tracks. Video and image objects may also be combined with MIDI and audio objects on any of these tracks. The maximum length of a movie is restricted to 6 hours.
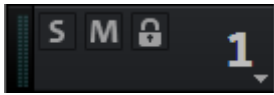
At the beginning of each track is a track box where you can mute a single audio track with the Mute button or play them Solo.

Clicking the lock symbol protects all objects in a track against unwanted editing. The track name can be changed by double-clicking on the text above the buttons.

Zooming
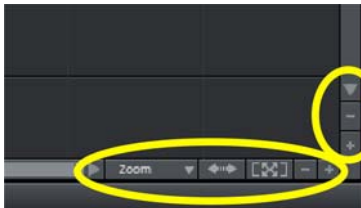
The vertical zoom function sets the number of visible tracks. For a lot of tracks, enlarging the view (zooming) is sensible for editing a single track or object.

Use the horizontal zoom functions to set up the visible section of the arrangement on the timeline.

[⌈⌉] Object zoom: Vertical and horizontal zoom stages are enlarged so that all of the selected objects are displayed at maximum size.

When the function is shut off, the old zoom level will reactivate.

Multiple sound tracks

MAGIX Video Pro X3 offers up to eight multi sound tracks, e.g. to include different audio streams on a single disc. An example of application might be the creation of multilingual discs.

This kind of audio stream is assigned via the track box's context menu; select "DVD audio track 1" - "DVD audio track 8". Every multi sound track can be clearly named via the "Rename DVD audio track" entry in the context menu.

Scrolling

The scroll bars serve to navigate in the arrangement. This enables the visible section of the arranger to be moved.

The zoom level may be changed via the horizontal scroll bar by clicking the bar's edge and dragging.

The mouse wheel also enables horizontal and vertical scrolling. If the mouse cursor is over the vertical scroll bar, scrolling will be vertical. If the mouse cursor is over a horizontal scroll bar or in the arrangement, scrolling will be horizontal.

Show grid

The temporal stretching of the arrangements is displayed by the horizontal spread of the tracks. To divide this display, a timeline featuring a grid is displayed above the first track. This includes time increments in the units (hours:) minutes: seconds: frames.

Overview mode
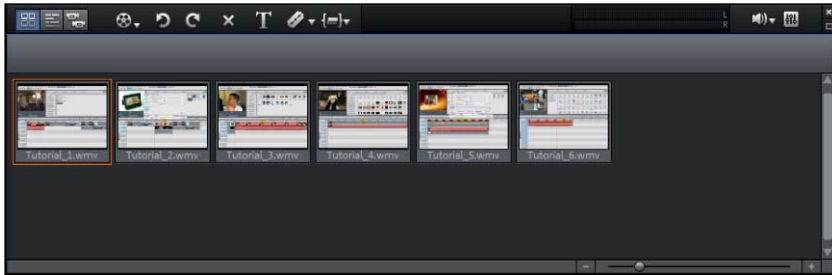
"Scenes overview" mode special display lists the arrangement of scenes. All scenes are listed one after the other (in multiple lines, like in a text program) and may be copied, cut, moved, deleted, and inserted.

"Overview" mode does not indicate start, playback, or end markers. The scene that is being played features a frame.

 The zoom slider enables the view to be enlarged or reduced.

This controller also specifies how many scenes are displayed. The smaller the preview pictures, the more will fit onto the overview.

 Maximize: Use this button to maximize the scene overview to fullscreen.

Project folder

The project folder may be considered an intermediate store for files or objects.
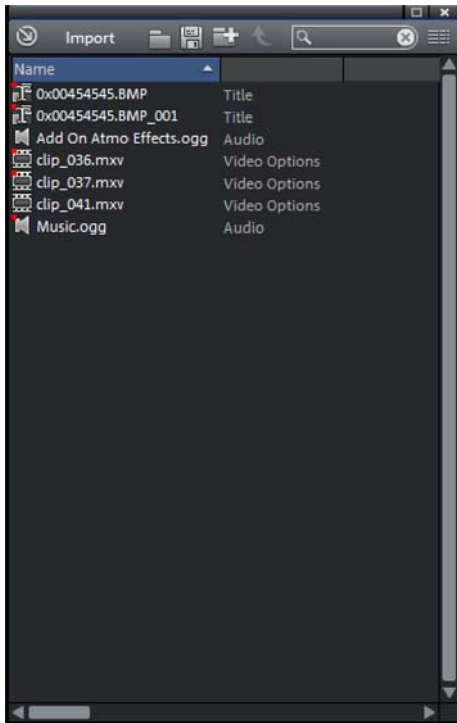
The possible applications in this case are diverse:

- Material storage: Interesting files from the Media Pool may be combined in the project folder to load them from there into the project.
- Cutting: You may cut different sections from longer videos in the project folder in order to use them as separate objects in the arrangement.
- Exchange: You may move finished objects from the arranger into the project folder in order to use them in other projects.

Import	As an alternative to drag & drop via the Media Pool, this dialog enables a file to be loaded into the project folder.
	This adds a virtual folder to the project folder. Folders cannot be created within folders.
	Save or load the contents of the entire project here in order to use it in other projects.
	This button accesses the next highest folder level.
	Search field: MAGIX Video Pro X3 searches through all file names in the project folder for the text entered and then lists the results.
	Settings for how detailed the entries in the project folder should be listed may be made here.

The project folder supports drag & drop in either direction, so you may move elements from the project folder into the arrangement or move objects or object groups from the arrangement into the project folder.

The context menu (view page 320) for project folder elements enables these to be saved individually as takes (*.tk2) in order to use them in other projects again; the entries may also be renamed.

Adjusting the workspace

The source and program monitors, the project folder, the arranger, and the Media Pool may be shut off completely or freely repositioned. Custom configurations for the "Edit" screen may be saved or accessed at any time via the menu "Window -> Workspace -> Save...".

The menu "File -> Program settings -> Display templates" features useful templates for certain configurations. On systems with only a single monitor, only the first two templates are practical. The templates are explained on the right side of the dialog. All window properties of the arranger, video monitor, etc. can be changed after a template has been selected.

"Burn" screen

1   Preview menu: This is a preview of the selection menu. Read more in
     the "Menu (view page 280)" chapter
2   Switch view: Switch between the "Preview" and "Edit" views here.
3   Remote control: Check how your disc will react later when you press a
     button on your remote control.
4   Output: Choose between burning the project or a show optimized for
     PC.
5   Play preview: Play back the menu preview and test it with the remote
     control here.
6   Template category: Switch between different templates for designing
     menus.
7   Menu templates: Switch between different templates for designing your
     menus.
8   Apply templates: Select whether a template should be assigned to the
     page, the menu, or all disc menus.

Functionality

 Switch to the "Burn" screen first by pressing the button
displayed.

Burn your movies including selection menus onto CD, DVD, or Blu-ray
Disc^{TM} here.

All movies loaded into the project will be included. If you want to remove
some of the loaded films, then switch to the "Edit" screen again and delete
the unwanted movies from the project there. To do so, switch to the
corresponding movie, open the "File" menu and select "Manage movies ->
Remove movie (view page 281)".

Note: The program is displayed differently at screen resolutions of 1280 x
1024 pixels and up. This makes the program more manageable and easier
to use. The work steps remain the same in spite of the different display.

For more information about the "Burn" screen, please read the chapter
"Burning discs (view page 199)".

Video recording

Select the recording method

 To start recording, click on the "Record" button under the source monitor.

The following selections are possible in the dialog window:
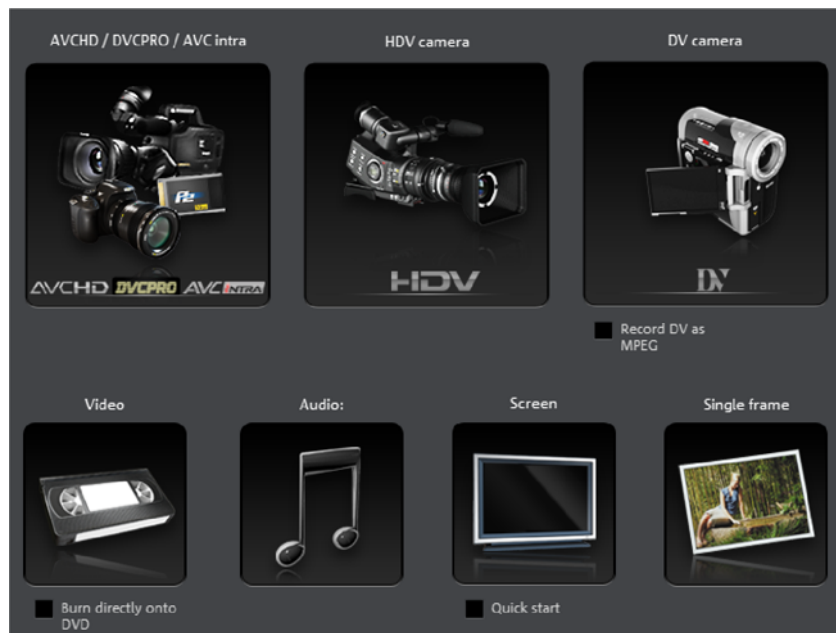
- AVCHD/DVCPRO/AVC-Intra for AVCHD/DVCPRO/AVC-Intra cameras, but also for digital cameras or video DSLR featuring memory card or hard drive. This option may also be used to import media from removable storage devices, USB devices, or hard drives as a clearly laid-out alternative to the Media Pool.
- HDV camera: For HDV1 and HDV2 cameras
- DV cameras: For mini DV cameras and DV video recorders
- Video: For analog video cameras TV, analog TV, VHS recorders, webcams and others
- Audio: For microphones, cassette recorders, MiniDisc players, turntables, etc.
- Screenshot: Records directly from the computer monitor.
- Single frame: For single and series images from analog cameras, analog TV, or VHS recorders, webcams, etc.

AVCHD/DVCPRO/AVC-Intra

This option accesses a universal import dialog that is not only suitable for AVCHD, DVCPRO, or AVC-Intra cameras, but also for external hard drives, P2 memory cards, photo, and movie cameras that contain usable files equally. MAGIX Video Pro X3 automatically recognizes the file structures and shows only individual takes, making import convenient and easy.

Alternatively, these drives may also be controlled directly via the Media Pool. The import dialog also features its own display filters and additional options for convenience.

Note: DVCPRO and AVC-Intra import is optional and must be activated (view page 335) for a fee.

Connect camera

Suitable cameras are essentially available in three designs:

- Cameras featuring removable storage: These cameras includes a slot for a memory card. Your computer should feature a card reader for the associated medium so that you can simply insert the card from the camera and import the desired material. Different camera models can be connected via USB.
- Cameras which burn DVDs directly (usually 80 mm diameter instead of the regular 120 mm): The DVD can simply be taken out of the camera and inserted into the computer. For so-called "Slot-in DVD" drives, look beforehand in the operational manual whether or not 80 mm DVDs (also called 3" DVDs or MiniDVDs) are acceptable.

Note: These variants require a special UDF driver (normally included with the camera) be installed before the DVDs or removable storage can be imported into Windows XP.

- Cameras featuring a built-in hard drive: The camera reacts as a drive soon as it is connected via a USB cable to the PC. This additional drive is then visible in the Media Pool. A separate UDF driver doesn't usually need to be installed.

Note: The variants listed here and their procedures are explained according to our experience. We also recommend reading the camera's manual for more detailed instructions and contacting the manufacturer in case of problems.

Import

The option "AVCHD/DVCPRO/AVC-Intra" does not produce a recording as such, but rather "only" the transfer of the already created video file and its integration into the existing project.

On older systems, it may be helpful to transfer AVCHD files into MPEG-2 format. A corresponding query appears automatically as these files are imported.

Note: During AVCHD import, it is necessary to activate (view page 335) the MPEG-4 and the Dolby Digital Stereo Codec for copy protection reasons. MAGIX Video Pro X3 offers this option as soon as the codec is required.

After you have selected a recording option, the following dialog opens.
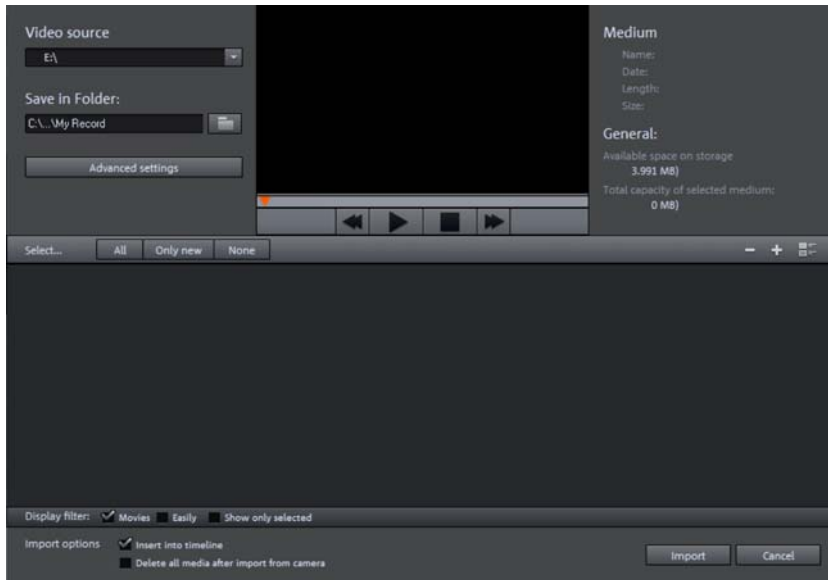
Video source: Navigate to the drive that corresponds to the attached AVCHD camera here.

Save in following folder: Create a target directory for the files to be imported to here.

Advanced settings: Adjust various settings affecting the name and date of the files to be created.

Preview monitor and transport control: Play and rewind the clips in the file list here.

Medium/general: An info area for the files is provided to the right next to the preview monitor.

File list: The contents of the selected drive are shown here. Use the display filters to reduce the types of files shown. You can select every file separately using the little check boxes in order to import them later. At the top right of the list you can find options for displaying the files.

Select: This offers self-explanatory options for file display ("all", "only new", or "none").

Insert into timeline: With this option active, media will be inserted directly into the timeline from MAGIX Video Pro X3. When inactive, they will be simply copied into the target folder and may be selected from the Media Pool at any time.

Delete all media after camera import: This option deletes the selected media after importing from the camera.

Import: Starts the import process of the selected files into the target directory.

Cancel: Closes dialog without import.

HDV camera

Use this option to open the HDV camcorder record dialog. To do this you have to connect an HDV 1 or HDV 2 camcorder.
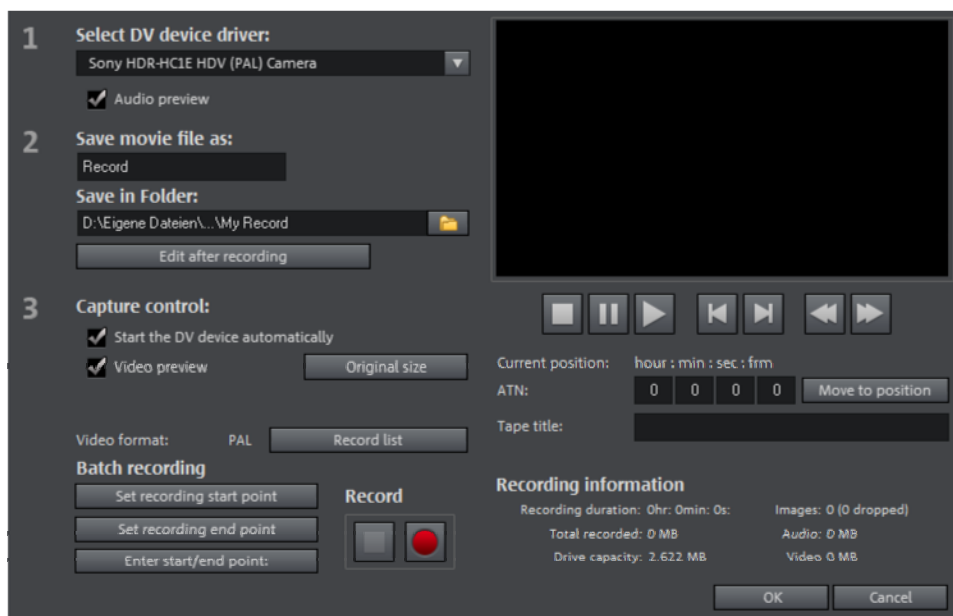
The options in this dialog can also be found above in DV recording.

DV camera

Connect a DV or HDV camera

MAGIX Video Pro X3 supports continuous editing of DV (digital video) files. You will require a DV recorder or DV camera with an IEEE-1394 interface (also known as FireWire or iLink) as well as an OHCI-standard IEEE-1394 host adapter for your PC. You must also have Microsoft's DirectX8.a (or higher) installed.

- Connect the digital output of the switched-off camera with the computer's DV interface (also called FireWire or iLink).
- Insert a DV cassette or the storage device into the camera.
- Switch your camera's operating mode to "Video recorder" or "Playback".

The camera is now ready to transfer the video to the computer.

Note: You may also use a HDV camera in DV mode to, for example, transfer recordings in the old DV format. We have noted problems with this mode in many cameras, and therefore recommend that the Record mode of the camera is also switched to DV, switching the camera off and then on again.

Capturing DV recorders or cameras

To start recording, click the "Record" button below the source monitor.

- Select "DV camera" from the recording dialog. Uncompressed DV capture requires approx. 220 MB per minute of video. If you would instead like to record using the more space-saving MPEG format, then you should first activate the "Record DV as MPEG" option.

- This opens the actual recording dialog. Check to see if a DV camera driver has been selected.
- Name your recording. It's worth choosing a logical name which will allow you to find it easily again on the hard drive.
- You can access the appropriate place on the camcorder tape by using the remote control buttons: shuttle forwards, backwards, and start/stop playback. To start recording, click on the "Record" button. Keep an eye on the remaining hard drive space.
- Cease capturing with the "Stop" button and exit the record dialog. You can see the recording in the film-strip in the lower third of the screen.

Tip: In the DV recording dialog, you can set clips from the DV video which then will be recorded one after the other (batch capturing). Read more on this in the chapter "Batch processing" (view page 69).

"DV capturing" dialog
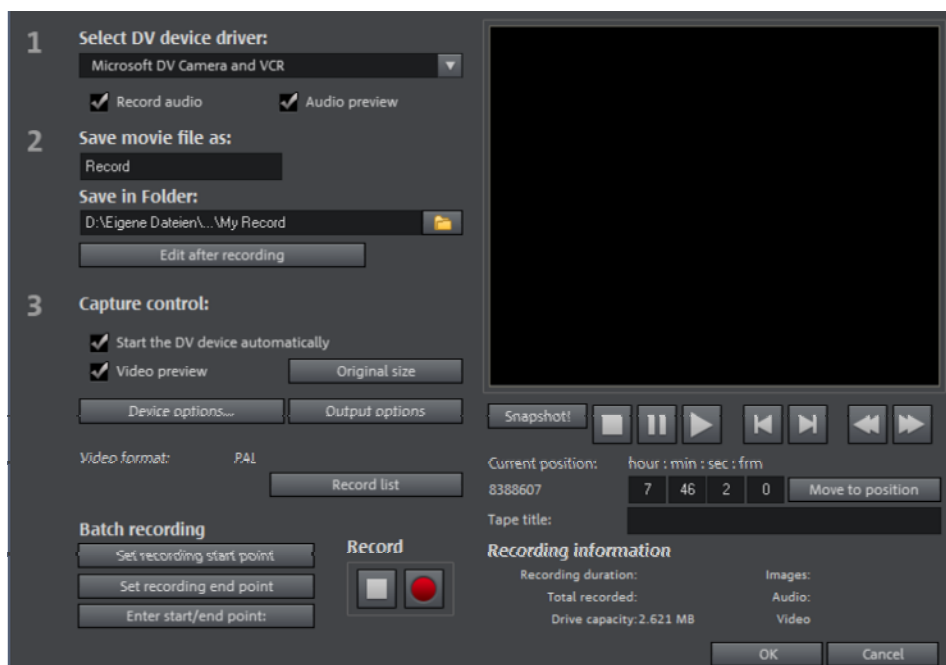
Note: Keep an eye on the available hard drive space before each recording.
DV capture requires approx. 220 MB per minute of video!

Select DV device driver: The device driver for your DV device should be
listed here. If "Record audio" is deactivated, then video without sound is
recorded only . "Audio preview" activates the audio output of the recording.

Note: The audio preview is deactivated at first, since DV cameras usually
include built-in speakers.

Save movie file as/save in following folder: Enter the name of the movie to be
recorded. You can also select the folder where you wish to store your video
file. The default recording directory is set by default, but you can change the
Path settings under menu item "File -> Program settings -> Path settings".

Edit after recording: This provides access to the automatic editing options.

Start device automatically: Starts the DV recorder or DV camera
automatically when the "Record" button is pressed. This does not function
with all digital cards/video devices.

Video preview: On the preview monitor you can see a preview of your movie.

Original size: This option allows you to preview the video in the original size. To return to the dialog use the "Esc" key.

Batch capturing: Here the start and end points can be set for the capturing. This allows you to search the entire video for all captures to be used and list them for planned batch capture. This is then processed in sequence when the recording starts (via the red button). That way you don't need to record each scene individually. You simply determine recording time points, and the computer takes care of the rest. To set the start and end points precisely, click "Enter start/end point (view page 68)"

Record list: Use this button to view the available list of already recorded videos and scheduled recordings. All entries from the list can be selected and deleted.

Record: Starts the recording process. Also contains the list of scheduled recordings. These are processed step-by-step (batch capturing).

Stop: Stops the recording process.

Snapshot! With the Snapshot! button, you can create a frozen image directly from the preview monitor. Start the camcorder and watch the preview window. When the image you want appears, click "Snapshot". Or you can navigate using the remote control to the position you want, and stop there in Pause mode. Stopped playback on the DV camera will not deliver an image! The images are saved in the record directory as graphics files in the set resolution.

Remote control

MAGIX Video Pro X3 also supports remote controls for most digital camcorders. This does not function with all digital cards/video devices. If your hardware does not support the remote control function, the buttons will not be usable.

The transport controls required for this are featured in the DV or HDV recording dialog.
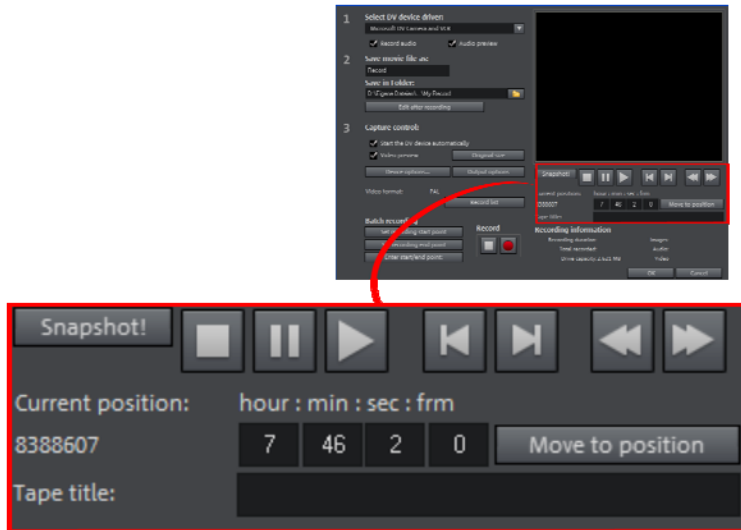
Tape title: Enter a name for your tape here. MAGIX Video Pro X3 requires this name for the DV logging feature.

Recording information: Displays various information about your recordings.

Enter start/end point: Enter the exact start and end point or the recording length for a scene.

Both values can be entered as ATN (absolute track number) or as a timecode in hours:minutes:seconds:frames.
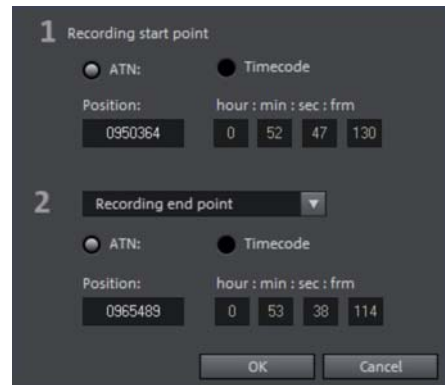
DV as MPEG

This recording selection dialog option allows you to transfer DV recordings directly into the space-saving MPEG format on the harddisk.

From the "DV as MPEG" dialog window you can find MPEG encoder settings options under "Advanced".
You can also burn your DV material direct to disc without any intermediate steps.

Recording list

Set the start and end points for the capture here. This allows you to search the entire video for all captures to be used and list them for planned batch capture. This is then processed in sequence when the recording starts (via the red button). That way, you don't need to record each scene individually. Simply specify the recording time points and the computer takes care of the rest. To set precise start and end points, click "Enter start/end point (view page 68)
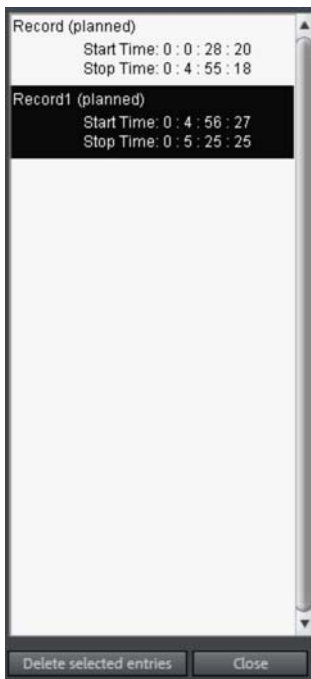
Recording list: Press this button to view the available list of already recorded videos and scheduled recordings. All entries from the list may be selected and deleted.

Every batch recording is automatically logged. Conversely, every "manual" DV and HDV recording is transferred into the recording list in order to restore lost recordings without much effort.

Logging

Logging means that MAGIX Video Pro X3 also saves the original save location, position and additional information (metadata, e.g. scene, take, rating, comments, etc.) about DV video and audio files.

Everything copied using DV recording, DV to MPEG recording and HDV recording appears in the recording lists of the corresponding recording dialog. Recordings for which the corresponding video material is no longer on the hard disk will appear as "planned recordings".

If MAGIX Video Pro X3 does not find the corresponding DV and WAV files during the loading of a video, it will ask that the corresponding DV tape is inserted into the connected camcorder again for automatic scene import.

You no longer have to save DV AVI and audio files (which can be very large). If at a later time you would like to work on a film again, but do not have the space to keep the material for it on your hard disk, then you can simply delete the bulky DV AVI and audio files.

Video

This option allows a video recording to be made from analog sources.

Connect analog video source

Connect the video out of your camcorder, or DVD/VHS recorder to the video in (TV, video, or video graphics card) of your computer, and the audio out to the line in of your sound card.

Due to the variety of device configurations, it is difficult to say which cable will function best with your setup. If you're not sure, check the manual of your VCR or your TV, video, or graphics cards.

Example:

Europe: Many VCRs and DVD players have a SCART, 3 RCA (2 for stereo sound, 1 for video), or S-Video/optical audio line out. In such case, you will need a SCART to RCA adapter, a cable with 3 RCA jacks, or an S-Video cable.

North America: Many VCRs and DVD players have a 3 RCA (2 for stereo sound, 1 for video), or S-Video/optical audio line out. In such case, you will need a cable with 3 RCA jacks, or an S-Video cable.

SCART/Cinch adapter

SCART/Cinch adapter with 3 RCA jacks

Stereo RCA/mini phone jack adapter

Most sound card inputs are 3.5 mini stereo jacks. To connect the VCR audio out to the sound card audio in you will need a stereo RCA/ mini phono plug adapter.

You will most likely have to buy a cable with 3 RCA plugs and a stereo cinch/mini jack adapter from your local supplier.

Recording dialog

Video/audio drivers: Set the video card or sound card for recording here. In practically every case, the driver software supplied with the hardware must be installed.

Input/tuner settings: If your video capture card supports multiple sources, i.e. your card also has a TV tuner or multiple inputs (SVHS, composite, etc.), then you can select the proper recording source and the TV channel to be recorded here.

Save video file as/save in the following folder: Enter the title of the movie to be recorded here. You may also select the folder where you wish to store

your video file. The standard recording folder is set as default. The location of this folder may be changed via "Path settings" under "File -> Program settings -> Folders".

Edit after recording: Use this to access the automatic editing options.

Recording quality: The list box enables you to select various predefined levels of recording quality, e.g. depending on the purpose of the recording and computer performance. These are sorted according to picture quality. Use Configuration to fine-tune the quality for the preset. Presets you have created yourself appear in this list as long as you use the default folder provided as the save location.

- Presets displayed with MPEG record directly in MPEG format.
- The preset "AVI: user-defined" enables AVI videos to be recorded via the codecs included with MAGIX Video Pro X3. There are several codecs for various applications, e.g. "MSU Screencapture Lossless Codec", which is used for screen capturing. Please also see the general information provided on AVI video formats (view page 339).

Tip: Use the presets marked MPEG if you want to burn your recordings straight away, since smart encoding helps omit laborious encoding after recording.

Advanced...: Opens the video driver settings dialog.

Capture controls: This provides access to the "Red" record and "Stop" buttons. These start and stop recording.

Timer recordings active/time limit: Specify the recording start time and length to turn your PC into a fully functioning VCR.

Snapshot!: Snapshot! creates a still image directly via the preview monitor. The images are saved in the recordings folder as graphics files in the resolution you have set.

Recording information: This provides statistical information concerning recording time, available hard drive capacity, recorded frames, and dropped frames. Dropped frames are frames that have been left out because the computer processor is too slow for the selected image format and cannot accept all incoming frames.

Preview: Some graphics adapters allow you to reduce the system load by deactivating the video preview. If you hear an "echo", deactivate the audio preview.

Advanced configurations in the video capturing dialog

Here you can adjust certain settings for the video recording driver.

These dialog boxes, so-called "property sheets," come with the video card drivers. These driver-specific performance properties may deviate depending on the cards. We also have a very limited influence on the behavior of these drivers. If you encounter any difficulties, please contact the video card manufacturer for the latest driver updates.

Input: Sets the crossbar of the video card.

The crossbar determines which video and audio input signal will be recorded. The crossbars are connected in series to the video recording chip itself. In the output field, the video output (for the crossbars) is the input for the recording chip (video or audio decoder-in) of the video card. In the "Input" field, select the signal source that will be used by the video card to capture for this input. Many video cards have separate crossbars for audio and video. If you have a problem, try out the different configurations until the right sound matches the right image.

Composite-in = the normal video input (typically a cinch jack)
S-video = S-video input (mini-din jack)
SVHS-in = SVHS input (special cable)
Tuner-in = TV signal of the integrated tuner

Imagesetting

Video decoder: If the picture only appears in black & white or it flickers, the video standard may be set incorrectly. In mainland Europe, PAL_B is used.

VideoProcAmp: Fine-adjustment of colors, brightness, contrast etc. We recommend against changing any of the manufacturer's settings.

Format: Please do not change anything here. The capturing format is set in the "Recording quality" option in the video recording dialog.

Station selection

This option is only available if a TV tuner is integrated into your video card.

Single frame

Single frame image recording may be used to record snapshots from the connected video source. This requires a DirectShow compatible video recording or TV card or a corresponding USB device (e.g. a webcam).

The time control function allows you to automatically take snapshots. This is useful for the following applications:

- to create slideshows using videos,
- for animation films (stop-motion recording),
- for video surveillance,
- or in time-lapse photography.

The recorded images are added to the current arrangement.

Recording dialog
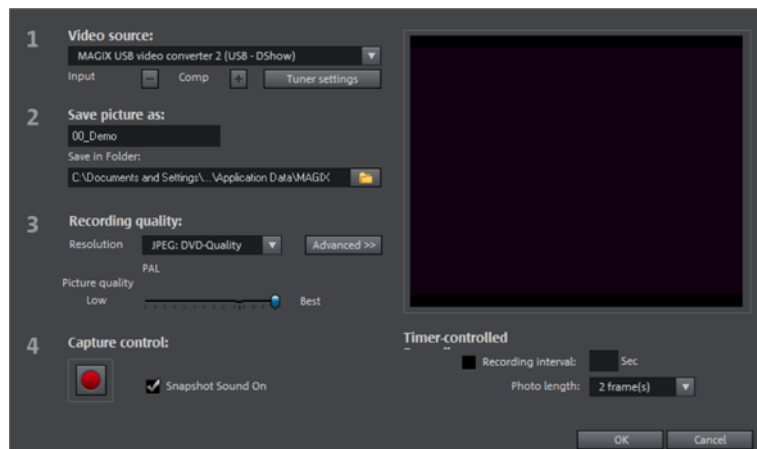
Video source: You may set the video card used to take pictures here.

Save image as: Enter the title of the snapshot to be recorded here. Snapshots are saved under this name and numbered consecutively. You may also select the file path for storage.

Recording quality: Set the solution for the recording here. This corresponds with the resolution options offered on the camera. Use the slider to set the image quality. Using higher resolutions results in larger file sizes for each recording. "Reset" resets the image quality to the preset value.

Advanced: Opens the video driver settings dialog.

Camera noise during recording: This causes the program to play a clicking sound each time a snapshot is taken.

Recording controls: The red record button triggers a snapshot or alternatively a series of recordings when using the time control function.

Time Control

Recording interval: When active, starting recording produces a sequence of images. Snapshots are saved according to the selected time interval and numbered sequentially. For example, if snapshots are taken every two seconds and then inserted every five frames into the slideshow, then a ten-times time lapse recording will result.

Photo length in frames: Specifies how long the photos appear in the slideshow.

Enhanced single-frame recording dialog settings

You can adjust certain settings for the video recording driver.

These dialog boxes, so-called "property sheets", come with the video card drivers. The driver-specific features may slightly vary from driver to driver. The MAGIX team has little direct influence on the performance of the various drivers. If you encounter any difficulties, then please contact the video card manufacturer for the latest driver updates.

Input: Sets the crossbar switch of the video card. This lets you define what video and audio signal is used in the recording. The crossbars are connected in series to the video recording chip itself.

Output: In the "Output" field, the video output (for the crossbars) is the input for the recording chip (video or audio decoder in) of the video card. In the "Input" field, you select the signal source to be used for this input by the video card during recording.

Composite in = the normal video input (typically a cinch jack)

S-VHS in = S-VHS input (special cable)

Tuner in = the TV signal of the built-in tuner

Video decoder: If the picture only appears in black & white or it flickers, then the video standard may be set incorrectly. PAL_B is used in Germany and most European countries (France: SECAM; US/CAN: NTSC).

VideoProcAmp: For fine tuning of colors, brightness, contrast, etc. We recommend against changing any of the manufacturer's settings.

Format: Do not change anything here! The capture format settings can be changed under "Resolution" in the "Recording" dialog box.

Audio

Songs, noises, or instruments can be easily recorded in MAGIX Video Pro X3 using the audio recording function. A hooked-up microphone or various audio devices (especially a stereo system) can be used as recording sources.

Connecting the source for recording

First of all, the source of the audio material must be connected to the sound card input. Again, there are several possibilities which primarily depend on the type of equipment you have.

If you are recording from a microphone, then please connect the microphone to the microphone jack on your sound card (usually red).

If you want to record material from a stereo system, then you can use the line-out or AUX out jacks on the back of your amplifier or tape deck. This involves connecting them to the sound card input (usually red).

If your amplifier has no separate output (other than for the speakers), then you can use the connection intended for headphones for your recordings. In most cases, you will need a cable with two mini-stereo jacks. This type of connection has the advantage of being able to set the headphone input signal level with a separate volume. As headphone connections generally are not the best, it is advised that you use the line outputs if possible.

When recording cassettes from a tape deck, you can connect the tape deck's line out directly to the sound card input.

When recording from vinyl records, you should not connect the record player's output directly with the sound card because the phono signal needs to be pre-amplified. A more suitable method would be to use the headphone connection or an external pre-amp.

Adjusting the Signal Level

Adjusting the signal level to the sound card is also recommended to get the best sound quality during digital recording.

Once a recording source is connected to the sound card, the "Record" button opens the recording dialog and starts the recording source.

You can now adjust the recording level with the help of the LED display in the recording dialog. For this, you must first check off "Show Levels".

If the adjustment is set too high, distortion occurs and the incoming signal must be reduced. If you have connected the source through either an amplifier or tape deck output to the sound card, you can only reduce the signal level in your sound card's software mixer interface. You can access the mixer directly from within the recording dialog via the "Recording Level" button.

If you reduce input sensitivity by using the input fader, the resolution at which the analog signal is digitized is also reduced. Try to set these automatic controllers to the loudest sound level possible.

The maximum setting for an optimal level is the loudest part of the material. The loudest part should be adjusted to be the maximum. The actual recording begins when you press the "Record" button. At the end of the the recording you will be asked if you want to use the recording. Upon confirmation, the newly-recorded material will be placed at the next free position of the start maker in the arrangement.

Audio record dialog
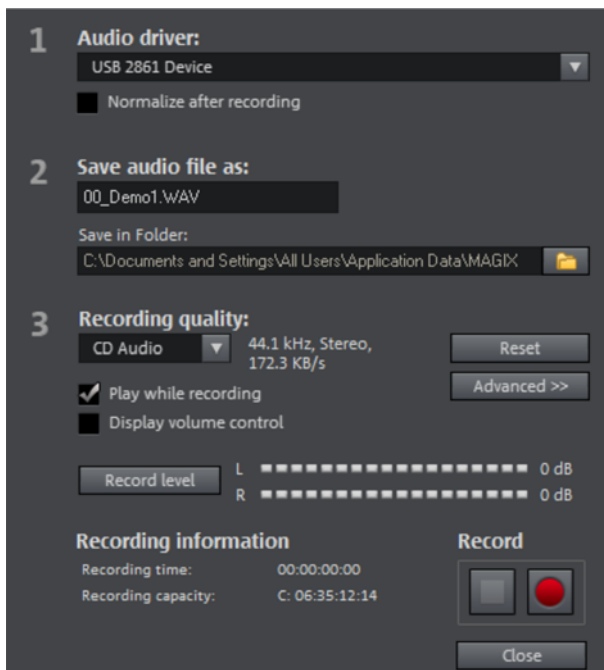
Audio driver: Selects the sound card for the recording.

Save audio file as/ Save file in the following folder: Here you can select the title of the audio file you wish to record. You can also select the folder where you wish to store the file.

Recording quality: Sets the sound quality of the recording. In the preset menu you can choose between medium wave radio ("AM tuner"), UKW ("FM Radio"), DAT (Digital Audio Tape) and CD quality.

Volume control: Using the peakmeter, you can monitor the level of the incoming signal. Please read more on this in the chapter "Adjusting levels"

Recording: This button starts the actual recording.

Stop: Click this button to stop recording

Normalize after recording: With this option activated, your material's volume is raised to a proper level after recording is completed. In order to achieve good results, you should try to record the source as loud as possible without overmodulating it. To do so, refer to the peak meter reader in the recording dialog.

Playba while recording: This option is particularly important for spoken commentary, etc. If activated, the selected movie (or selected scene if recorded in the "Edit" screen) is played while recording. This acts as orientation for the movie.

Advanced: Use this button to open a window where you can select from special features:

Advanced options

- "Mono" creates a mono recording and requires half of the hard drive space required for stereo.
- "Real-time sample rate adjustment" automatically matches the sample rate of a new file to be recorded with the sample rate of the selected movie sound track.
- "Ducking" (reducing the sound volume): To add narration or other sound material to a video that already has sound volume levels set, activate the option "Automatic reduction of sound volume of remaining audio tracks". This automatically reduces the volume of audio objects in the arranger during the recording session ("ducking"). A volume curve controls the whole process, produces the fading in and out of effects automatically and guarantees consistent overall volume.

Screen

Use this feature to record your screen content. This process is called "screen capturing".
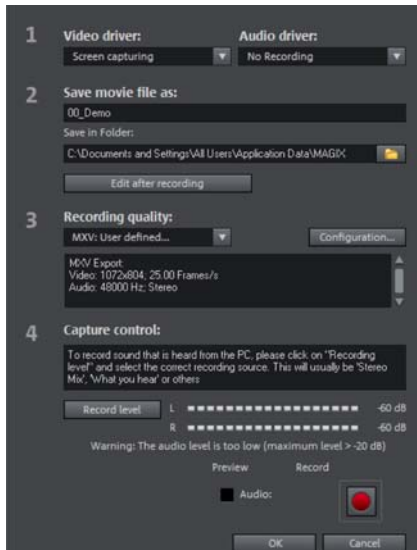
- Under Recording quality, you will find various presets for different applications. You can either record the entire monitor ("fullscreen"), a frame of variable size (e.g. to film the Windows Media Player display), or a different video player. Click "Configuration" to make custom size adjustments.

Hint: Because many video players work with overlay, it is recommended to open each player before starting the capture! This way switching into "Overlay" mode can be prevented.

Tip: Use the fullscreen presets under "Recording quality" which are specially well-suited for AVI screen capturing.

- Click the "Record" button in the recording dialog. An additional dialog with a red record button, a black stop button as well as a frame with dashed bordering appears. Activate the option "Record mouse pointer" to record the movements of the mouse pointer.
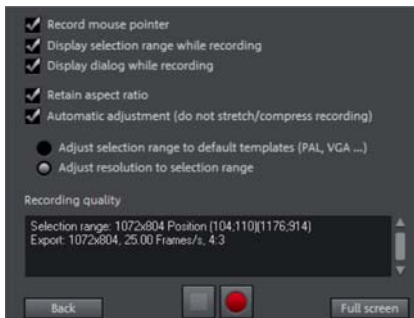
- Now select the screen area you wish to record, i.e. the screen of the video player in which the video is playing. Drag the frame over the area you wish to record and adjust its size as required by dragging the edges and corners.

Hint: If you selected the "fullscreen" preset before, or clicked the "fullscreen" button in the dialog before, the frame will appear outside the visible area.

- The actual recording process can be started by pressing the red record button. The recording starts; the record symbol appears in the task bar (tray).
- Once the video you wanted to record has come to an end, click on the "Record/Stop" button to stop the recording. Recording ends and the recording dialog is visible once again.

Recording AVCHD

This recording is actually not really a recording as such, but rather "only" the transfer of the already created video file and its import into the existing project.

AVCHD essentially requires a UDF driver (this is normally included with the camera), since then DVDs and removable storage devices may be imported into Windows. This is required for AVCHD cameras with a hard drive. The camera will respond as a drive soon as it is connected via a USB cable to the PC.

This additional drive is now present in the Media Pool and corresponding M2TS files may now be imported from it. These files feature the extension M2TS, which means they may simply be dragged from the Media Pool (top right) downwards.

A convenient option featuring multiple options is provided by the AVCHD import dialog (view page 61).

Note: This may be helpful under some circumstances on older systems that convert AVCHD files into MPEG-2 format during import. A corresponding query appears during importing of these files.

In order to play multiple tracks simultaneously, switch the hardware acceleration on ("P -> Display options -> Playback in arranger -> Video mode -> Hardware acceleration Direct3D). This option only functions with current graphics cards (ATI Radeon 1300 or higher).

AVCHD activation details

Attention: For AVCHD support, Dolby Digital Stereo and the MPEG-4 codec must be activated. To convert AVCHD videos to MPEG-2, the MPEG-2 codec must be activated.

Edit after recording
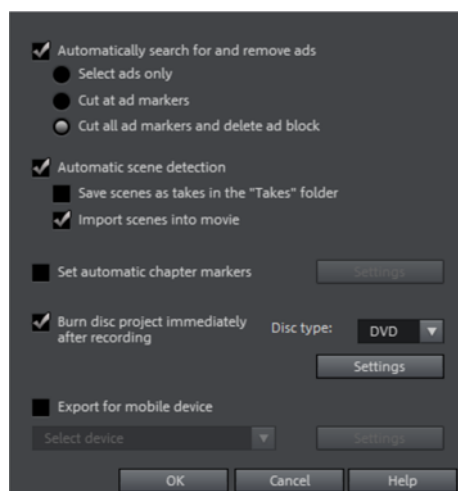
The "Edit after recording" dialog can be opened from all recording dialogs.

All editing steps from recording to automatic burning can be carried out without further user involvement.

The dialog "Edit after recording" allows you to:

- Find and remove advertisements automatically: Please read the chapter "Automatically search for and remove ads" (view page 226) chapter.
- Automatic scene recognition: Divide material into scenes. Please also read the section "Automatic scene recognition (view page 224)".
- Automatically set chapter markers: Please also read the section "Set chapter marker automatically (view page 105)" in the chapter "Edit" in the PDF manual (press "F1").

Burn project immediately after recording: You can use this option to record and burn in a single step. Simply select the format you would like to burn, insert a suitable blank disc into the drive, and then press record.

Note: Make sure that the selected recording quality corresponds with the disc type (the preset "MPEG DVD" for DVDs).

If you use your own settings for MPEG encoding (e.g. half image resolution for long-play DVDs) make sure that settings for recording and later for burning are the same so that no new recording is necessary (Smart encoding).

After recording, the program automatically switches to the "Burn" screen, the burn window opens and the disc is burned. The last set layout is used for the menu layout for the DVD.

Tip: This function is particularly suitable for burning lengthy disc projects directly to disc, since recording may begin in the evening and DVD should be finished by morning.

Export for mobile device: The recorded movie is immediately converted into the format of the selected mobile device and transferred. The list field contains the device which has been selected in the "Export video/audio (view page 249)" dialog.

Settings: Opens the "Export settings (view page 243)" dialog for the selected target device.

Note: If you enter a file name and memory path in the export dialog, then the path is used but the file name is ignored. For EPG-controlled TV recordings the name of the program is used instead.

Creating new movies or attaching them

If you record or load multiple movies one after the other, then you will need to decide for every new film if it should be appended to the previous film or created as a new one.

The choice you make here is important for the later design of the DVD burning selection menu; movies will be entered into the first level of the menu hierarchy and scenes are entered into the second level. Every movie can also be edited in detail and enriched with effects, titles, and transitions via the "Edit" screen.

Object editing

In the Timeline mode of MAGIX Video Pro X3, you are dealing with "objects". This general description includes all media types positioned on tracks in the Arranger. There are video objects for video files, audio objects for audio files, image objects for images or photos, title objects for subtitles and even synthesizer objects, which contain MIDI files.

In the following chapter you can read about what you can do with these objects. The workflow for all objects is very similar.

Insert object into the project

Select files in the Media Pool

The source monitor allows material to be viewed prior to exporting it. A preview function is also provided for all of the files in the Media Pool.

- First, double click the desired file in the Media Pool which you would like to preview. Image files are displayed immediately; video files must be loaded first. A preview is also provided for special objects like titles or fades.
- Use the playback button in the source monitor to start the preview. Audio files may also be listened to beforehand via the play button, and a level display will activate in the source monitor.

Load files

Media files can be loaded into the Arranger from the Media Pool in several different ways:

- The fastest way: Drag the desired file from the Media Pool into the desired track. If an object is already present at this position, the file is inserted at the desired time position on the next empty track below.
- Load several files: If you would like to load several files, hold down the "Ctrl" key while clicking on the entries you would like to use. If you would like to load a sequence of files, hold the "Shift" key and click the first entry, then on the last. All entries present in between will be selected. Every file can be moved from the Media Pool to the Arranger via drag & drop.
- Insert via menu command: You can also use the menu commands of the "Insert modes" button. For more about this, read the section "Insert modes (view page 48)" in the chapter "Workspaces".
- Project folder: If you would like to combine your material separately, then using the project folder is recommended. It can be used as a sort of clipboard where files that may be used in the project are sorted ahead of time. This creates a better overview and saves repetitive, annoying navigation through folders in the Media Pool.

DVD files (VOB) with multiple audio tracks

MAGIX Video Pro X3 also loads VOB files that contain multiple audio tracks. After the VOB file loads, simply click the audio object created and select the desired audio track.

Note: To view and select audio objects in the arrangement, Timeline mode must be active.

Loading parts of longer movie files

For longer videos, it is recommended to define the areas which should be loaded into the project before importing. An in and out point is set to define the area for this purpose. To do so, proceed as follows:

- Select a file from the Media Pool by double-clicking it. Play it back using the play buttons on the source monitor to indicate the section which you want to use in the project.
- Either move the range markers directly by dragging them with the mouse or set them using the buttons or the shortcuts "I" and "O". The shortcuts are especially useful for exact positioning using the shuttle and the jog wheel

- Left-click on the monitor image and drag it to the arranger. An object will appear on the track and in the project folder simultaneously, corresponding with the selected area.
- You can also drag your selection into the project folder and use it in your project later by dragging it from the project folder onto the arranger. The file in the project folder has the same name in this case as the original file but includes only the selected range.
- You can also drag a file from the Media Pool into the project folder first and then cut it from there with the help of the source monitor. The in and out points that result are saved directly when the range is stretched.
- Alternatively, objects may be moved the opposite direction from the arranger into the project folder. In case the object should appear in the project folder and in the arranger, hold down "Ctrl". This adds all object-associated settings (fades, effects, animations) and enables different editing work to be done on an object which then can be saved in the project folder for later usage.

Note: For all operations involving insertion from the source monitor into the arrangement, MAGIX Video Pro X3 features a variety of insert (view page 48) modes.

Select and group objects

To edit or delete objects using menus, you must first select them. To do so, simply click on the object you wish to select. Objects will change color to show that they have been selected.

When the Shift key is pressed, multiple objects are selected. You can open up a rectangle positioning the mouse over the object, then holding down the

mouse button and marking all objects within the rectangle ("elastic band selection") by left-click-dragging.

Any object can be combined with others to make up a group, to avoid the objects being unintentionally moved out of relation to each other. Once they are combined, clicking on one object of a group will select the entire group. To group or ungroup objects, use the buttons in the tool bar or the corresponding commands in the "Edit" menu.

Duplicate objects

Objects may be duplicated very easily. Click on the object to be copied with the mouse while holding down the "Ctrl" key. This generates a copy, which you can immediately drag to the desired position or cut separately.

Extract sound from videos

Video with sound material appears in the arranger on two tracks as two objects (an audio object and a video object). The two objects automatically form a group.

To edit the video and audio material separately from one another, the objects can be separated with the Ungroup (view page 291) function in the "Edit" menu or button in the arranger. Now you can replace the audio or the video track, or process each file separately. Rejoin/regroup the tracks with the "Export arrangement" function.

Shift objects

Hold down the mouse button to move selected objects to any tracks and positions per drag and drop. It is recommended to place objects, that belong together on neighboring tracks and create separate tracks for audio and video objects. Foregrounds and backgrounds, or videos that are to be layered should lie on two tracks stacked one above the other.

If the Shift key is pressed while moving the object selection, the object's horizontal time position is maintained.

Cutting objects

All objects can be split. Each object section then becomes is then split into individual objects.

- First select the object to be split.
- Position the playback marker at the position where the movie is to be cut.
- Click on the "cut" button or select the "cut" option in the "Edit" menu.

In order to rejoin these split objects at a later stage, simply highlight the individual parts and select the command 'forming group' to join the selected objects together alone group.

Hint: If the commands "Split" and "Remove beginning/end" are applied without a selection, all objects at the position of the playback marker are cut.

Tip: You can find detailed step-by-step instructions, on how to remove unusable scenes from video material in the "Quick start" chapter on the print manual.

Object handles

All objects can be re-sized with their lower edge "object handles". Move the mouse over one of the lower corners of the object until the mouse pointer becomes a double arrow. Move the mouse over one of the lower corners of the object until the mouse pointer becomes a stretch symbol.
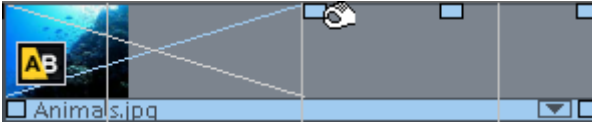
5 "handles": Length, fade, transparency (volume)

An object can be faded in or out with the handles to the left and right upper corners of the object. Cross-fades between different objects can be created by overlapped positioning of objects that are fading in and out. The length of the cross-fade can be adjusted with the handles.

Using the transparency/volume handle located centrally at the top of the object, adjusts the transparency of video and Bitmap objects, or the volume of audio and image objects.

If you adjust the middle handle of a video object all the way down, the object will become transparent. If a second object is located on a track above it, a black color will appear from below it, so that brightness will be reduced.

Edit menu

With a click on the small arrow beside the cut button, you can access the cut menu. There you will find further relevant commands.

Split

This command cuts a scene at the point where the playback marker is positioned. This way, two free-standing objects are created.

Keyboard shortcut: T

Remove start

This command cuts a scene at the point where the playback marker is positioned and removes the material before the playback marker.

Keyboard shortcut: K

Remove object end

This command cuts a scene at the playback marker position and removes the material behind the back marker.

Shortcut: U

Remove scene

If you want to cut a scene out of a movie retroactively, this option automatically moves all objects, titles, and transitions on all tracks forwards so that no gaps result.

Objects on other tracks which project into the area of the selected scene will not be moved automatically; they will remain at the current position.

Shortcut: Ctrl + Del

Split movie

This command divides the movie into two individual movies at the position of the playback marker. The current arranger retains the portion that is located in front of the playback marker.

The remaining part will be erased from the current arranger and turned into a new movie, which can be found in the "Window" menu.

Shortcut: Alt + Y

Trim Objects

Trimming provides exact placement of object borders or transitions. MAGIX
Video Pro X3 has two different trimmers, and these can be opened using
the context menu for a video or image object.

General advice for operating both trim editors

Play functions: The trim window contains its own play functions that allow
the object to be played individually or in relation to the arrangement.

- The right play button plays the arrangement normally. Note: Replays can
  sometimes appear shaky because the processor may be overworked, and
  some frames may be left out.
- The middle play button plays the arrangement "frame-by-frame", which
  means no frames are left out, but that the replay may be slower.
- The left play button renders material before playing. This method ensures a
  smoother playback.

The start marker in the timeline is reset when the rewind and fast-forward
functions are activated, allowing for complete control of transitions between
two videos.

Increments: A click on the +/- buttons in both trim editors places the handle
or the material within an object exactly into a frame. With the "Ctrl" key you
can increase the frame rate (5 frames/sec per mouse click).

Trimmer for individual objects

A schematic display of the selected object and its handles can be found in
the center of the trimming window.

Fade in/out (4, 5): These buttons adjust the upper fade handles of an object.

Object content (3): Here you can move the video material to be played
without changing the object length.

Position (2): Moves the object on the track.

First frame/End fade-in (7): Toggles the left monitor between the first frame of the object and the end of the transition.

Start fade-out/Last Frame (8): Toggles the right monitor between the start of the transition and the last frame of the object.

Left/right arrow buttons (1, 6): Here you can adjust the lower object handles.

Next object/cut (9, 10): The buttons below and to the right skip to the next/previous object and/or cut in the arranger. These buttons make it easy to move and trim objects in the arrangement without having to leave the trimmer.

Keyboard shortcut: Q

Cut trimmer

A schematic display of the selected transition and its handles can be found at the center of the trimming window.

Left arrow buttons (1): These buttons move the last frame of the first object while adjusting the second. The length of the transition remains. The display indicates the relative change in comparison with the starting situation when the trimmer was opened.

Position (2): Moves the second object. The length of the transition is changed. This corresponds with shifting an object in the arranger.

Object content (3): Moves the movie under the second object. The length of the object and the object itself are not changed.

Crossfade (4): Changes the transition's length between both objects. The objects remain of equal length. The length can be numerically entered.

Middle arrow buttons (5): Shifts the existing transition. Both objects remain in their positions, but the transition's center point moves.

Transition (6): Displays the type of transition. A mouse click opens a popup window from which you can select a transition.

Right arrow buttons (7): Move the first frame of the second object. The first object and the transition remains. Only the length of the second object changes.

Start fade-out/Last frame (8): Switches the left monitor between the start of the transition and the last frame of the object.

First frame/End fade-in (9): Switches the right monitor between the first frame of the following object and the end of the transition.

Next cut (10)/Next object (11): The buttons below and to the right skip to the next/previous object and/or cut in the arranger. These buttons make it easy to move and trim cuts in the arrangement without having to leave the trimmer.

Keyboard shortcut: N

Shrink or interlace videos

Videos can be made smaller, e.g. in order to display a foreground video in a section of a background video. Both videos must be arranged appropriately in the arranger.

- Place two videos one above the other in the tracks.
- Place the foreground video on the track below the background video.

Note: Make sure that the mixing effect "Stamp" is active under "Video effects -> Chroma key".

- Select the foreground video
- In the Media pool under "Effects -> Movement effects", select the entry "Position/Size" or "Crop/Zoom".
- Click and hold down the mouse button on the edges of the video in the program monitor to change the section or the size. The selected video may also be moved to the desired position in the program monitor in the same way.

For more detailed information, see the section entitled "Movement effects in Media Pool" in the chapter "Effects (view page 116)".

Save objects separately

Individual objects or object groups from the arranger may be saved separately via the project folder as a separate files. For example, cut out trailers, jingles, and so on that you need converted, and then save them for other projects for reuse as a take.

A take file (*.tk2) contains a reference to a multi-media file or to a special object (videos, sound, visuals, etc.) including all additional properties that an object may possess (start and end time, fades, and effects including effects curves).

To save, select the corresponding objects in the arranger and group them as required ("G"). Next, select "Add to project folder" via the group's context menu.

An entry will now be added there that is named after the object in the arranger. The context menu (view page 320) allows you to name these entries logically, comments may be added via "Properties", and save them as a take.

Saved takes may be loaded via the "Load" button in the project folder.

Attach to picture position in the video

You can attach a video, picture or text object to moved picture content of another video. The attached object automatically completes the movement of a picture element from the film, making it appear magnetic. For example, you could use this method to insert a hat that stays on someone's head throughout, even if the person hops through the picture.

Let's roll:

- Place an overlay object (e.g. a photo of a hat) on a track below a video with a moving image element (e.g. a walking person).
- Right click the object and select the "Attach to picture position in the video" movie point.
- Then click "Continue" in the dialog that appears.

Note: If you want to attach two objects, e.g. a title and a speech bubble, an additional dialog appears, which lets you select the objects you want to attach to your video.

- The next dialog asks you to draw a frame around the image content to be tracked. The content should have high contrast to its background.

- Movement will be automatically calculated and a series of keyframes that control the position and size of the effect according to your wishes will be generated.

Transitions (fades)

When importing video files into the arranger, individual objects usually follow directly after one another. This is called a "hard cut". However, you can make scenes blend or "transition" into each other.

This means that for the duration of a transition, two objects are shown at once and can be mixed "faded" together in different ways. You will find numerous blends in the Media Pool's transition directory.

Simple crossfade

A simple transition can be created in the arranger by dragging one object over another. A crossfade will be automatically created. During this standard transition, the brightness of both objects is increased, i.e. the first clip fades out while the second clip fades in. The duration of the crossfade is displayed in the arranger by white crossing lines. You can adjust the length of the crossfade by dragging the upper handle of the second object to the left or to the right.

To select a different fade click on the transition symbol displayed when an object is selected.

The fade menu opens. The transition icon will change, depending on your selection.

Fades from the Media Pool

- To open the fade directory, click on the "Fade" button.
- A click enables a preview of the fade on the preview monitor.
- Simply drag the desired fade preset onto the border between the two objects. Only when the mouse pointer with the transition preset is placed over a scene change will it turn into an object symbol. The object at the back will be shifted to the front to accommodate the transition.

The length of a transition is decided by you, if a transition is shortened, it means that the resulting effect is speeded up.

Some transitions can be adjusted even more exactly. To do so, click on the corresponding fade symbol in the Timeline or in the Storyboard and select "Settings". Thus, an object's fade symbol in the Media Pool can represent an entire group of different effects.

The so-called alpha fades ("Iris", "Objects", "Random", etc.) are actually pre-produced black and white videos combined with the alpha keying effect.

Other fades use sound effects. Look around at all the contents to form an idea of what you can use in future projects.

Note: Use transitions economically! Most professional movies or TV shows use hard cuts as the rule and transitions less frequently. Videos appear unprofessional and too ornate if fade effects are added to every change of scene.

Custom fades with Alpha-keying

Alpha keying extends the range of transition effects used in MAGIX Video Pro X3 to produce black & white movie transitions or selected color fade-ins and fade-outs. You can create such a video from any video material (also color) by exporting it as a transition (File -> Export movie -> Export as transition).

The loaded movie is then exported as a black and white video in mxv format and stored in the fade directory. Afterwards, it will be available in the Media Pool and the fade menu.

3D transitions

General options

3D effects offer exciting and varied opportunities to create transitions between two videos. 3D effects may be accessed via "Fades" in the Media Pool.

To achieve the most fluid display of 3D fades, the graphics card's acceleration function is used. 3D functions on graphics cards may be used via either of the software standards "Direct3D" or "OpenGL". These standards are variably supported by the respective graphics card drivers. For this reason you can switch between different fade settings for each standard.

Settings

The fade settings enable the behavior and appearance of the 3D fades to be influenced. Click the corresponding fade symbol for the object and choose "Settings" to do this.

The following options are available:

Anti-aliasing: The edges of three-dimensional objects often produce unpleasant step effects. Anti-aliasing (edge smoothing) reduces this effect, however this requires increased computing performance. The setting applies globally to all 3D fades, and switching on anti-aliasing during 3D fades has the effect that all other 3D fades are also affected by this setting.

Mirror X/Y: These options enable the movement track of 3D objects to be influenced within the fades. The option "X-axis mirror" mirrors the movement of the object horizontally (along the X-axis). The option "Y-axis mirror" mirrors the movement of the object vertically (along the Y-axis).

Troubleshooting

Problem: The 3D transition display in the video monitor is sluggish and jittering.

Solution: The performance of 3D effects depends on the computing performance of your graphics card. To achieve more fluid display, set anti-aliasing in the settings dialog for the 3D fades or select a reduced resolution for the program monitor. You should also ensure that the most current drivers are installed for your graphics card. When exporting or burning to disc, fades will always be displayed fluidly.

Problem: The 3D transitions remain black or displays errors during

Solution: The 3D fades use hardware-accelerated rendering via the graphics card to calculate the image. This may lead to certain incompatibilities on some systems. Ensure that the most current devices are installed for your graphics card. In some circumstances, switching between rendering modes (via the fades setting dialog) or deactivation of anti-aliasing may correct the problem.

If there should still be problems, however, you can deactivate the hardware acceleration. Refer to "Deactivating hardware acceleration"

Problem: A warning is displayed that there is insufficient graphics card memory available for rendering the transition when exporting 3D transitions.

Solution: The video memory on your graphics card is insufficient for calculating the 3D effect at the desired resolution. Select a lower resolution as required (e. g. 720 x 576) in the export dialog's settings. In case the

problem continues to occur, deactivate the hardware acceleration (see above).

Problem: Only a crossfade is displayed when previewing a 3D transition. A warning message is displayed that insufficient graphics card memory is available for the selected resolution.

Solution: The video memory featured by your graphics card is insufficient for calculating the 3D effect at the desired resolution. Right click on the program monitor and then select a reduced resolution under "Resolution presets". If the problem continues to occur, try deactivating the hardware acceleration (see above).

Problem: When viewing 3D fades, only a crossfade is displayed, and the warning message: "An error occurred during calculation of the 3D fade. A warning is displayed that the 3D transition may not be displayed correctly.

Solution: Deactivate the hardware acceleration. Hardware-accelerated rendering via the graphics card increases performance exponentially, however in some circumstances it may lead to problems on some systems. In case image errors occur in the context of 3D fades, the hardware acceleration may be deactivated for 3D fades. In "File -> Settings -> "Program settings -> Video/audio", deactivate the option "Hardware acceleration for 3D effects". To make this change applicable, the program must be restarted.

3D series

The 3D series are a further development of 3D transitions (view page 93), where the transitions are thematically sorted. For instance, you can let photos pop up and disappear on a notice board or make it look as if the photos were hung on the walls of a gallery.

There are several options to call up 3D series for photos or scene transitions:

- Click on the "Fades -> 3D -> 3D series" button in the Media Pool. Select the desired 3D series and drag it onto the first scene or image transition where the 3D transition should start.
- In the transitions menu between two scenes choose "3D series". Click on the desired 3D series to select it.

You can select how many of the subsequent fades should be replaced by the 3D series in the dialog.

Search for gaps

MAGIX Video Pro X3 enables you to locate gaps between objects where no image material is located. This hinders unintentional black spots from appearing. This option is located under "Edit -> Find gaps". A corresponding dialog opens.

Optimize view: Zooms to the selected gap.

Mark section as gap: Spans a section over the selected gap.

Edit selected gaps: The selected settings are applied but no additional action is taken.

Shortcut: Ctrl + Shift + C

Simple cut

All objects can be split. Each object section then becomes a completely independent object.

- First, select the object to be split.
- Position the playback marker at the position where the movie is to be cut.

- Click on the "cut" button or select the "cut" option in the "Edit" menu, or just press "T" on the keyboard.

In order to combine these split objects again later, simply select the individual parts and then choose the command "Form group" to join the selected objects together into a group.

Note: If the commands "Split" and "Remove beginning/end" are applied without a selection, all objects at the position of the playback marker are cut.

Tip: You can find detailed step-by-step instructions, on how to remove unusable scenes from video material in the "Quick start" chapter on the print manual.

Two-point cut

Two-point cut makes importing files easy in order to insert new material at certain positions quickly into complex projects. One point is placed in the

arranger and another is placed in source monitor, and these are used in
either of the following variations:

Variation 1: Source in/destination in

The point in the arranger specifies the location where the new material
should be inserted into the project ("destination in") and the point in the
source monitor where the new material should be inserted ("source in").

- Place the playback marker at the position in the arranger where the new
  material should be inserted.

- Click in the program monitor
  on the button in the transport
  control for the start of the
  section (in point).

- Double click the desired file in the Media Pool to load it into the source
  monitor.
- Find the position in the source monitor where the material should be
  inserted.

- Click the button in the source's
  monitor's transport control for
  the start of the section (in
  point).

Note: To insert the complete material, an in point doesn't need to be
inserted into the source monitor. Source in will now be the start of the
source material.

- Select the insert mode "Overview (view page 49)" to overwrite
  the material in the arranger behind the in point.

- Or use one of the two ripple modes (single-track ripple or multi-
  track ripple (view page 48)) in order to cut the material at the
  position of the in point and move it to back.

"Overwrite" mode does not change the total length of the project. The new
material is only inserted at the position of the in point:
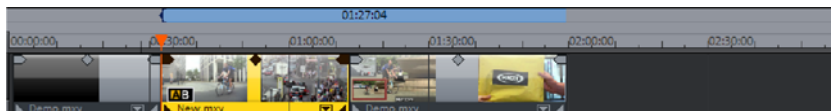
The ripple modes move the old material in the range together with the objects behind it to the end of the inserted material. This changes the total length according to the length of the object:
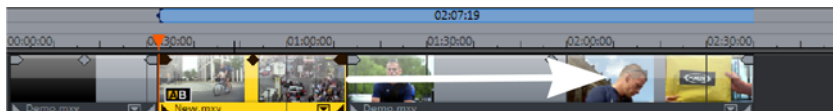
Variation 2: Destination in/destination out

This variation functions based on exactly the same principle, only instead of setting in points in both monitors, out points are placed. The new material is placed in the arranger prior to the out point in this way. This variation enables you to work from back towards the front to define the scene transition.

3-point editing

The three-point editing is an insert process that operates based on three reference points. This functions in three variations, which will now be explained in more detail.

Variation 1: Destination in/destination out/source in

This variation defines a range in the arranger where the new material will be inserted.

- Initially, the program monitor is used to set an in and out point to stretch out a range in the arranger.
- A third point is then set in the source monitor to define the beginning ("source in") of the material to be inserted.
- Finally, the range in the arranger is filled with the new material. The new material is cut automatically at the end of the range.

Variation 2: Destination in/destination out/source out

This variation functions similar to variation 1, with the difference that the point in the source monitor is not the beginning, but rather the end of the new scene ("source out"). This means that the scene transition at the end is specified and the new material moves into the front of the range. The new material is cut automatically at the start of the range.

Variation 3: Source in/source out/destination in

This variation defines a range in the new material that should be inserted at a certain position in the arranger.

- Initially, a range is spanned out in the source material via an in and an out point in the source monitor.
- A third point is specified in the program monitor which defines the beginning of the material to be inserted.
- Finally, the range from the source monitor is inserted completely at the position of the in point.

Variation 1 is illustrated according to this precise step-by-step illustration:

- In the arrangement, determine an area that corresponds to the time window and position of the video to be imported (destination in/out).
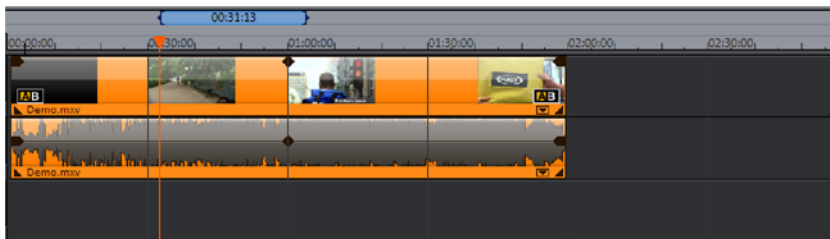
Tip: For the sake of clarity, it's recommended at the start to cut the material within the range and then to drag is backwards or to delete it from the range so that a gap is present.

- Load the new material that you want to display inside the range by double clicking in the source monitor.

- Position the playback cursor in the source monitor at the start position where the video should be imported into the arrangement (source in).
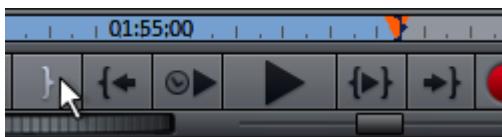
- If you want to cut at the scene end, set the playback cursor in the source monitor at the position where the end of the scene should be and click the button for the end of the range (source out).

- Select the insert mode "Overview (view page 49)" to fill the range in the arranger with the new material, replacing it with the existing material.

{─} {═}   • Or use one of the two ripple modes (single-track ripple or
                        multi-track ripple (view page 48)) in order to cut the material
                        at the start of the range and move it to the end of the range.

"Overwrite" mode does not change the total length of the project. The new
material is only inserted at the start of the specified range:
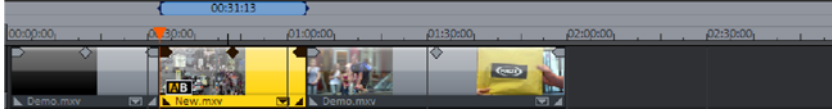
The ripple function moves the material in the range together with the objects
behind. This changes the total length according to the length of the range:
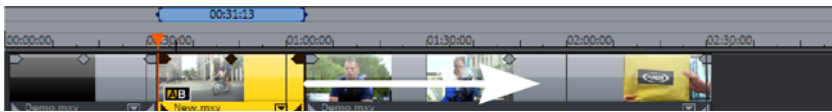
Four-point editing

The four-point editing places new material into the project with the help of a
total of four marker points.

The motto: "whatever doesn't fit will be made to fit". A range is set in both
the source material as well as in the project, and one of the insert modes
described above is used. The function is the same for each mode (overwrite
and ripple): the section from the source material is inserted precisely into
the range specified in the arranger.

If both ranges are coincidentally the same size (which is normally the
exception), then the new material will be stretched or pinched automatically.
The playback speed of the video is changed analog to the timestretching
applied to the audio track.

Because timestretching for an audio track is only possible and sensible to a
certain degree, the audio is removed from larger changes (above a factor of
2). A corresponding confirmation dialog appears first so that the procedure
may also be canceled when in doubt, e.g. to carry out a three-point cut.

Markers

MAGIX Video Pro X3 also allows you to set various types of markers within your project.

The Lock button lets you lock all markers (jump markers, chapter markers) against accidental moving or deleting.

Playback marker

The playback marker indicates the point from which the material – either the arrangement or a selected file from the Media Pool – will be played back. There is a playback marker below each preview monitor and an additional one above the timeline in the arranger.

The playback marker is displayed as a red triangle below the monitors. In the arranger it is displayed as a red triangle.

In order to move the playback marker, simply double click on the desired area below the monitor. Alternatively, you can click on the playback marker and move it by dragging it with the mouse. While being moved, the current image will appear on the monitor, letting you see exactly where in the material you are located.

The playback marker in the video monitor can also be moved by clicking on the lower section of the time scale in the arranger. The playback marker will also be moved on the program monitor, as both markers are coupled to each other.

The exact position of the playback marker can be seen in the time display at the top left, below the corresponding monitor. There, you can change the displayed values (Hour:Minute:Second:Frame) per mouse click to reach a certain point in time. Simply enter the desired value and the playback marker will jump to the corresponding position.

Tip: In the "Playback" tab under "File -> Settings -> Program", you can set whether repeatedly pressing the space bar resets the playback marker to the current position or moves it to the original position.

Project markers

The menu "Edit" provides the option to place a project marker (view page 293) at the current of the playback marker. These function as a mental marker or indicate certain positions or events within the project.

After selecting the menu item, a dialog appears to input a name for the marker to be created. The first 10 project markers may be selected using the number keys 1-0 (0 accesses the 10th marker). This allows you to jump to a particular position of a longer video immediately, without scrolling and searching.

Project markers may be deleted or renamed via the context menu at any time. This does not provide direct influence on the result, but they do make the workflow much easier.

Ranges (in and out points)

Range markers are the "in points" (range start) and "out points" (range end). They mark a certain range for playback that can be viewed by pressing the "Playback range" button at the bottom of the corresponding monitor.
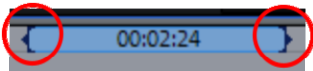
To the left, you can see an in point (range start), and an out point is visible (range end) to the right

Hint: The value between both markers shows the length of the selected area according to the pattern Hours:Minutes:Seconds:Frames.

Ranges in the video monitor

There are various options for changing the playback area and the in/out points.

- Set the playback marker at the desired position and press "Set range start" or "Set range end" underneath the monitor to set the in and out points.
- Click on one of the markers below the monitor and move it to the desired position by dragging it.
- Click one of the markers in the upper-most bar in the arranger and drag it.
- Right clicking on the bar moves the out point to the position of the mouse cursor. The area grows or shrinks in size correspondingly. Left clicking moves the in point, whereby the area size stays constant (out point is moved as well).

- You can adjust the position of the entire range by clicking the blue bar between the markers and moving it by dragging while holding down "Crtl".

Keyboard shortcut:
Set the start of the range (in point) at the position of the playback marker: "I"
Set the end of the range (out point) at the position of the playback marker: "O"

Range markers in the source monitor

In/out points are set in the source monitor in the following way:

- Set the playback marker at the desired position and press "Set range start" or "Set range end" underneath the monitor to set the in and out points.
- Click on one of the markers below the monitor and move it to the desired position by dragging it.
- You can adjust the position of the entire range by clicking the blue bar between the markers and moving it by dragging.

For the exact functions of the range markers in the source monitor, please read the section "Loading ranges from longer film files (view page 84)".

Shortcut:
Set in point (range start) at the position of the playback marker: I
Set out point (range end) at the position of the playback marker: O

Preview rendering

You may also instruct MAGIX Video Pro X3 to render positions that are finished. This is especially useful in case fluid playback is not possible due to the applied effects and transitions. The advantage versus the option "Combine audio and video" in the "Edit" menu is that all of the objects will be maintained in the arrangement. The rendered material will only be played in the background when the playback marker reaches the corresponding position.

- First, place an in and out point above the range to be rendered.
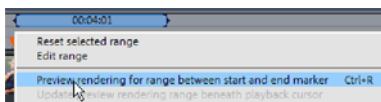
- Next, click the timeline below the range marker and select "Render range" from the context menu.

The range will now be combined.

After rendering, a green line appears in the timeline to symbolize that this range has been rendered.

As soon the editing is complete for the range, the line is removed and the rendered material is removed.

Note: The format that is used to render may be set via "File -> Settings -> Preview rendering (view page 276)".

Chapter markers
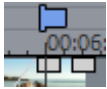
The chapter marker defines the start of a new chapter. Chapters serve to improve navigation when burning the project to disc (view page 199).

The following options are provided via "Edit -> Marker" or by right clicking on the playback marker.

Set chapter markers

Places a chapter marker at the position of the playback marker. This creates a chapter entry in the disc menu in case the movie is being burned to disc.

You can rename the chapter markers by right clicking and selecting "Rename". The new name will appear in the chapter menu (view page 201).

Shortcut: Shift + enter

Set chapter markers automatically

This option automatically sets chapter markers in the arrangement according to specific rules that will then appear in the film menu of a disc as chapters. This is useful if a disc should be burned immediately after recording.

There is a selection of options available for automatic chapter generation:

At the beginning of the movie: The movie only contains one chapter in this case.

At the start of objects on a track...: Every object in a track creates a chapter; track 1 is preset.

At the position of existing title objects: Subtitles, for instance, as faded-in subheadings, give the position of the chapter markers.

Provide interval (in minutes)/provide quantity: If the chapters are separated without any particular method and are just needed for quicker navigation, chapter markers may also be inserted in pre-defined intervals or as a pre-defined number of chapter markers.

Titling of chapter markers: To title the chapter markers, a user-defined name featuring consecutive numbers or the object name or text from the text objects may be used.

Optionally, existing chapter markers may be deleted and the automatic chapter marker function may be limited to the area between the start and end markers.

Shortcut: Alt + Shift + Enter

Delete chapter markers/delete all chapter markers

Delete one or all chapter markers. This removes chapter entries in the disc menu if the film is burned to disc.

Shortcut: Ctrl + Enter / Alt + Ctrl + Enter

Scene markers

Scene markers separate a complete video into scenes. You can load any video into MAGIX Video Pro X3 and have it divided into scenes.

Simply drag the desired video into the arranger. Then, right click on the video and select "Scene recognition". The following dialog appears:
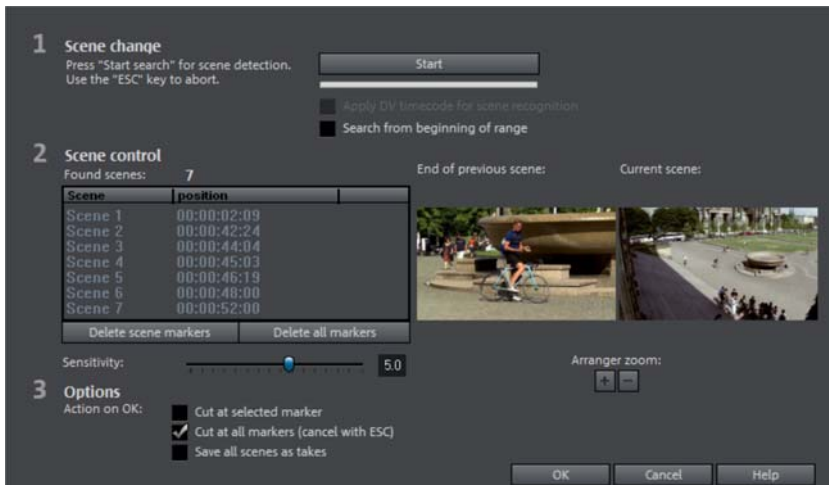
After clicking "Start search", an overview of the detected scenes will be displayed underneath the scene control.

Delete scene markers: Here you can delete individual markers by selecting them from a list.

Delete all markers: Deletes all project markers.

Action on OK: You have three possibilities: Either MAGIX Video Pro X3 splits your video into individual scenes ("Cut at all markers"), you select a

scene and cut only at this position ("Cut at selected marker") or you can save the scenes as "Takes (view page 91)".

After deciding in favor of one of these options, red scene markers will appear on the timeline in the arranger. The scenes can then be split according to the selected option and edited.

Note: An important difference between a scene and a chapter marker is that a scene marker can be set only within a continuous video, while a chapter marker can include several videos consecutive videos.

Additional information about scene recognition is provided in chapter "Insert objects into the project (view page 224)".

Shortcut for scene recognition: Shift + Z

Ad markers

Ad markers indicate detected ad pauses. For more on this, please read the "Search for and remove ads" chapter (view page 226).
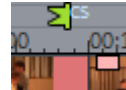
Multicam editing

Multicam editing enables easy cutting of various recordings of the same scene from different camera perspectives. The preview monitor displays image material from up to nine sources in sequence, from which the "program" can be cut in real-time using your mouse, just like in a real studio.

Preparation

Multicam editing is a special arranger mode. The top two tracks serve as target tracks; sound and video may copied from up to nine different source tracks. The two top tracks must be empty when switching to "Multicam" mode, since otherwise existing objects will be moved to a different track.

Next, load various video recordings of the same scene one under the other starting on track 3 in the arranger.

It is important that the individual sources are synchronized to each other exactly. It is best to find a noticeable movement, or a prominent sound, if audio was recorded.

Note: To localize the sound in the audio track exactly, you may have to create a wave display of the track. Right click on the sound track and choose "Create wave form display".

You can use a clapperboard during filming, since this offers both sound and motion; an actor's clapping in front of running camera before the start of the scene is also helpful. Set a grid point at this position in the object ("Alt + Shift + P"). You can now move the source objects over each other so that the grid points are aligned.

Two video sources with sound tracks may be synchronized automatically via their audio material. To do this, use the "Align with other audio objects (view page 111)" function in the audio objects context menu.

It is also important that you make all effect settings for the output material (e.g. video or audio cleaning) before the multicam edit on the objects on the source track and on the master audio track (view page 110). These effects will be transferred to the objects in the target track with the edit. Otherwise, you will have to apply the effects from every single object to the target track.

You can activate "Multicam" mode with this button or with the "Multicam" command in the "Edit" menu.

Source tracks and preview images

The assignment of tracks as source tracks for the multicam cut takes place automatically. A maximum of 9 tracks may be used as source at the same time. When the multicam mode is activated, the source tracks will be assigned to all tracks containing video objects starting from track 3.

You can also conduct or change the assignment manually. To do so, right click on the trackbox of the corresponding track to active or deactivate a track as a source track.
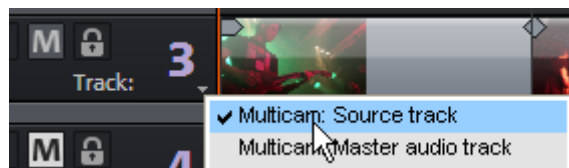
The source tracks are marked using color. This can be accomplished by users if more than 9 source tracks are used.

For every assigned track, a preview appears in the source monitor, and the frame's color corresponds to the color of the track, letting you assign each preview image to the corresponding track.

If the objects created using multicam cut are located on the target track, a preview image of the corresponding source track highlighted with a yellow frame will be shown for length of playback.

Multicam edit functions

You can edit various sources in the the target track during playback in real time or during stopped playback.

Real-time multicam editing

You can edit various sources together during playback in real time:

- Start playback.
- Click on the desired source in the preview monitor. The corresponding video added into the target track starting from this time point.
- To switch the source, click in the source monitor at another source. A new object will be created using the new source from this point in the target track.

You can repeat this process as often as you like.

For precise editing in the target track, use the usual edit functions or the Trimmer. Keep in mind that as long as you are in multicam mode, only the object borders are moved, and not the objects themselves. Otherwise, gaps or image jumps could form while you use the multicam edit function again later.

Replacing an object's source

Replacing an object's video material in the target track with another source:

- Select the object for which the source is to be replaced in the target track.
- Click the source you want to replace the video material in the source monitor object.

The video material will now be replaced by the new source. The project length is not changed.

Insert cut

Insert material from one of the sources between any position on the target track and the next object.

- Place the playback marker on the desired position.
- Click on the desired source in the preview monitor.

The material from this source will now be inserted into the target track. The new object ends at the next object. The portion below an existing object is overwritten in the process.

Overwrite range

You can overwrite a selected area of the target track with one of the source videos.

- At the upper edge of the arranger, select an area to edit by determining the in point by clicking and the out point by right clicking. Or use the corresponding buttons in the transport control.
- Click on the desired source in the source monitor.
- The target track will be overwritten with the video material from the selected source in the selected area.

Master audio track

Normally, videos in the source track are edited together with their audio tracks. Since the original sound can differentiate from camera to camera due to different camera positions, you will probably prefer using either the soundtrack from only one camera for all settings, or to replace the soundtrack completely (for music videos, for example, you will use the studio version of the original track).

Right click on the track box of one of the source audio tracks or a different audio track and select "Multicam: Master audio track" from the context menu to assign a master audio track for multicam editing. The master audio track will be appear in a dark color.

Now, during every multicam cut, material from the master audio track will be inserted on track 2, independent of the source track used.

Synchronize video objects using the sound track

Video objects can be synchronized using their sound tracks. During the process, their soundtracks are compared for similarities. If videos come from the same recording environment, the same acoustic events will be found on their soundtracks (e.g. clapping the clapper board).

Synchronization of multiple objects on one track is possible. First, on the reference track, select all audio objects that are to act as reference positions. Then, on another track, select all audio objects that should be moved.

Choose the "Align with other audio objects" function from the audio objects context menu.

MAGIX Video Pro X3 attempts to locate the acoustic events in the reference objects of the second track and to move these to the corresponding position. Because the audio objects are grouped with their corresponding video objects, video is also synchronized.

Title

Titles can be used for many applications: as a running text (ticker), subtitles, speech and thought bubbles, to display date and time, and much more.

Creating titles using a template

The Media Pool includes the tab "Title" with folders filled with additional, thematically named title templates.

- Open one of these entries and select any title template. A simple mouse click provides a preview, and double clicking creates a title object using the template.

Note: Templates may be applied to an existing title object. Settings outside of the text will be lost!

Creating titles without a template

- Try clicking on the entry "General" under "Title" in the Media Pool.
- Next, click in the video monitor on the location where the title should be positioned.
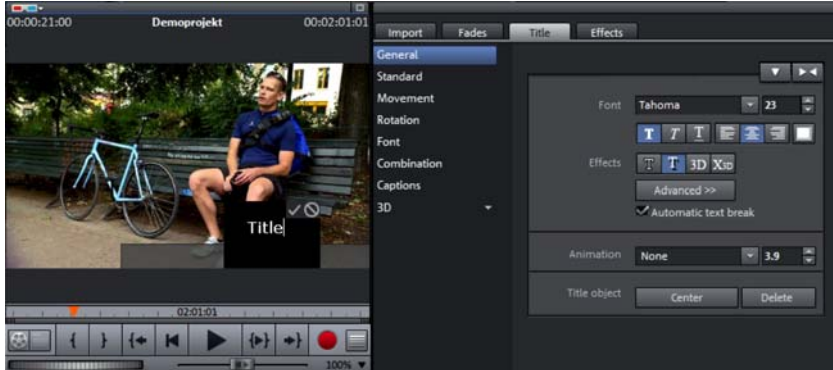
- Next, simply enter the text via your keyboard.
- After the text has been entered, click the check mark in the preview monitor to confirm your entry.
- You can later format your title in the Title Editor in the Media Pool.
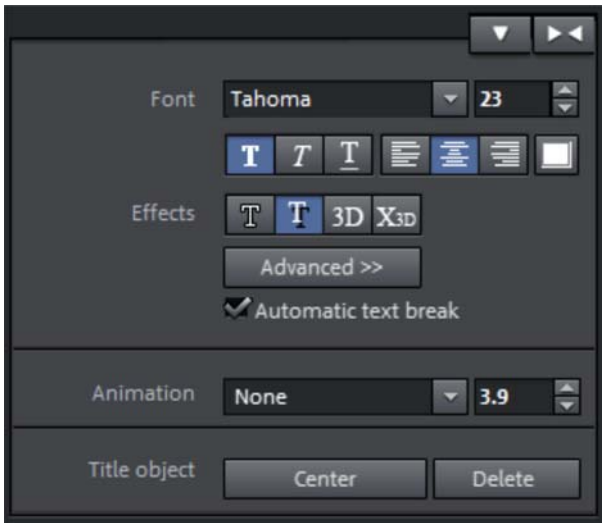
They can be displayed in all kinds of fonts and colors.

If you want to format individual words or letters, select them with the mouse and choose a different format or color.

If no selection is made, the entire text will be formatted.

 You can open the Title Editor via the T button.

Title editor

The button in the toolbar opens the title editor.
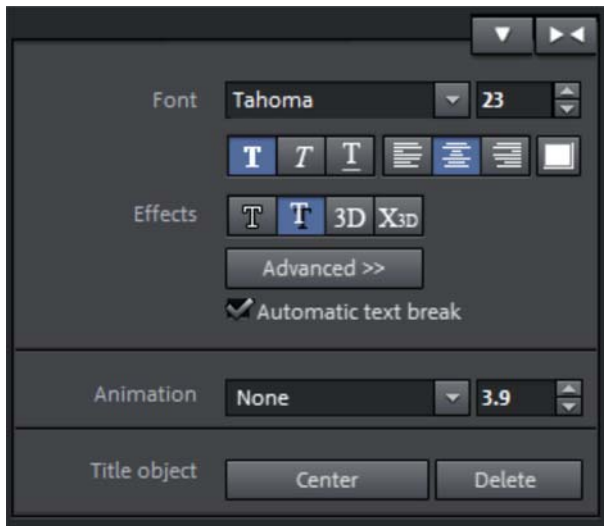
Enter text into the video monitor here, e.g. for subtitles, opening credits, end credits. Text can be displayed in all kinds of fonts and colors.

If you want to format individual words or letters, select them with the mouse and choose a different format or color. Without any selection, the entire text will be formatted.

Font
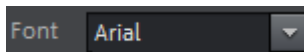
Font: Select the font used to display the text.
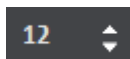
Font size: Set the size of the text here.

Alignment: Select whether the text should be justified on the left, centered, or on the right within the positioning frame.

Color: Use this button to color the font.

Effects

Font style: Choose here whether all of the text or parts of it should be shown bold, in italics, or underlined.

T T 3D   Outline/shadow/3D: This function allows you to add shadows, 3D effects, and an outline to the text. These settings can be adjusted in detail via "Advanced".

X3D   The X3D button converts the title object into a Xara 3D text object. More about Xara 3D text objects is described in the section "3D text (view page 116)".

Animation
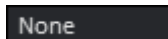
None   You can make your credits scroll down the screen, and many other text movements and effects and designs are also available.
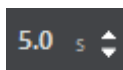
5.0 s ▲▼   The display duration for the subject can be set here.

Templates for animated text are arranged in the other Media Pool categories; the icon and the description are there to help you find the correct settings.

Title object

Center position: Clicking "Center position" puts the title back in the middle.

Delete   Delete: The whole title object, i.e. text and settings, will be deleted.

Advanced settings
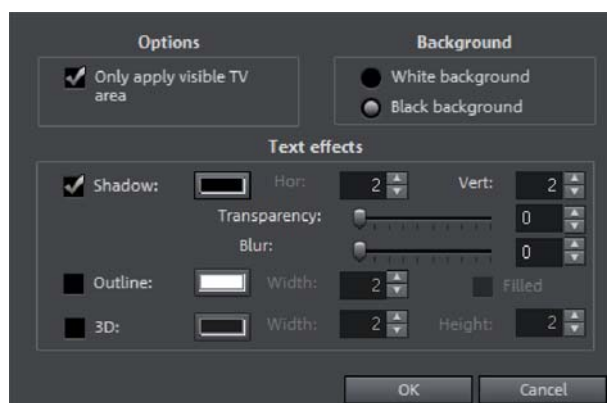
Only use visible TV area: The text will be zoomed so that it will always be within the TV's limits, which is specified in the Movie effect settings (view page 143).

Background: Specify here whether the text's background should appear black or white. This is only meaningful if no other video or image object is in the background.

Text effects: Here you can edit different text effects in detail. One color may be set for each effect.

Shadow: The position of the shadow may be set on the horizontal and vertical axes.

Transparency makes the background "shine through" more or less.

Soften: Makes the edge of the shadow harder or softer.

Outline: A border appears around the letters in the text.

Width: You can enter the width of the frame in points.

Color: Clicking on this button opens a color selection dialog, where you can set the frame color.

Filled in: The text will be filled with the color selected in the Title Editor. If the option is deactivated, only the frame will be visible, and the background will appear instead of the color fill.

3D: The text appears with a 3D-style outline. The width and thickness of the 3D contour (H) can be set in points.

Edit title

- Click again on the title in the video monitor window or the title object in "Timeline" mode.
- Now change the text however you like.
- Confirm your entry by clicking the check mark next to the positioning frame.

Positioning titles

- Click in the video monitor once on the title; a positioning frame will appear. Simply move the positioning frame via drag & drop.

- The size of the positioning frame may be adjusted via the corners, and the size of the text will also change accordingly.
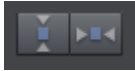
Clicking the "Center position" buttons in the Media Pool under "Title -> General" puts the title exactly in the middle.

3D text

3D text can be created directly from the title editor.

3D
- Click the title editor and then press the "3D" button.

The title object will now be turned into a MAGIX 3D object. If you have also installed MAGIX 3D Maker, the program will open for you to work on the text.

X3D
- Presets are also located in the Media Pool under "Titles -> X3D". You can enter or process text here.

Note: For more information about MAGIX 3D Maker, try the help file. You can open it by pressing "F1" from within the program.

Fade in date as title

MAGIX Video Pro X3 can add a time or date ("time code") to the picture material. To add a time code, right-click the video object and choose the "Fade in date as title" option from the context menu.

If you're using a DV-AVI file (a digital recording from a camcorder, for instance), the recording date will be used from the chosen place. If you're using a different file, the creation date will be used as the time code. The title editor is then opened in order to customize the entry.

In the preview monitor context menu you will also find the "Display play time" option. This will create a time code.

Effects

MAGIX Video Pro X3 offer a large palette of various video effects. The video effects used the most can be found directly in the Media Pool, while others can be found in the object context menu or in the "Effects" menu.

Apply effects to objects

There are various approaches for applying effects:

- Video and audio effect presets are loaded into the corresponding object from the Media Pool using drag & drop.
- Effects that can be animated (in the Media Pool under "Effects -> Video effects / movement effects") will be applied directly to the objects selected beforehand as soon as changes are made in Media Pool.

⏮ This button resets all of the current effect settings.

Note: If you animated the effect using keyframes, resetting will affect the entire animation. Individual keyframes may be deleted via click + Del (view page 147).

Transfer effects settings

The items video effects (view page 119), movement effects (view page 129), and Stereo 3D (view page 152) on all effects pages provide the option to transfer the current effects settings to other objects or to load previously saved settings. Use the above right arrow button to open the video effects menu.
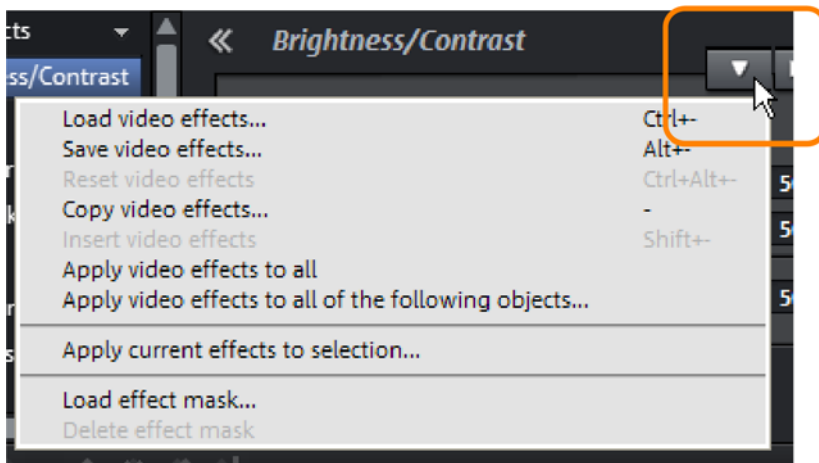
Save/load video effects: The current effects settings may be saved for use later in other projects or previously saved settings may be loaded. A dialog allows the effects to be selected.

Reset video effects: Resets the effects settings for the selected object.

Copy/insert video effects: Copies or inserts the current settings as a new object. Use the dialog to select which settings should be copied.

Apply video effects to all: Copies the current effects settings to all objects in the arrangement. Use the dialog to specify which setting should be copied.

Apply video effects to all following objects: Copies the current effects settings to all of the following objects in the arrangement. Use the dialog to specify which settings should be copied.

Apply current effects to selection: Copy the effects settings from the currently selected object to all other objects included in the selection. The current selection may be recognized by its orange color, and the currently selected object is indicated by a yellow color. Press "Ctrl" + click to add objects to the selection. Effects settings may be transferred quickly from one object to other objects throughout the arrangement. A dialog will confirm which parameters should be transferred.

Comparison image in the source monitor

When editing effects in video and image objects, MAGIX Video Pro X3 offers a comparison mode which lets you compare the before and after state directly.
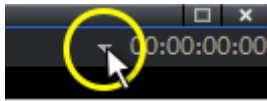
Selected object without effects: Outside of effects pages, the object is displayed completely without effects; inside effects pages, the object is displayed without effects from the current effects page. The "Color" effects page remains open and all of the effects except "Color" are applied. This options synchronizes the playback marker between the program and the source monitor.

Selected object: The selected object is displayed with all of the applied effects. The playback marker may be moved along the arrangement, for example to compare the beginning with the end of an edited object. This option synchronizes the playback marker between the program and source monitor.

Before selected object: Displays the object before the selected object in the same track. This enables the edited effects on sequential objects to be compared more easily.

Following the selected object: The object located on the same track after the selected object is displayed for comparison in the source monitor. This enables edited effects on sequential objects to be compared more easily.

Select object...: Clicking selects the desired object. An object may therefore be edited and then used as a reference for the following effects processes, for example.

Remove comparison image: The comparison image is removed from the source monitor.

Note: Program settings (view page 267) enables you to activate "Comparison image in source monitor for editing effects in the Media Pool". If this option is activated, the "Selected objects without effects" comparison mode will be automatically activated when switching into the Media Pool effects, and will be automatically deactivated when the mode is exited. This serves to compare the original and edited image.
This automation will be suppressed if the option is deactivated.

Apply fades

Fades can be selected in the Media Pool under "fades" and moved into the space between two objects using drag & drop. In addition, they are available directly in the fades menu between two objects (see figure).
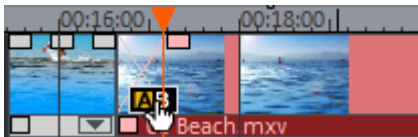
Find out more on this topic under "Transitions" (view page 92).

Video effects in the Media Pool

Video effects in the Media Pool can always be opened independently from the selection of an object.

The program monitor displays the starting image of the video. The playback marker enables you to jump to a specific position in the video in order to check the results of the effects by starting and stopping playback.

Brightness & contrast

Auto exposure: This button automatically optimizes the exposure, contrast, and color with a few clicks. The other settings options in the dialog provide more precise results.

Brightness/contrast: Use the sliders to increase or reduce the brightness and the contrast of the picture.

Gamma: "Gamma" specifies the mean gray value provided by the various color ranges. In the preset list, select various envelope curves to edit only the dark, median, or brightest areas of the image.
The fader also sets the intensity of the brightening or darkening.

Color
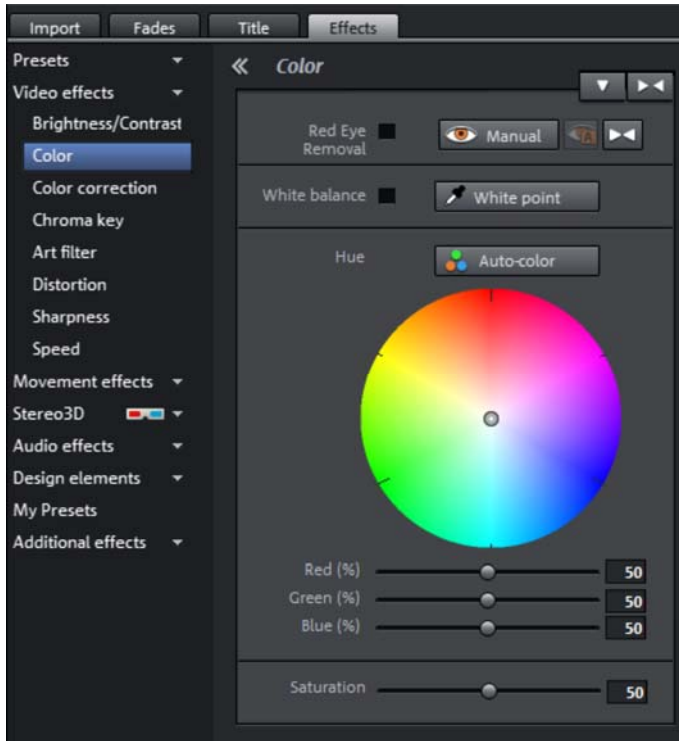
White balance

All light is not the same. Depending on whether it is sunlight or artificial light, this will have an effect on color variation. The human brain is able to compensate for this variation: A white sheet of paper will still look white under candlelight, although it is in fact much more yellow than by daylight.

In order to imitate this filtering done by the brain, a camera must also analyze and correct the light. White balance does the same thing to a picture that the brain does by setting the camera to the so-called "color temperature" of the surroundings.

If you do not possess a camera which performs this function automatically, you can apply the white balance function in MAGIX Video Pro X3.

An incorrect white balance can lead to an unnatural blue or red hue.

Directions: To use the white balance, click on the button to the right of the label "White balance" and then select a point which represents white or a neutral gray to the "outside world". The color temperature is then corrected automatically.

Tip: Cool color effects can be achieved by setting a different color as the white benchmark. There is definitely room for experimentation!

Red-eye removal

This photo function removes unnatural red eye that results from using a flash. Click on the eye symbol and then select the red pupils in the preview monitor using the mouse.

Hint: For photo optimization, we recommend you use MAGIX Photo Manager. The program is installed automatically and can be used for quick previewing and easy management of pictures from your database. It has a tool for correcting red eye and setting auto color and white balance to control discoloration in pictures.

Saturation

You can increase or reduce the color portions of images with the "saturation" fader. A newly developed algorithm is applied which makes color changes related to other parameters (for example contrast settings) in order to achieve the most natural coloration possible. With just a little bit of experimentation, you can achieve astounding results – anything from turning summer snapshots into autumnal scenes to funky pop art!

Color shade

Select a color for coloring the image from the color chart.

Red/Green/Blue

Using the "Red/Green/Blue" slider, you can change the color portion mix for each color.

Color correction

The "Highs", "Mids" and "Shadows" ranges can be adjusted individually.

Note: Before using complex color correction, you should first check if "Brightness/Contrast" and "Color" functions can help you.
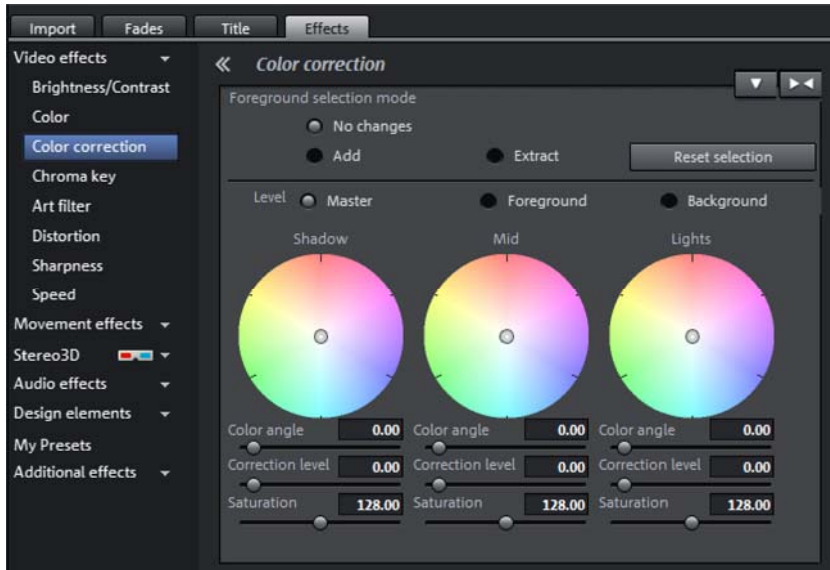
By turning the mouse wheel, the work area of each color wheel can be increased or decreased.

Color angle: Determines the color on the color wheel, which the image should be colored with in each brightness area.

Shortcuts: Shift + mouse wheel above each color wheel

Correction intensity: Sets the intensity of the coloration of each brightness range.

Shortcuts: Ctrl + mouse wheel above each color wheel

Saturation: This lets you set the color saturation for the corresponding brightness range.

Edit color ranges individually

Secondary color correction allows individual colors in video and image objects to be adjusted. This includes essentially two layers, the fore and background. The master layer may also be used to influence the overall image.

The foreground layer corresponds with the mask created, and editing in the background changes all of the areas outside of this mask. The mask may be assigned to a certain color or to multiple colors simultaneously.

To open color correction, click the video or image object and open the entry "Color correction" via "Video effects" in the Media Pool.
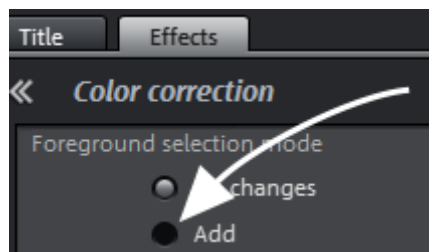
"Add" allows a color to be selected with the pipette tool to create a mask. MAGIX Video Pro X3 displays the mask in black and white stripes to highlight the current selection.
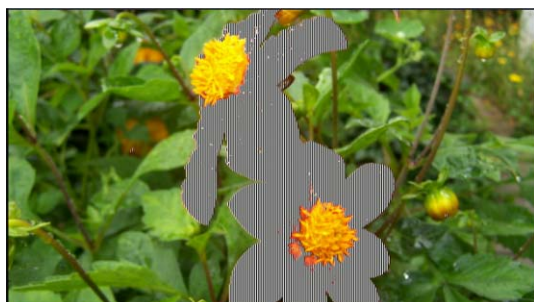
Click with the pipette tool on the color in the program monitor that you would like to add to the current layer until your selection is complete.

Unwanted colors can be removed from the selection again by selecting "Remove" and clicking the corresponding color.
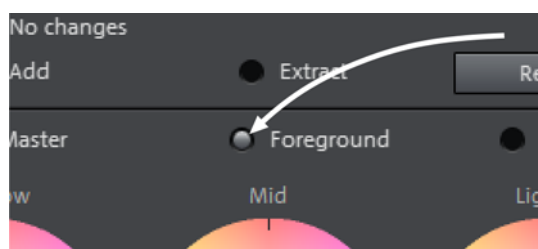
Select the layers (fore and background) to edit.

Shadows, mid tones and highlights of the selected color and level may now be edited separately (view page 122) in the normal way.

A classic example: Saturation of all brightness areas on the background layer is reduced, and colors in the foreground are adjusted as desired.

Chroma key
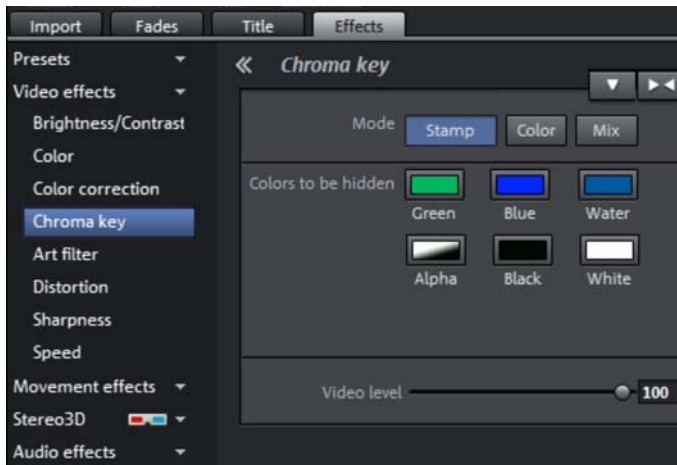
This section contains the mixing effects for chroma keying used to mix together a foreground and background videos to create an overlay effect.

Note: The background video must be present in the track above the object for the foreground! For example, track 1: background, track 2: foreground

Stamp: The currently selected object is "stamped" onto the video on the track above the object. This is only possible if the bottom video takes up only a part of the image, as otherwise only the bottom (currently selected) video would be visible. Normally, the object should be reduced or moved first. This is done with the help of "Position/size" (view page 129) effect or via the submenu "Section" in "Effects -> Video object effects".

Color: Select the range with the color that should be transparent in the video monitor. The video is made transparent in the areas featuring this color, and the video on the top track can be seen "through" these areas.

Mix: This button mixes the two videos together. Brighter areas accumulate and quickly seem white; darker areas have less of an effect on the result.

Green/blue/water/black/white: All green/blue/black/white areas of the video below appear transparent. This studio-style effect makes it possible to "place" a person who has been recorded in front of a blue (or green, white or black) background into any type of landscape or background.

Alpha: This video effect uses the brightness of a video to control a cross-fading effect between two other videos on neighboring tracks. The additional videos should be arranged directly above and below the alpha-keying object.
In all black parts of the alpha-keying object, the top video is faded in, while in all white passages the bottom video is shown. Grey passages are permeable for both videos and create a mixture of the two. In the case of colored passages, the brightness of the color is used for control purposes.

Water: Only the contours of the upper video are mixed, which results in sort of water effect..

Video level: The video level essentially changes the brightness of the video before other video effects are applied. This can have significant influence on the effects, especially in case of chroma keying. The level setting may be automated so that two videos mix dynamically with each other. Read more about this in the chapter "Animating objects (view page 144)".

Artistic filter

Erosion: The image is broken-up by means of small rectangles and resembles a "patchwork".

Dilate: This works like erosion, but uses light surfaces instead of dark ones to form the rectangle.

Emboss creates a relief of the image edges, in which case strong contrast differences are interpreted as edges.

Substitution: Using the rainbow scale red, green, and blue components are exchanged. Quickly create surreal landscapes or a green face!

Shift: The color values are inverted increasingly. Blue colors turn red, and green appears purple.

Quantize: Depending on the setting, colors are either rounded up or down so that the overall number of colors is reduced. This creates interesting grids and patterns.

Color fill: Using this slider, color in the video with red, green, and blue colors (the basic TV colors).

Contour: The image is reduced to its contours in two sizes (3 x 3 or 5 x 5). It is possible to select either vertical or horizontal contours.

Distortion

Motion: Moving parts of the image are enhanced and warped.

Echo: The moving images create an optical "echo"; previous images stand still and gradually turn paler until they completely disappear.

Whirlpool: The image is twisted into an "S" shape.

Fisheye: The perspective is distorted as if the image were viewed through a fisheye lens.

Mosaic: The video is depicted as a mosaic.

Lens: The image is dynamically distorted at the edges.

Sand: The image is depicted in a granulated manner.

Kaleidoscope: The left upper corner is mirrored horizontally and vertically.

Mirror horizontal/vertical center: The object is mirrored vertically or horizontally – it appears on its side or upside down.

Sharpness
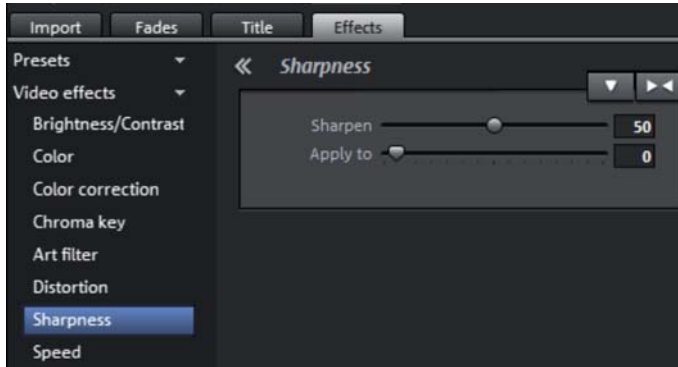
- The fader allows you to regulate the level of image sharpness or apply a soft filter.
- "Fine adjustment" allows you to set how sharp surfaces or edges should appear. This enables you to effectively reduce image distortions (noise).

Speed
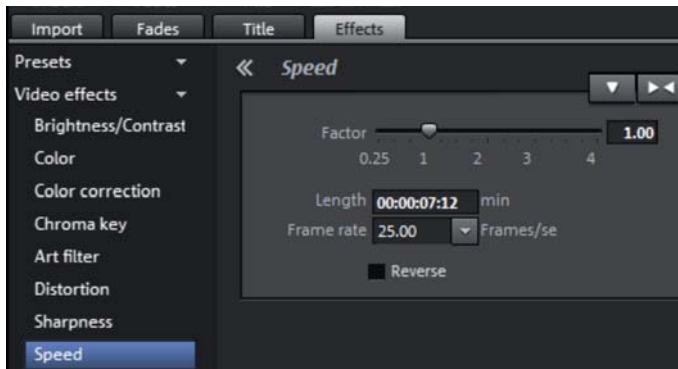
The playing speed can be adjusted with the slider control. The range between 0 and 1 plays the video slowly; values above 1 accelerate playback. If the playing speed is increased, the object length in the arranger is automatically shortened.

Frame rate: Here you can set the video's frame rate directly. Changing it directly effects the speed factor, while moving the knob conversely results in changing video frame rate.

Reverse: This button reverses the playback direction (with the same tempo).

Note: Since the soundtrack of a movie cannot be played backwards, you have to first separate the movie object from its soundtrack (view page 85). The speed effects cannot be animated!

Animation

Nearly all preset effects may be automated or animated. To animate effects or produce movements, please read the "Animating objects (view page 144)" chapter.

Movement effects in the Media Pool

Size & Position
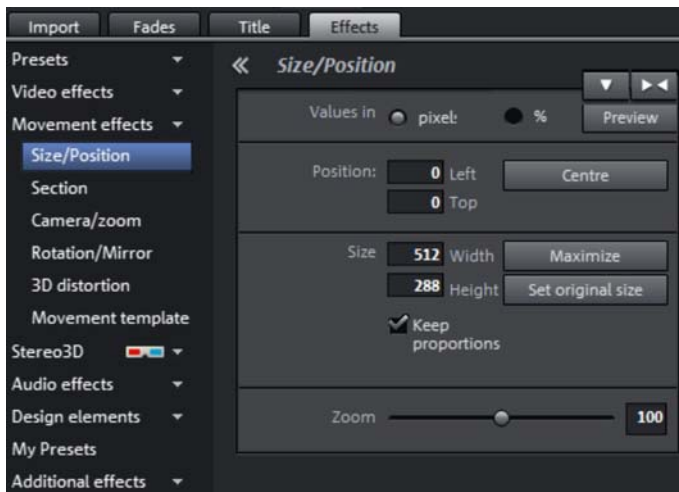
Values in: Set whether the values are applied in percent or pixels.

Position

Left: Enter the start position from the left image border.

Top: Enter the start position from the top image border.

Center: Based on the current image size, the image starting points (left and top) will be positioned so that they are centered.

Note: Negative values can, of course, also be entered. The image borders will then be outside of the visible area.

Size

Width: Enter the width of the image.

Height: Enter the height of the image here.

Maximize: The image will be maximized according to the movie's resolution.

Set original size: The image will be scaled to its original size.

Retain proportions: This option makes sure that the image will not be stretched or distorted. The proportions of width to height will remain the same.

Section
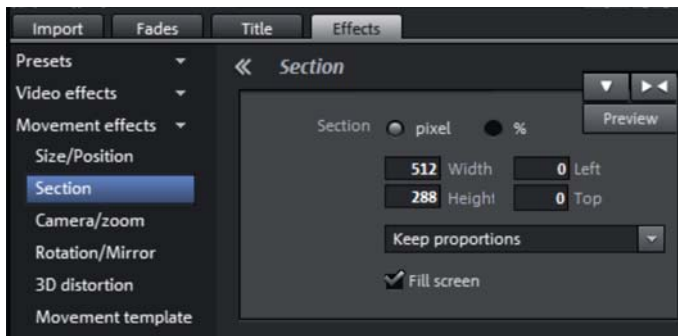
Sections may be used to display only a portion of the image.

Note: In order to move the section with a movement effect across the image, please refer to the following section "Camera/zoom".

The program monitor enables an image section to be specified. Use the eight handles to reduce the frame displayed in the monitor and move it to the desired position.

Retain proportions: This menu enables you to select the format for the section. The format of the original image is used as the default.

Fullscreen: If this check box is selected, the section will be zoomed to fullscreen. If this option is deactivated, only the section of the image within the frame will be displayed and the edge will remain black or filled with the object behind it.

Camera/zoom

With this effect, you can move a previously selected frame inside the image, creating an impression of camera movement or zoom.
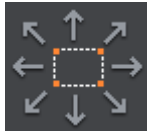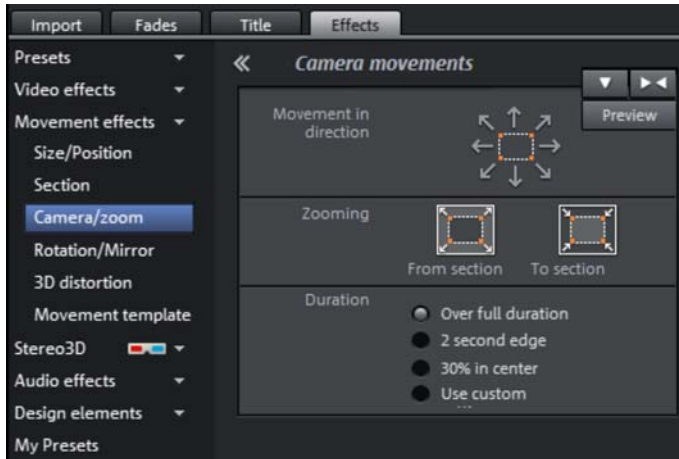
Determine the direction in which the selected section or image will move in the process during the time selected under "time period". In addition to horizontal and vertical movements, diagonal movements are also possible.

Preview: Displays a preview of the section at the playback marker location.

Zoom out: The selected picture section is displayed and is then zoomed out to display the entire picture according to the time set in "Length of movement". If no portion is previously set, a central portion of 50% of the picture is set.

Zoom in: The entire picture is displayed and then zoomed in to show only a smaller picture section according to the time set in "Length of movement". If no portion is previously set, a central portion of 50% of the picture is set.

Direction & time

The option selected here sets the position where the keyframes of each movement effect are set by default. You determine the positions where a movements begins and ends.

Note: Automatically placed keyframes may be edited retroactively, and the option will then be set to "User defined". Read the section "Change the keyframes of an effect after the fact (view page 146)" in the chapter "Animate objects".

 Reset: This option applies a static zoom to show the selected section of the picture only.

Rotation/Mirror

Rotate

  Rotates the image on the horizontal axis.

  Rotates the image on the vertical axis.

  Rotates the image around its center point.

Straighten horizon

The image can be rotated around the axis via the slider. The image is automatically zoomed to avoid black edges.

Show guidelines: Activating this check box displays a grid in the program monitor for orientation during horizontal straightening.

Rotate/Flip

  Mirrors the image on the vertical axis.

Mirrors the image on the horizontal axis.

Rotates the image 90° clockwise.

Rotates the image 90° counterclockwise.

Presets

Various useful presets are located here.

A dialog opens for opening presets from other folders.

Save your owns settings as a preset.

3D morph

This enables the perspective of images to be distorted and moved. This produces a 3D impression by causing several components of the image to appear further in front of others.

Enter the individual corner points numerically or move them in the program monitor using the mouse here.

Note: Compared to Stereo3D, this does not involve genuine 3D positioning. The image is only distorted so that it appears three-dimensional on a normal two-dimensional monitor.

Stereo 3D

This accesses the program's 3D functionality.

Animation

Nearly all preset effects may be automated or animated. To animate effects or produce movements, please read the "Animating objects (view page 144)" chapter.

Attach to picture position in the video

You can attach a video, picture or text object to moved picture content of another video. The attached object automatically completes the movement of a picture element from the film, making it appear magnetic. For example, you could use this method to insert a hat that stays on someone's head throughout, even if the person hops through the picture.

Let's roll:

- Place an overlay object (e.g. a photo of a hat) on a track below a video with a moving image element (e.g. a walking person).
- Right click the object and select the "Attach to picture position in the video" movie point.
- Then click "Continue" in the dialog that appears.

Note: If you want to attach two objects, e.g. a title and a speech bubble, an additional dialog appears, which lets you select the objects you want to attach to your video.

- The next dialog asks you to draw a frame around the image content to be tracked. The content should have high contrast to its background.
- Movement will be automatically calculated and a series of keyframes that control the position and size of the effect according to your wishes will be generated.

Stereo 3D

This accesses the program's 3D functionality.

Note: Please also read the corresponding chapter "Stereo 3D (view page 152)".

Audio effects in the Media Pool

The Media Pool offers various opportunities to add effects to your audio objects. Another advantage of this so-called "object-oriented" working

method is that automations are moved automatically with objects when they are moved, since they are attached to the object and not to the track itself.

See the "Audio effects" (view page 160) section below for more detail.

Another advantage of this so-called "object-oriented" working method is that automations are moved automatically with objects when they are moved, since they are attached to the object and not to the track itself.

General

Under "Effects -> Audio effects -> General", you will find audio effects that can be animated using effects curves (view page 144). This means that certain effect settings can be changed during playback.
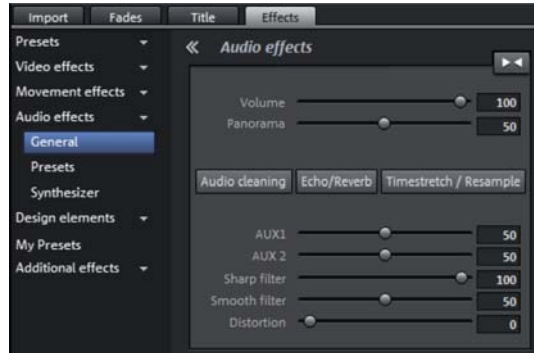
Effect curves are always object related, i.e. they only apply to one object and are moved or copied together with the object.

Note: The faders AUX 1 and AUX 2 control the volume at which the object's signal is sent to the corresponding FX tracks in the mixer.

Audio Cleaning (view page 160), Echo/Reverb (view page 165), and Timestrech/Resample can also be accessed here.

Note: Volume and balance curves are also present in the track. The set values in the curve are also active, respectively.

Audio effect templates

Here you'll find a broad palette of effects settings which you can add to audio objects via drag & drop.

Synthesizer

Synthesizers can be loaded as individual objects. More information is available in "Synthesizers".

Design elements in the Media Pool

In this category you will find a large selection of decorative elements: templates for image juxtapositions (multiple picture-in-picture) and collages, moving objects (balloons flying through the frame, trains moving across the picture, snowfall....), color fields for your own backgrounds, intro videos, outro videos, visuals...

You should first look through all the options and take stock of what there is.

- Open the categories one after the other to get a general impression. You can see a preview of all deco elements.

A simple example for use are the frames (Media Pool > Effects > Design elements > Image objects > Frames"). These are much like picture-frames that can be modified by video mix effects. Simply drag them directly on an object, which will then appear as if inside a picture frame.

The design elements create own objects on a different track. You can use the lower handles to adjust the size of the borders to fit any length of the video. You can also achieve interesting effects by inserting and discarding borders within a video.

Personalized templates in the Media Pool

You personal effects configurations in the Media Pool can be saved and applied again later. You can reach these customized configurations in the Media Pool folder "Effects > My templates". They may be dragged onto objects as usual.

First, this folder will be empty, of course, because you still have to create your own configurations.

Extra effects

Video effects plug-ins are additional programs from third-party developers that may be used to add additional video effects to video objects. MAGIX Video Pro X3 supports the plug-in format of the freeware video editing software "VirtualDub", as well as the "VitaScene" and "Adorage" programs from "proDAD". A selection of tested VirtualDub plug-ins (.vdf files, also called VirtualDub filters) may be downloaded as an installer package directly from within MAGIX Video Pro X3.

Important applications for plug-ins include the application of special effects and useful video editing tools.

Using video effect plug-ins

In order to be able to use plug-ins, they must be installed first. MAGIX Video Pro X3 checks whether plug-ins are already available. If not, it will offer to download them from the Internet or to set the plug-in path manually.

In order to use a video effect plug-in, select the video or image object first, then open "Effects -> Extra effects -> Plug-in manager" in the Media Pool menu. This lists all available plug-ins on the right side of the dialog.

Video plug-ins manager
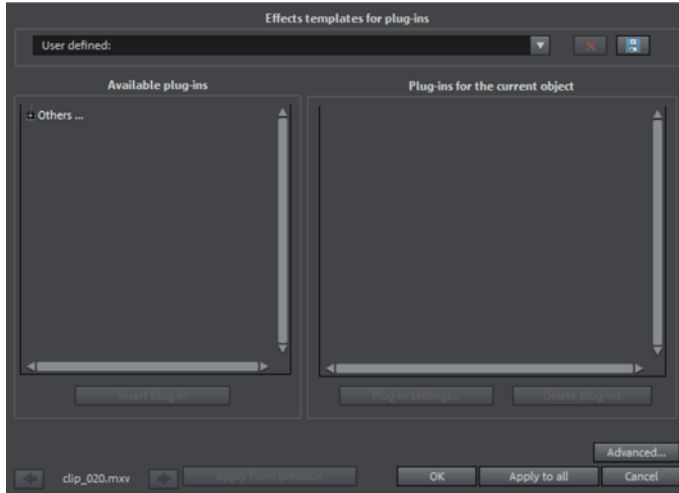
Effect templates for plug-ins: MAGIX Video Pro X3 does not include plug-ins due to licensing reasons. However, presets for removing the channel logo (view page 139) are provided for some TV channels with the "logoaway" plug-in.

You can save your settings by pressing the "Save" button and remove them by pressing "Delete".

Available plug-ins: All available plug-ins are listed here.

Add plug-in: The selected plug-in is added to the editing chain ("Plug-ins on the current object" list on the right). You may load as many plug-ins as you like simultaneously. These will be processed according to the list sequence. The plug-in order in the list may be changed via drag & drop.

Plug-in settings: Open the settings dialog for the selected plug-in here. All of the plug-in settings in the entire list may be saved as a preset (effect templates for plug-ins) .

Advanced...: Opens the Advanced settings dialog.

Navigation buttons: Switch to the previous or next movie via the navigation buttons in the lower part of the dialog of a movie.

Apply from previous: Uses the settings of the most recently set movie. This option is only active if you are editing objects in sequence with the navigation buttons (see above).

OK: The adjustments made to the settings will be applied to the current movie.

Apply to all: The effects will be applied to all video and picture objects in the movie.

Cancel: Closes the dialog; the settings will not be applied.

Advanced...
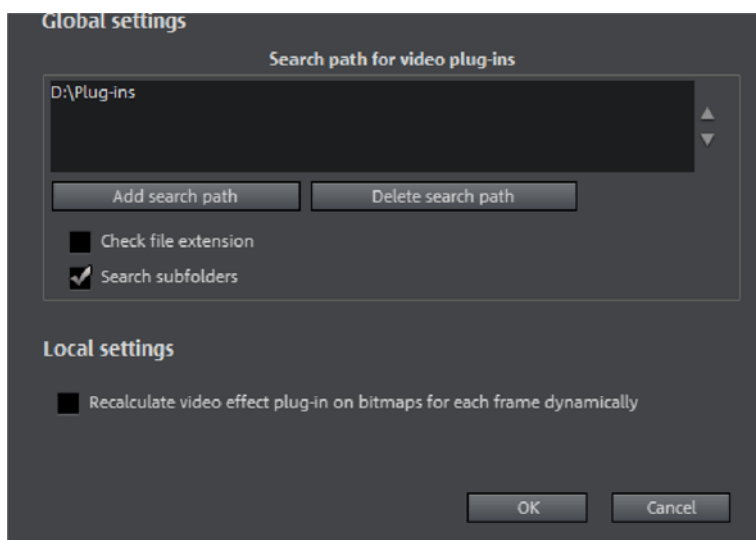
In the "Advanced" dialog, you can specify the search path for plug-ins. MAGIX Video Pro X3 checks these for available plug-in files at program start and adds these to the list of available plug-ins. "Add search path" adds new search paths, and "Delete searchpath" removes them from the list again.

Check file extension: Accelerates the search for new plug-ins if a larger number of plug-ins are available by not checking if they are valid.

Scan sub-directories: Extends the search to subfolders below the selected paths.

Local settings

Recalculate video effects plug-in on bitmaps for each frame dynamically: If you apply a plug-in to a bitmap (image), then this option must be activated in case the plug-in creates moving effects.

Remove a channel logo with the "Logoaway" plug-in

The "Logoaway" freeware plug-in by Krzystof Wojdan is a high-quality option for removing the channel logo from your video material. The plug-in attempts to remove the channel logo by reconstructing image elements using from the surrounding area.

Since each station positions its logo at a different location and in different sizes, you can select the presets for different channels from the effects templates.

Hint: The broadcasting rights of each channel must be observed. Commercial use of the edited material clearly constitutes a breach of copyright.

Effects masks

Effects masks help you to apply effects in different areas of one video image with varying intensity. A specific image is used as a mask to determin the specific areas where the effect should be applied.

Typical application include:

- Image optimization: A typical example is a horizontal pan across a horizon, in which case the upper or lower area of the image is brightened or colored in.
- Eye-catching color gradients, colorations and others
- Special effects such as pixelation of a car license plate.

Effects masks are regular image objects, and as such may be animated or attached to a certain image position to use them as moving video images.

Here's how it works:
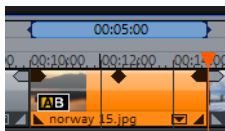
- Select the object in the arrangement to apply the effects mask to.
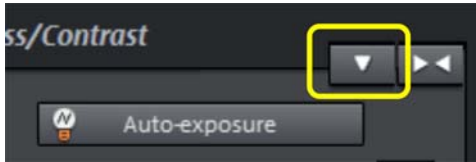
- Open the desired effects page in the Media Pool.
- Click on the down arrow button and select the "Load effects mask" entry from the menu.

When using color images, the brightness values are used. The brighter the area in the effects mask, the stronger the effect will be. Black indicates no effect, and white indicates full effect.

To apply the mask at a certain position in the video, you must edit it again. There are many options available for editing effects masks:

- You can define the size and the position of the effect mask in such a way, that the mask fits exactly over the image element to be edited. Please read more on this in the section Position/size (view page 129).
- You can attach the mask to the position in the video so that it moves together with the image element. To find out more, read "Attach to picture position in the video (view page 91)".
- Or animate the effect mask object directly. Read more about this in the chapter "Animate effects (view page 144)".

- In the effects overview, the effects mask can be deactivated for certain effects. These effects will then be applied to the whole image.
- Click on the down arrow button and select the "Delete effects mask" entry from the menu to remove the effect mask.

Tip: You can use your open effects masks, too. Any image or photo in JPEG format can be used. You can draw a suitable image in a graphics program, save it as a JPEG and load it using the "Load effects mask" option in MAGIX Video Pro X3.

Image stabilization

The motion stabilizer reduces unsteady camera motion and helps to smooth pans. This option can be accessed from the context menu of a video object or the "Effects" menu > "Open video objects".

Functionality

Image stabilization balances undesired picture movements. The motion stabilizer equalizes inadvertent movements in the image by moving the

image in the opposite direction in accordance with the wrong movements. This produces unusable edges in the footage that are cut off automatically, and black strips, which are then removed using a zoom shot. The result: A clearly more stable, almost imperceptibly larger picture.

Application

First you have to check the movie material for shaky scenes. To do this click on the "Stabilize" button. Based on the preset parameters, a relative shift between the pictures is calculated. After concluding the analysis, take a look at the suggested correction, then use the slider for further adjustments. Once you are happy with the final correction click OK. If the first scan did not provide a satisfactory result, try changing the parameters below and repeat the process.

Image stabilization dialog
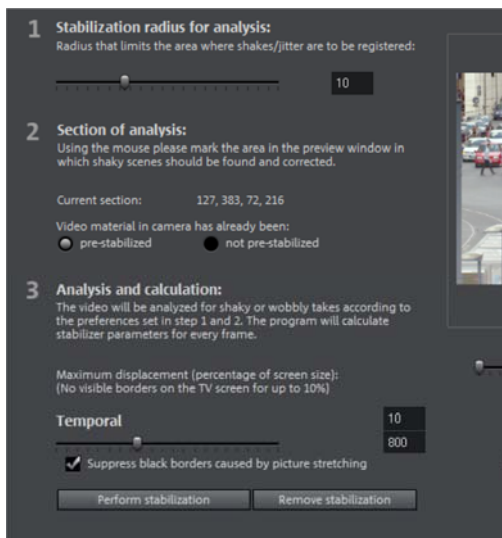
Stabilizing radius: To prevent the motion stabilizer from recognizing every camera movement as unwanted shakiness, you can determine the radius within which movement is acceptable. The larger the stabilization radius, the more shakiness is corrected.

Note: Changing this parameter will require reanalysis of the source footage.

Analysis area: This area determines the area of the footage that should be analyzed. The center of the image is preset. If shakiness occurs in another part of the picture, relocate the analysis area. To do this, use the lasso to "capture" the shaky area.

Temporal smoothing: This value determines the speed of the movements considered blurry. This allows you to differentiate between a panning shot and a nervous hand-held shot. Changes to this value are immediately applied.

Cancel: Exits the dialog without making changes to the settings.

Delete corrections: Resets the current settings.

New value: The altered value for the temporal correction is accepted and the new correction curve is set.

Image improvements for the entire movie

You can open the effects from the the settings via the "Effects" menu. All of the settings made here influence the entire movie. Settings are made separately for each individual movie in the project.

On the right, you'll see a preview of the current setting. Use the position slider to jump to different positions in the movie or to various scenes in order to see how the selected setting affects the image material.

Exposure

Brightness/contrast: Use the sliders to increase or reduce the brightness and the contrast of the picture.

Selective brightness (gamma): "Gamma" specifies the mean gray value that is provided by the various color ranges. "Selective brightness" is the most important function for image improvement. In the preset list, select the various envelope curves to edit only the dark, median, or brightest areas of the image.
Using the fader, you can also set the level of brightening or darkening.

Auto-exposure/auto-colour: These buttons enable you to change contrast and color automatically with a few clicks. The other settings options in the dialog provide more options to get the results you want.

Adjust colour space: This option is effective against powerful colors that violate TV standards and can no longer be displayed correctly on-screen. The color saturation of the affected material is thereby reduced until the maximum permitted value is reached.

Color

Saturation: Use the saturation slider to increase or reduce the hue proportions in the image. A newly developed algorithm is applied which makes color changes related to other parameters (e.g. contrast settings) in order to achieve the most natural coloration possible.

Hue: Use the palette to select a hue for coloring-in the picture.

Red/green/blue: Changes the color mix using the slide controller.

Sharpness

This fader allows you to regulate the level of image sharpness.

The "fine tuning" option allows you to determine the level of focus for particular surfaces or borders.

Anti-flickering filter intensity: The anti-flickering filter affects only still images. It is especially intended for zooms in images with many edges and transitions with high contrast (e.g. fences, bars, brick walls). High-frequency images such as these begin to flicker when they are reduced in size. This filter smoothes these edges somewhat.You should set the intensity of the anti-flickering filter according to your preferences, because smoothing is always a compromise between good contrast and fluid image sequence during playback.

TV picture

This option provides optimal adjustment of the image size for a real television screen (anti-cropping). Without this adjustment, the screen could cut off edges of the image in some cases.

Fade in TV display area in the preview monitor: This option displays the image borders of the television as lines in the preview monitor. The four image borders of the TV area may be specified via the four input fields. Of course, the real size of the TV image must be familiar for this. The following process is available to determine this:

The four input fields also enable the borders of the four sides to be adjusted freely in percent. In this case, the best approach is to determine a balance between reduction, bar formation, and the image section:

- If all four edges feature the same value, then the image will be reduced proportionately. In this case no distortions will occur, but there will be bars along the edges.
- If different values are entered for the 4 fields, the image size is reduced disproportionately. This will distort the image.

Apply margin to: With this option, the entered values for the four borders are applied as an image reduction. The result may be checked immediately in the preview monitor.

Determining the visible TV frame size

To determine the picture properties of your television as well as optimal image size editor settings, you should perform a test run:

- Load the project "Visible TV image" from the folder "My Media -> Projects -> Visible TV image" in the Media Pool.

- Play back the film and read the instructions on the video screen.
- Burn the project to CD or DVD
- Place the disc into the player and play the film. Compare the TV picture to the picture displayed on your video screen by MAGIX Video Pro X3.
- Determine the proportional value of the borders cropped by the television with the four measurement scales along the edges of the test picture.
- Enter the values in the "Full TV size" editor.

The image size is now optimized to your TV picture. Please note: Depending on device settings and disc media type, the cropping values may vary slightly.

Image improvements for individual objects

The context menu or in "Effects -> Video object effects" features various adjustments for selected video and image objects.

Interpolation for interlace source material: Select this option to remove interlace artifacts from the (video) image. If, for instance, you extract still shots from a video, interlace artifacts appear in sequences which feature movement.

Anti-interface filter: Choose this option for still pictures with detailed structures and high contrast. This filter reduces line flickering during TV playback.

Border cropping offset: Select this option if the edges are cropped during playback on your television. Values stored in "Film effect settings (view page 143)" will be applied.

Animate effects

The "Effects" tab under "Video effects" and "Movement effects" provide you with the effects which can animated using keyframes.

The following objects can be animated:

- Video objects
- Image objects (still images)
- Title objects
- Audio objects (in the Media Pool under "Effects" > "Audio effects" > "General")
- MAGIX 3D Maker objects (3D texts)
- Visual objects

Preparing animations

- First, select the object in the arranger to animate. For complex animations, we recommend placing a marker beforehand for orientation.
- In the Media Pool, open the "Effects" tab and click on the effect you would like to animate under "Video effects" or "Movement effects".
- If necessary, set up the effect however you would like it for the start of the animation.

- Using this button, at the bottom of the Media Pool, a timeline may be shown or hidden. You can see here which animated effects are currently applied to the selected object. Keyframes may be placed, selected, moved, and deleted.
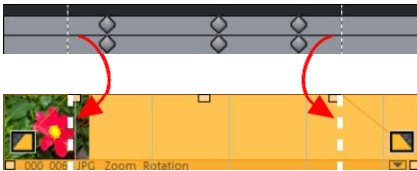
There are two stippled lines in the timeline to help you orientate yourself while you edit movement. These lines will help you recognize the start or end of the transition.

Place keyframe

Click the timeline to set the playback marker at the locations where a keyframe should be added.

- This button places keyframes for all parameters required in the animation.

- Additional keyframes may be added simply by placing the playback marker at the next keyframe location and changing the effects parameters directly.

The positioned keyframes may also be retroactively moved via drag & drop.

Copy keyframe

- Select the keyframes to be copied by clicking them and then press the "Copy" button.
- Next, set the playback marker at the location for insertion and the press the "Insert" button.

Display keyframes of individual parameters

Multiple keyframes are added simultaneously to effects if they include multiple parameters.
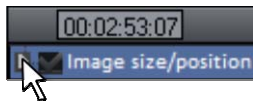
Click the small arrow beside the name of the animated effect to display all of its parameters.
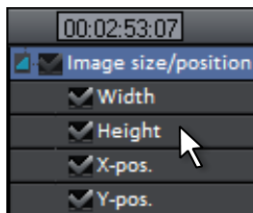
Now all keyframes of the effects parameter can be individually moved, deleted, activated, and deactivated.

Note: Only those parameters are listed which are used for the animation. As soon as another parameter is required for editing the effect, it becomes visible to you here.

Retroactively editing an effect's keyframes

Previously set keyframes can be retroactively and temporarily moved and their values edited.

- Keyframes may be moved via drag & drop. Simply click on the keyframe to be moved and drag it to the desired position.
- To change an effects setting for an already positioned keyframe, click the keyframe and adjust the effect in the Media Pool.

Soft movement

Normally, a hard, unnatural pan is the result of set keyframes.

This option makes sure that the progression of these movements is executed more softly and more naturally.

It lets you activate the entire parameter group as well as individual parameter curves.

Delete keyframe
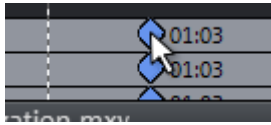
 Select the keyframe to be deleted by clicking it.

 This button removes the selected keyframe.

Change curve shape

Every curve point features two Bezier curve handles for softening curves shortly before and after the handles.

 The Bezier curve handles are activated by clicking on the curve until the "Manual Bezier interpolation" mode is activated (see illustration).
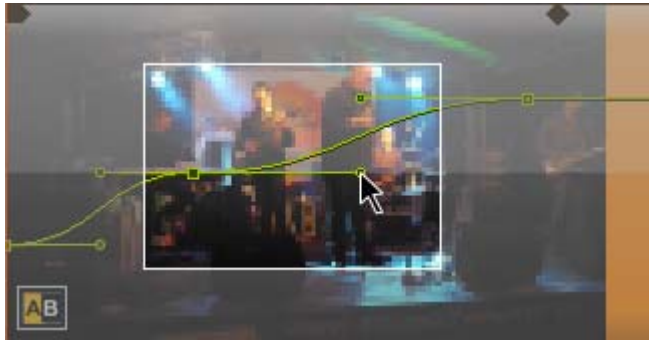
 Both Bezier handles are connected to each other and create a soft Bezier curve which is harmonized with the effects curve.

Tip: When working with individual curves or Bezier handles, using a higher vertical zoom level is recommended to see and move curves and curve points as precisely as possible.

The following function shortcuts may be used to work with with curve points quickly and effectively:

- Double click on a curve point to set the effect's default value.
- "Shift" + drag to move a curve point vertically only.
- "Ctrl" + drag to move a curve point only horizontally.
- "Ctrl + Shift" + click on a curve point to create a Bezier handle from the curve point.
- "Ctrl + Shift" + click on a Bezier handle to uncouple the handles.
- "Ctrl + Shift" + click on a curve to create and delete curve points.
- "Del" deletes the selected curve point(s).

Editing an effects curve in the object

Activate effects curve: For each of animated effects parameter, a curve is created and placed over the object. Click this button to display the effects curve on the object.
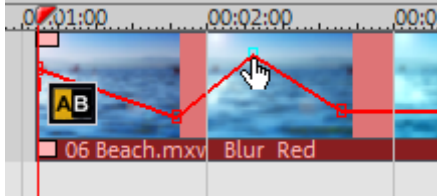
Edit curve points: The curve point can either be edited with the individual curve points (in "Standard" mouse mode) or by freely drawing the effect curve (in "Curve" mouse mode).

New curve points can be added to the curve in "Standard" mode via "Ctrl + Shift" and clicking; existing ones can be deleted in the same way. Every curve point can be moved with the mouse horizontally and vertically.

Note: The buttons for activating effects curves are first displayed once the first keyframe has been placed.

Effects curves - Additional functions
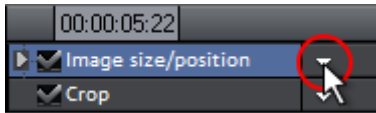
The context menu can also be opened via the small arrow beside the effects indicator.

Delete effects: Removes the selected effect completely.

Delete effects curve: Removes the effects curve to be created again.

Copy effects curve: The effects curve is copied to the clipboard to be used at other positions.

Insert effects curve: A previously copied effects curve can be inserted elsewhere with this function at any time. This may be in the same object or in another object.

Note: If you would like to insert the curve into a longer or shorter object, then think about setting the option "Connect curve length with object length" correctly before copying.

Connect curve length with object length: If this option is set, then changes to object length will affect the effects curve accordingly.
In practice, this behavior is needed rarely, for example if objects are stretched or compressed. The option is deactivated by default for this reason.

Load effects curve: A previously saved effects curve may be loaded via this menu item. This is useful, for example, if you have added your own default animations.

Caution! The current effects curve will be overwritten as another one is loaded.

Save effects curves: Effects curves can be saved as a separate file. This is useful, for example, if you want to add your own default animations and simply load them again at other positions again.

Tip: Be aware that during saving the setting "Connect curve length with object length" is saved as well and applied during loading.

Edit effect curve...

This dialog serves to stretch, compress and move effect curves within an object.The info bar of the dialog will display the effect, whose automation curve is currently being edited.

Move position

Time axis: With each click on the arrow, you can move the effect curve forward or back by the displayed time value.

Effect: Every click on the arrow up or down moves the effect curve by the entered value. Depending on the effect, it is possible to enter exact or percent values.

Stretching & compressing

Time axis: The effect curve will be stretched or compressed by the entered time value. Invert reverses the curve on the time axis and reinserts it in "reverse". The entire object duration will be considered.

Effect: The effect curve is stretched or compressed in its values, no time-related editing takes place. The selected option (see table) is decisive in editing.

Mirror: The entire curve is mirrored along the X-axis, whose position is determined by the following option (see table).

... around the object center: The X-axis lies exactly at the center of the object.	
...at the center of the curve: The X-axis lies between the upper and lower automation point.	
...at the curve minimum: The X-axis lies at the level of the lowest automation point.	
...at the curve maximum: The X-axis lies at the level of the highest automation point.	

Stretching, compressing and displacing of effect curves.

This dialog serves to stretch, compress and move effect curves within an object.The info bar of the dialog will display the effect, whose automation curve is currently being edited.

Move position

Time axis: With each click on the arrow, you can move the effect curve forward or back by the displayed time value.

Effect: Every click on the arrow up or down moves the effect curve by the entered value. Depending on the effect, it is possible to enter exact or percent values.

Stretching & compressing

Time axis: The effect curve will be stretched or compressed by the entered time value. Invert reverses the curve on the time axis and reinserts it in "reverse". The entire object duration will be considered.

Effect: The effect curve is stretched or compressed in its values, no time-related editing takes place. The selected option (see table) is decisive in editing.

Mirror: The entire curve is mirrored along the X-axis, whose position is determined by the following option (see table).

... around the object center: The X-axis lies exactly at the center of the object.

...at the center of the curve: The X-axis lies between the upper and lower automation point.

...at the curve minimum: The X-axis lies at the level of the lowest automation point.

...at the curve maximum: The X-axis lies at the level of the highest automation point.

Animation from outside the image

Animated effects come in handy to let titles or images "fly" through the picture. It is recommended to st the in- and out-points of the animation outside the frame of the image.

You will need a video object and a second object to be animated, for example a title or a small object that is to fly through the video image.

Let's roll:

- Click on the preview monitor and zoom out of the video image (Ctrl + mouse wheel). This creates working room on the edge of the minimized preview image.
- Select the "Position/size (view page 129)" effect.

- Move the object to be animated to the work space where the animation should start, for example to the left of the preview image:

- Position the playback marker at the position where the animation should start.
- Create a keyframe for the animation start.
- Move the object to be animated to the work space where the animation should end, for example to the right of the preview image.
- Position the playback marker at the position where the object to be animated should disappear from the image.
- Create a second keyframe for the animation end and play back the result.

The object to be animated should now be flying from left to right through the video picture!

Stereo3D (deluxe version)

MAGIX Video Pro X3 also enables creation and editing of 3D videos and photos. Let's examine this complex topic to learn the basics and a few golden rules. Next, we'll look at the individual work steps in detail.

Note on using 3D content: Some people experience unpleasant symptoms (such as headaches, overexertion, eye strain or nausea) when they are exposed to 3D video. For this reason, we recommend taking regular pauses. If problems occur, you should stop all use immediately and consult a doctor or an optician. Incorrect creation of 3D footage can also cause these symptoms.

Warning to children: Children's eyesight (especially before the 6th year) is still developing. We recommend consulting your child's doctor or optician before permitting your child to view 3D videos.

3D basics

Human eyes perceive objects from 2 different angles and our brain "calculates" images from this information. This way we can tell the distance and position of an object. For this reason, 3D material should be shot according to this principle.

Viewing 3D

A regular screen or TV can show images only in 2 dimensions, and various technologies have been developed to enable perception of images in 3D. To this day, all technologies share the following: You need special glasses to deliver different information to the left and right eyes. We will examine these technologies in detail later.

The three golden rules

- Stay within limits during recording: To make a 3D recording (view page 154) with realistic depth information, certain limits must be respected. The most important rule is not to go below the point of minimum distance. Minimum point is the point in the picture, where the camera is the closest.
- Frame closest point: In order to place the 3D effect behind the imaginary frame, both image components must over lay each other exactly at the closest point. At the same time, the same objects must be visible at the edges of both partial images, for which, if needed, you can use the Cropping function in the Media Pool (view page 130).

Note: The imaginary window is a type of a plane, behind which the 3D movie plays. You select the closest, frontmost point. Not keeping up with this rule can result in the object to "jump out" of the imaginary window, which when used too much, can cause headaches.

- Maintain realistic eye angles: Object with a 3D depth effect viewed as a red/cyan image (Anaglyph) without glasses will appear displaced. This displacement should, if possible, take up less than 1/30 of the entire image. Otherwise, it will appear that the eyes are looking in different directions.

Notice: Displacement may only occur along the horizontal axis. Displacements on the vertical axis and rotated portions must be adjusted.

Record 3D

The distance between eyes in humans is ca. 65 mm, which forms the so-called "stereo base width". But because our eyes are dynamic and we can even "cross" our eyes, it is possible to focus on objects that are closer.

Various techniques exist for 3D recording. Each method has its advantages and disadvantages:

- 3D cameras with two lenses: The advantages are obvious; these cameras produce 3D material without excessive work involved. The disadvantage is that the stereo base width (lens distance) cannot be changed.
- Two cameras on a special mount: This involves a little more work. Two cameras are mounted on a special support to record material for the left and the right side of the 3D image simultaneously; microphone booms for stereo recordings may also be used for this purpose.
  The disadvantage in this case is that the shutter releases have to be pressed at exactly the same time if there are moving objects in the picture. In case of video, both movies must be synchronized before being edited. Advantages: Stereo base width may be changed by adjusting the distance between the cameras; larger selection of camera models.
- Two photos via the same camera: This technique only allows still images. The camera is simply used to record two images from different perspectives, and these are used as the right and left images. For best results, use a tripod.
- Consistently fast camera movement, e. g. along a street: Only a single conventional camera is required in this case, but the range of applications is very limited. This is the most cost-effective method for creating 3D videos. Material is filmed at a speed of circa 6-to 15 km/h. During editing, the edited video object is duplicated and one of the videos is played back with a time lapse. The movement direction determines which is the right and left image. 3D photos may also be created using this method.

Warning, minimum distance!

The position of the object closest to the lens is designated as the minimum point. This minimum point may not exceed a specific minimum point; this is easy to calculate via the following formula:

Note: Lens focal point (e. g. 25 mm) x stereo base width (e. g. 65 mm) x 1.5* /1 mm= minimum point (2437.5 mm ~ 2.44 m)
*1.5 is a factor derived from the cut-off appearing when filming through a lens.
**1 mm is the so-called "deviation" or "spatial dimension". This only involves a rough value in this case.

Examples for 3D cameras:
Panasonic HDC-SDT750 (base width 12 mm): minimum point is approx. 1.5 m.
Fuji REAL 3D W3 (base width 75 mm): minimum point at approx. 3 m; for long-distance recordings as much as 8 m.

This so-called minimum point has an important role in other aspects of 3D editing.

Prepare 3D editing

3D videos are filmed and saved by different cameras, which means: depending on the camera model or recording method, the videos or images vary.

In one file

Many cameras, especially for photo recordings, create one single file containing the left and the right image next to one another.

- Drag these files from the Media Pool directly into your arrangement.
- Select the created objects.
- Select the "Side-by-Side (left images left/right)" entry in the Media Pool under "Effects > Stereo3D > Properties > Create stereo".

In multiple files

Some 3D cameras create a file for each the left and the right side. This working technique works also if you simply take 2 pictures with a regular photo camera.

- In the Media Pool, open the folder in which the desired file can be found.
- Sort the files in increasing order according to the date. This way, all files will lie in pairs one below the other.
- Now, select the files and drag them from the Media Pool directly into your arrangement.
- In the Media Pool select "Side-by-side (left image right/left) under "Effects > Stereo 3D > Properties > Create stereo" for material with halved width.

Note: If you have created side-by-side material yourself (e.g. placed two photos next to each other in an image file), proceed as described, but at the end select the "side-by-side (left image left/right)" for material with full width.

Set playback mode for 3D

There are various techniques available for playback of 3D videos on the computer. Depending on the technology used, the corresponding playback mode may be activated in MAGIX Video Pro X3.

Select the 3D mode you want to work with in the upper left corner of the video monitor.

Here is a list of available techniques and the corresponding requirements:

3D mode	Technology	Requirements
Display occurs in rows	Polarizing filter	• Polarizing filter glasses • Special monitor, typically referred to as a 3D monitor or similar
Side-by-side display	Shutter mode	• nVidia 3D Vision Kit • 120 Hz monitor/projector

Note: Both of these modes should only be set in case the preview image is output on a separate monitor. Shutter mode also requires a 3D-capable graphics card.

Anaglyph display	Color anaglyphs	• Red/cyan glasses

Align videos and pictures for 3D

Anaglyph display is recommended for this, which may be set via the video monitor (view page 156). Only in this mode is precise geometric alignment of images possible.

Note: In case you wish to edit 3D-video material, it is recommended to conduct scene recognition and split the video into individual scenes. This is necessary because the left and right side of each scene must be arranged individually.

The so-called minimum point is the point in the picture that the camera is closest too. This forms the "center" of the 3D image and must be defined as such in MAGIX Video Pro X3.

For this task, go to "Media Pool -> Effects -> Stereo 3D" and access the entry "Aligning".
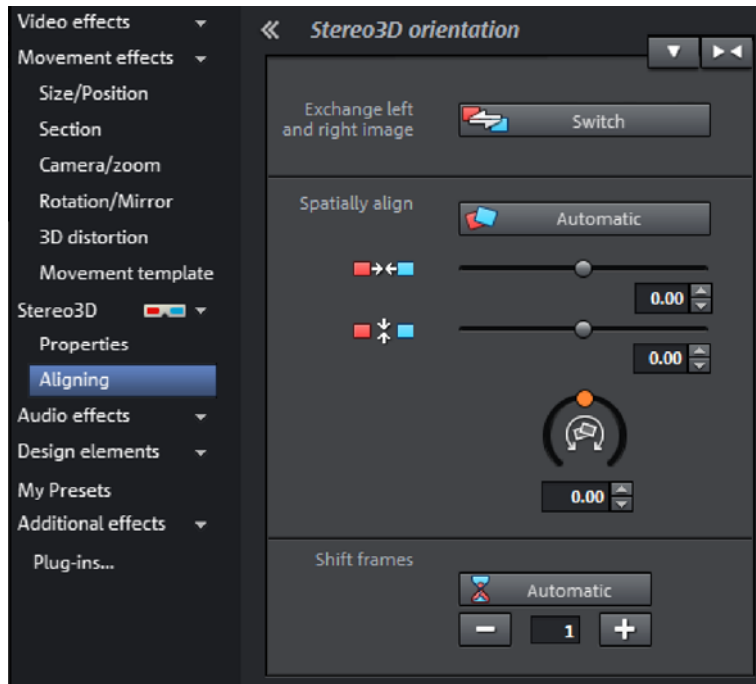
Juxtapose both images one over the other, so that the minimum point of both is at the same location.

You should first see whether automations for spatial adjustment and synchronization deliver desired results. Click on the button "Automatic".

If this does not produce the desired effect, proceed as follows:

- Find the minimum point in the image.
- If the images are offset vertically, then these need to be balanced via the slide controllers under "Spatially align".
- If the images have rotational differences, you have to adjust these with the rotation controller.
- Try to juxtapose the closest points of both sides precisely using the upper slider.
- To test the results, put on the cyan/red glasses. In case the image has an exaggerated spatial depth, try to position the left and right sides closer to each other using the controls.

Turn camera movements into 3D videos

Camera movements may be transformed into 3D videos by being duplicated and converted via time displacement. To do so, you can simply record on the right or the left side while, for example, driving along a street.

The speed should be set between 6-15 km/h (approx. 4-10 mph) and depends on the frame rate, the focal point, and the distance of the objects being filmed (among other things). At increased speeds, it may occur that the spatial impression is too strong and the filmed material seems unnatural and unpleasant.

- If the video is in the arrangement, the stereo depth for the 2D object may be set in the Media Pool via "Effects -> Stereo 3D --> Properties".
- Depending on the direction of the recordings, you will have to move the control either to the right or the left.
- Check the results in the anaglyph display with red/cyan glasses
- Correct any unrealistic effects by adjusting the controller in the opposite direction.
- If the spatial depth is exaggerated, reduce the changed parameters.

Note: Not only camera movements, but also other 2D materials may be arranged spatially.

3D material may be edited with the same functions as 2D material.

Create titles for 3D videos

Xara3D title objects (view page 116) automatically have "real" 3D properties and for this reason may be used in the arrangement without any problems.

Export and burning 3D videos

There are no special requirements for export and burning. Only the desired 3D technique is specified.

Anaglyph: This technique is recommended for uncomplicated playback of finished videos or playback via conventional TV sets or projectors. Viewers must simply put on a pair of red/cyan glasses to be able to enjoy a 3D film.

Side-by-side: Create 3D movies for a 3D-capable playback device without having to compromise the quality. It doesn't matter initially whether your video is viewed in "Shutter" mode or via "Polfilter".

- Depending on your playback device, you should set double resolution in order to produce full resolution for both the right and the left image.
- Not all playback rates are capable of double resolution. If this is the case for your device, 50 % pinched images will be displayed. The quality is nevertheless higher than output via the anaglyph technique.

Note: When exporting to side-by-side formats, make sure that the vertical resolution is the sum of both images, but the aspect ratio (e.g. 16:9) refers to a partial image!

Export files/upload movies to the Internet

The standard path for all file exports via "File -> Export movie or file -> Internet". Depending on the export format and destination, the export dialog also allows the 3D technique to be used to be selected.

For direct selection as Windows Media Video 3D, click "Export" and select "3D film" from the dialog.

Burn CD

When burning a Blu-ray Disc^{TM} or DVD, you must first open the encoder settings in the burn dialog and set the desired 3D technology. Next, you may proceed to burn the disc as usual.
During the burning process, MAGIX Video Pro X3 automatically creates an intro video with corresponding instructions that will play back when the disc is placed into a drive.

Soundtrack

In principle, any track in MAGIX Video Pro X3 can be used as a sound track. There are no specific track types. But it is easier not to mix object types within one track.

Load and edit audio files

- All importable audio files may be accessed in the Media Pool and previewed via the video monitor of the by a clicking on the file name.
- The files may be dragged into the arranger by holding down the mouse button (drag & drop). Tracks from audio CDs may also be integrated via drag & drop.

- Edits, fine positioning, volume settings, and fading in and out may all be adjusted in the arranger using the object handles directly.
- Various effect curves (view page 148) may be selected for audio tracks, dynamically controlling selectable effects, volume or stereo panorama.

Audio effects

Using audio effects

Track effects

Track effects always apply to all audio objects of a track. This sets the mixer (view page 160).

Audio effects plug-ins

MAGIX Video Pro X3 supports VST as well as DirectX audio plug-ins. These are usually effects modules such as reverb, equalizer, dynamics compression, etc.

Installation

Before using audio effect plug-ins, they first have to be installed – this process may be different depending on the plug-in. VST plug-ins are typically saved in a certain directory, which must be entered in the MAGIX Video Pro X3 path settings. After the path has been indicated, MAGIX Video Pro X3 scans it for working plug-ins and offers them to be used. You can also indicated multiple locations where VST plug-ins are installed.

Using plug-ins

Two so-called slots for track effects are located in the channel strip of the mixer for the corresponding track as well as in the FX tracks.

Clicking on the small triangle will let you select an effect from the list. Select "No effect" to remove a plug-in from the slot.

Master effects

Master effects influence the mixed sum of all audio tracks. For this purpose a Master Audio Effects Rack and further plug-ins are provided. The deluxe version includes the special MAGIX Mastering Suite (view page 171) for perfect sound.

Sound optimization

This option opens an editor for correcting audio material discrepancies.

Select the cleaning function you desire from the upper part of the dialog:

- The equalizer (on page 163) allows you to manipulate the frequency spectrum – perfect for cleaning up muffled dialog.
- The compressor is a dynamic volume control that lends the overall sound a deeper, richer quality.
- The stereo FX processor justifies the position of the sound in the stereo panorama.
- DeNoiser, DeClipper, and DeHisser are professional noise reduction tools that do exactly what their titles say they do.

Presets: You can try out the suitability of a number of presets in the preset menu.

Temporarily deactivate all effects: Switches all the effects off.

Apply to all scenes: Applies the selected cleaning settings of all effects to every scene of the movie.

Declipper

Should the input level of an audio recording be too high, overmodulation may result at the louder parts (the signal peaks). This digital distortion is also called "clipping": At the overmodulated area, the values that are too high are simply cut off, and typical, quite unpleasant-sounding crackling and distortion appear.

MAGIX Video Pro X3 contains a special function for dealing with digital clipping and analog distortions. Of course, this only works to a certain degree.

Using the fader you can set at what level the Declipper should register a signal as being overmodulated and, if required, correct it (Clip level). This is important, as different sound cards show different clipping methods. The more the fader is turned up, the lower the level recognized by the program as overmodulated. If the clip level is set too high, unwanted sound modification may occur.

Get clip level: The clip level is gaged automatically.

Denoiser

The Denoiser removes persistent background noise like computer hum, hissing, noises from sound charts, disturbance from ground circuits, interference from audio equipment with high-impedance outputs (such as record players), impact noise, or the turntable rumble.

The Denoiser requires a noise sample. Some typical noise sounds are included in the "Preset" selection menu.

Set the degree to which the noise should be reduced with the fader. It is often better to reduce interference signals by 3-6 dB rather than as much as is possible in order to keep the sound "natural".

A different option consists of creating a noise sample yourself. All that's needed is a short section from the audio track in which the distortion can be found. To get it, switch to the DeNoiser dialog by pressing "Advanced".

DeNoiser – Advanced settings

Step 1: Choose a noise sample

First of all, a sample of the distortion you wish to remove must be selected, i.e. a so-called "noise sample".

You have two options to choose from:

Pick out typical background noise: You can select and use a number of typical background noises from the flip menu. Select one and listen to it by pressing the "Play" button. If it is similar to the background noise in your sound track, go ahead and use it (see "Step 2: Removing background noise").

Extract a new noise sample from an audio track: You can also pick out a short passage (from the existing sound track) in which you can hear the background noise.

Automatic search: Searches especially quiet passages in which background noise is most noticeable.

Previous / Play / Next: These buttons allow you to play all of the passages found for easy comparison.

Save as: Once found, you can save noise samples to the hard drive. They then appear as entries in the "Typical background noises" flip menu to be used in other projects.

If you only wish to use the noise sample in the current project, you don't have to save. Instead just go to the "Remove noise" category.

Step 2: Removing background noise

Noise level: The level of the noise reduction function should be set as precisely as possible. Values that are too low are expressed at a low distortion dampening level and in artifacts, like noises or "twittering" (see below). High settings produce dull results – useful signals that sound similar to hissing noises are also filtered away. Try to find the best setting for the project at hand.

Reducer: This sets the balance between the original signal and the signal with the applied noise reduction. It's often better to reduce interference signals by 3-6 dB rather than as much as is possible, so as to keep the sound "natural". In case of buzzing, it's best to apply complete removal.

Dehisser

The Dehisser eliminates regular "white" noise typically produced by analog tape recordings, microphone pre-amplifiers, A/D converters, or transformers.

Noise reduction can be regulated in decibels with the fader. It is often better to reduce interference signals by 3-6 dB rather than as much as possible in order to keep the sound "natural".

Noise level: You can choose between different noise levels. The level of the noise reduction function should be set as precisely as possible. Low settings result in incomplete deletion of the hissing. Incomplete deleting of hissing produces artifacts and should be avoided, since high settings will produce dull results and some useful signals (i.e. woodwinds) which are similar to hissing are also filtered away.

Equalizer

The 10-track equalizer divides the frequency spectrum into 10 areas (tracks) and supplies them with separate volume controls to allow you to achieve many impressive effects, from the simple rising of the bass to total sound transformation. If you raise the low frequencies too much throughout the whole level, it might cause distortions.

Fader: The volume of each of the 10 frequency bands can be set separately with the 10 volume controls.

Link frequency bands: The frequency fields can be bundled together flexibly in order to avoid artificial-sounding exaggeration in individual frequency fields.

Compressor
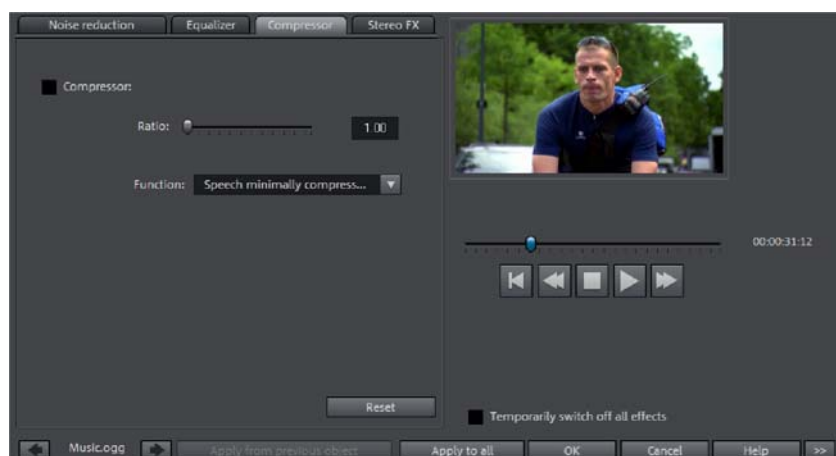
The compressor is an automated, dynamic volume controller. Loud passages become quieter and the total value is raised. This makes the volume more consistent and speech easier to understand. A compressor is mainly useful in case background noise or music interferes with speech and simply increasing the volume of the individual objects or tracks does not result in any significant improvement.

Level: Regulates the level of compression applied (the "ratio").

Function: Defines the compressor depending upon the sound material.

Stereo FX

The stereo FX processor provides adjustment of the alignment of the audio material in the stereo balance. If the stereo recordings sound weak and undifferentiated, an extension of the stereo base width can often provide better transparency.

Bandwidth control: Adjust the bandwidth between mono (on the extreme left), unchanged base width (center) and maximum bandwidth ("wide" on the extreme right).

Reducing the bandwidth can raise the overall level. In extreme cases, when the left and the right channels include identical material and the bandwidth control is pushed to the extreme left on "mono", the result can be a level increase of 3 decibels.

Raising the bandwidth (values of 100) diminishes the mono compatibility.

Effect devices controls

Effects are controlled in the conventional way by the use of slider controls, turning knobs, or buttons or alternatively using the graphic sensor fields.
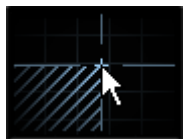
Sensor fields: Sensor fields may be influenced intuitively with mouse movements; the graphics and the respective effect setting change in relation to each other.

Power switch: Every effect device in the rack may be switched on or off separately. This button allows you to directly compare the neutral, unedited sound of the audio object with the effect setting you have chosen.

Reset: Every effect has a reset button that restores the effect device's initial default. In this state, the effect is not calculated into the sound, and the effect is not rendered.
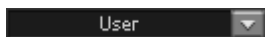
Preset selection list: Each effect device features a selection of presets that are selected via the drop-down menu.

A/B: The A/B button compares two settings with each other. If you have selected a preset for the effect and make manual changes to it later, you can compare the original preset sound with the new settings by using the A/B button.

Note: The graphics displayed are only samples and these differ according to the effects devices.

Audio effect dialogs

Some of the following effects can be opened individually (via the context menu), or as part of the track or master effects rack. However, the functionality remains the same.

Reverb/Delay

The reverb effect device offers newly developed and very realistic reverb algorithms to add more room depth to your recording.

Reverb

Reverb is probably the most important, but also the most difficult effect to generate.

Fundamentals

Our everyday experience shows that not every room matches every instrument. Thus we have designed "virtual" rooms. However, it still remains important to find the correct parameters. Here are some examples of parameters that are decisive for the sound impression in real and virtual rooms:

- Size of room: The larger the room, the longer the sound travels between walls or objects. Our brain "calculates" the size from the time difference. The size impression is mainly determined from so-called first reflections and the discreet echo. We don't notice a (diffused) reverb.
- The reverberation time is mainly influenced by the composition of the walls, ceilings, and floors. This reverb time is highly frequency-dependent. For instance, the highs and mids are dampened more in rooms with curtains, carpets, furniture, and some corners than in an empty, tiled room.
- The density of the reflection. The sequence of the first reflection is particularly important. A room with many individually recognizable echoes feels alive, especially if they are quite far apart.
- The diffusion. Simple reverb machines do not take into account that reflections become more and more complex as they develop. They blur the first echoes at the beginning, which sounds artificial and "two-dimensional" for many signals. Our reverb effect works like a real room instead where individual echoes can still be heard at the beginning of the reverb but then reflect amongst each other more and more until they disappear in the signal sustain as a so-called "diffused hiss".

The presets include many rooms that were designed for certain instruments and applications and whose internal parameters have been optimized for these applications. However, you can influence most of the characteristics of the room using the provided sliders.

In addition to the rooms we have modeled two device types in the reverb effect that allow you to create an artificial reverb for a longer time: Plate Reverb and Spring Reverb.

Plate reverb

A plate reverb consists of a large metal plate (often 0.5 to 1m² thick, or more) that is put into motion by a magnet and coil system (similar to a loudspeaker). On the reverb plate, so-called "taps" are positioned at different locations. These are pick-ups comparable to those on a guitar. Reverb plates have a very dense sound (high diffusion); no direct echo can

be heard. They are therefore ideal for percussive metal. A plate reverb generates a smooth "pleasant effect" with vocals.

Spring reverb

You probably remember spring reverb from guitar and keyboard amps, particularly the older ones. At the bottom of these amps, a unit consisting of two to four spirals is mounted on a vibration-free carriage. As with the reverb plate, it uses systems for transforming the electric signal into a mechanical one. There are different designs and sizes of spring reverb; however, they all have the same quite peculiar sound: the typical "bloing" sound when the springs are moved, similar to splashing. When the reverb dies away the basic pitch of the spring(s) can usually be heard quite clearly. Furthermore, the frequency range is considerably limited due to the losses in the spirals and in the used pick-up/transmitter. Despite this, the sound is special and some of the latest music styles (e.g. dub & reggae) would hardly be possible without spring reverb.

Parameters

The reverb effect has the following parameters:

Size: Defines the size of the room (or the system for the plate and spring). With some low "size" settings, you can also reduce the distance between the individual reflections. This allows resonance to develop (accentuated frequency ranges), which can sound oppressive if the reverb sustain is too long. The proper size for each instrument can be gauged by taking into account the interplay between the room and the resonance.

Time: Reverberation time. This controller lets you define how far the echo will be absorbed, i.e. the time for the reverb to die away. Turning this knob to the left minimizes the time. You will then only hear the first reflection. Turning the knob to the right minimizes the absorption, and therefore results in a long sustained reverberation.

Color: Within certain limits, you can influence the sound characteristic of the effect. The effect of this controller depends on the used preset. In rooms, "color" controls the dampening of the highs in the reverb (from dark to bright) as well as pre-filtering of the signal. The controllers for plate and spring presets also determine the dampening of the basses.

Mix: This controller sets the mix ratio between the original and the edited signal. For rooms, you can quite easily move a signal further into the room by increasing the amount of effect. The last four presets are intended for use in an AUX channel of the mixer and are set to 100%.

Presets

The presets are primarily sorted by instruments, but you can (and should) choose which preset you want to use for which instrument.

Delay

This effect is like an echo which delays the signal and repeats it.

Delay: This sets the period of time between the individual echoes. The more the control is turned to the left, the faster the echoes will follow each other.

Feedback: This adjusts the number of echoes. Turn the dial completely to the left, there is no echo at all; turn it completely to the right and there are seemingly endless repetitions.

Mix: This fader determines how much of the unprocessed original sound (dry signal) is subjected to the echo (wet signal). Application of this effect in an AUX bus requires the controller to be set to 100% (all the way to the right).

Timestretch/pitchshift

This effect device changes the object's speed and/or pitch.

Pitch: This controller changes the pitch independent of the object's speed ("pitchshifting").

Tempo: This controller changes the tempo independent of the pitch ("timestretching"). In this case, the object acts as if it were compressed or stretched on the track.

Tones/BPM: These fields are used to enter the pitch or speed change numerically. Only MAGIX Soundpool files are suitable for numerical entries since these contain information on pitch and speed.

Setup: This button opens a setup dialog to select various pitchshifting and timestretching procedures.

- Standard: Timestretching and pitchshifting in standard quality. This method is suitable for audio material without a pronounced beat. Beat markers are evaluated to improve audio quality.

- Smoothed: Timestretching and pitchshifting for audio material without pulsing elements. The method is suitable for polyphonic orchestral instruments, pauses, speech, and singing. Beat markers are not evaluated. A considerably more complex algorithm is used in this case, which requires more processing time. The material may also be used with very large factors (0.2...50) without causing severe artifacts. The material is "smoothed", which makes the sound softer and emits it at an adjusted phase level. This smoothing is hardly audible, for example, with speech, singing or solo instrumentation. Problems in the shape of distortions may arise with more complex spectra (sound mixes from various instruments or finished mixes).
- Beat marker slicing: Beat-synchronous timestretching and pitchshifting via splitting and temporal repositioning. Exactly set beat markers are required at the beats or transients. Markers may be generated in real time (automatically) or read from the WAV file if available (patched). MAGIX Music Editor provides a patching tool for users to set the markers manually. The algorithm is suitable for rhythmic material that may be divided into individual beats or notes. This requires a low audio level before each beat or note.
- Beat marker stretching: Beat-synchronous timestretching and pitchshifting in standard quality. The material is stretched between beat markers positions so that the beats or attacks at the beat marker positions are not impaired by stretching. The markers can be generated in real time (automatically) or read from the source file if available (patched). This method is suitable for rhythmic material that cannot be divided into individual beats or notes because the beats or notes overlap each other.
- Beat marker stretching (smoothed): Beat-synchronized timestretching and pitchshifting in high audio quality, even with extreme time extension. Beat markers are used at the beats or transients. Markers may be generated in real time (automatically) or read from the wave file if available (patched). This method is suitable for rhythmic material that cannot be divided into individual beats or notes because the beats or notes overlap each other. This method requires increased processing time, which is why it should be used sparingly on less powerful systems.
- Universal HQ: Universal method for timestretching and pitchshifting in very high audio quality. Suitable for all types of audio material. Beat markers are evaluated to improve audio quality. This method requires so much processing time that real-time application is recommended only in exceptional situations. The apply function is recommended instead.
- Monophonic voice: Timestretching and pitchshifting for vocal solos, speech, or solo instruments. The material must not contain background noise, and excessive reverb may also be detrimental to the use of this method. With suitable material the audio quality is very high. The formants are also maintained during pitchshifting.
- Resampling: Pitchshift and tempo cannot be changed separately. This method requires considerably little CPU time.

Audio effects in the mixer

Audio devices are opened in the mixer via the "FX" button for each track or in the master area on the right. Mastering also features the MAGIX Mastering Suite (view page 171).

Equalizer

The 10-band equalizer subdivides the frequency spectrum into ten areas ('bands') and equips them with separate volume controls. This way it is possible to create many impressive effects, from a simple boosting of the bass to complete elimination of a certain range of frequencies. Note: If low frequencies are boosted too much, the overall sound level is heavily increased which may lead to distortion. In this event, adjust the overall volume downward by using the 'master volume' control situated at the bottom center of the effect rack.

Slider control: Each of the ten frequency ranges can be separately boosted or turned down with the ten volume controls.

Link bands: Using this button randomly combines the frequency ranges with each other in to avoid artificial-sounding overemphasis of an individual frequency range.

Touch screen (right EQ section): This is the 'sensor field' of the EQ. Here you can draw any type of curve with the mouse. This will be immediately translated into a corresponding control setting on the left side of the EQ.

Compressor
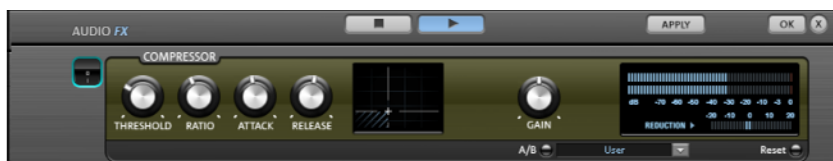
The compressor is an automated, dynamic volume adjustment controller: louder passages become quieter and quiet passages become louder.

A compressor is useful to make spoken passages more audible against background noise or music in case simple increase of the overall volume is

insufficient. Several useful presets are included for this purpose, however compression may also be set manually.

Ratio: This parameter controls the compression level.

Threshold: This sets the volume threshold below and above which compression is applied.

Attack: Sets the algorithm's reaction time to increasing sound levels.

Release: Sets the algorithm's reaction time to falling sound levels.

Gain: The gain controller amplifies the compressed signal.

MAGIX Mastering Suite

MAGIX Mastering Suite is a special effect rack for use with the mixer master channel. Its effects serve the so-called "Mastering" with which the finished mixed music file is given its last one-over.

The On/Off switches can switch the effects on and off individually. Each effect has a range of presets that can all be picked from a list along the lower border of the effect.
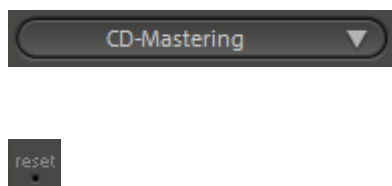
The settings of all effects can also be saved together as one preset so that you can use your ideal mastering setting again for other arrangements.
Each effect can be reset by pressing the "Reset" button. You can press the "Bypass" button to temporarily deactivate the effects.

Note: 5.1 Surround mode only provides the compressor (view page 170) and parametric equalizer devices in this case.

Parametric Equalizer

The parametric equalizer consists of four filter bands for adjusting the overall sound of the music track. Each band is a filter with a typical "bell shape". Within a certain frequency range and around an adjustable middle frequency, you can increase or reduce the signal level gain. The width of this frequency range is called bandwidth. The bandwidth is defined by the Q value. The higher the Q value, the narrower and steeper the filter curve.

You can influence the basic sound of the mix by increasing and decreasing the broadband to give it more "depth" (lower center = 200-600 Hz) or more "air" (highs = 10Khz). You can also decrease the narrow bandwidth (high Q value) in the frequency response, e.g. to remove disruptive frequencies.
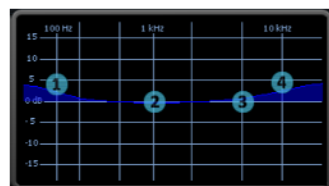
Graphic: The resulting frequency path of the equalizer is displayed in the graphic. The frequency is spread out horizontally, the increase or decrease of the respective frequency, vertically.

The blue bullets 1-4 symbolize the four wave bands. You can move them around with the mouse until you find your desired frequency response.

Peak meter: The peak meter gives you control over the output level of the equalizer. The adjacent master gain controller can be used to balance the level with the EQ.

Edit: The "Edit" button opens the fine tuning for the four bands:
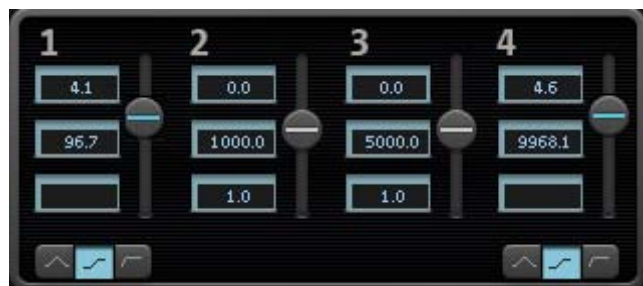
Parameter selection: With the buttons on the right you can select the parameter that can be adjusted with four faders of each band. Furthermore, there are number keys to enter every parameter of the bands.

Gain dB: These controllers allow you to raise or lower the filter. Setting the controller to 0 deactivates the filter and doesn't use CPU power.

Freq. Hz: The center frequency of the individual filters can be set between 10 Hz and 24 kHz with the frequency controllers. Freely choosing the frequency enables multiple filters to be set to the same frequency in order to have a greater effect.

Q (bandwidth): Set the bandwidth of the individual filters between 10 Hz and 10 kHz.

There is still a peculiarity among bands 1 and 4; The filter curve for these bands can be changed from a normal "peaking" EQ filter () to "shelving" ( ) (this is the basic setting) and high (band 1) or high-cut (band 4) . When using the "shelving" filter, a soft increase or decrease in all frequencies happens above or below the filter frequency, and the Q parameter does not have a function here. With a low-cut or high-cut filter, all frequencies below (low-cut) or above (high-cut) the set frequency are filtered out.

Multimax

MultiMax is a compressor with three independent frequency bands. The dynamics are edited separately for each band.

The advantage of a multi-band compressor versus a "normal" compressor is that the "pumping" tendency and other unwanted side effects are dramatically reduced while editing the dynamics. For instance, this prevents a bass peak from "reducing" the entire signal.

Multi-band technology also lets you specifically edit individual frequency ranges.

Link: When this function is activated and one fader is adjusted, all faders are changed at the same ratio. However, the way the dynamics are edited is not affected.

HiQ: If the "HiQ" ("high quality") setting is activated, an even more precise algorithm is used, however this requires more processing power. We recommend switching this setting on before exporting the project.

Setting the frequency bands: The settings of the frequency bands are changed directly via the graphic. Simply click on the separating lines to move them.

Bass/mid/high: These controllers define the level of compression for each frequency band.

Presets: Multimax provides access to presets for special applications, for example:

Cassette NR-B decoder: MAGIX Video Pro X3 simulates decoding of Dolby B + C noise suppression if a Dolby player is not available. Cassettes recorded with Dolby B or C sound more muffled if played back without corresponding Dolby.

Leveler: This setting automatically sets the entire material to an identical volume level. The volume control knob is no longer required. Use this function to equalize greater volume differences within a song. To equalize volume variations between different songs, the function "Normalize loudness" is also provided in the "Effects" menu.

De-Esser: These special presets help to remove overstressed hissing sounds from speech recordings.

Stereo FX

The Stereo FX enhancer allows you to determine the positioning of the audio material in the stereo picture. If the stereo recordings sound out of focus and undifferentiated, an extension of the stereo base width can often provide better transparency.

Bandwidth control: Adjusts the bandwidth between mono (on the extreme left), unchanged bandwidth (center), and maximum bandwidth ("wide", on the extreme right). Reducing the bandwidth can produce a rise in the level. In extreme cases, e.g. when the left and the right channels include identical material and the bandwidth control is pushed to the extreme left on "mono", the result can increase the level by 3 dB.

Raising the bandwidth (values of 100) diminishes the mono compatibility. This means that recordings edited this way sound hollow when listened to in mono.

Volume control: Adjusts the volume of every single channel, thereby adjusting the entire balance. The reduction of left and right levels is displayed under the control buttons. A centered recording can later be moved to the left or right of the stereo balance.

Stereo meter: This provides a graphic display of the phase relation of the audio signal. You can use it to review the orientation of the signal in the stereo balance and the effect of the stereo enhancer.

In order to achieve greatest compatibility with mono, the display should come closest to a diagonal line. Otherwise some frequency ranges may erase themselves if the stereo signal is played on a mono device.

Karaoke presets: These presets open a special karaoke effect that more or less eliminates vocals. It deletes middle frequencies typical for human vocals during playback so that someone else can do the singing.

In typical karaoke songs, the lyrics are usually displayed as subtitles in the video clip so that the singer can follow along. MAGIX Video Pro X3 also comes with a suitable feature: the title editor, which can be used to create karaoke subtitles. Please read the "Title editor" section in the chapter "Images and video objects".

Digital Audio Meter
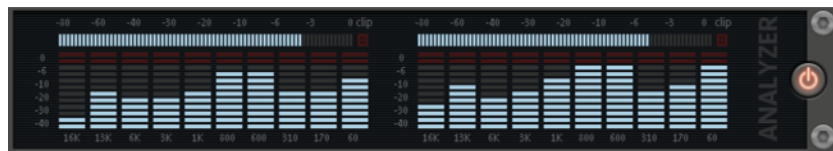
On the lower border of the MAGIX Mastering Suite there is a digital audio meter which provides separate control method displays for 10 wave bands on each channel. This device is used for orientation purposes, e.g. selective equalizer editing.

Limiter

The Limiter prevents clipping by automatically lowering any volume levels that are too high. Quiet parts remain unaffected. Unlike the Compressor, this feature attempts to preserve the basic sound as much as possible.

Automatic track damping

This command from the context menu automatically dampens the volume of other audio objects. The volume of the selected object on the track remains unchanged.
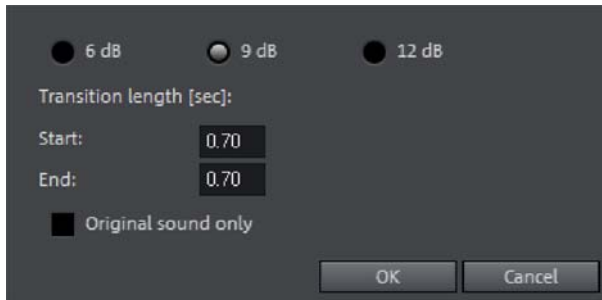
Only original sound: Here you can also specify whether you want to dampen the original sound of the video or all audio tracks.

Transition length: In the dialog you can activate and deactivate the value of the dampening. You can use this command while recording audio (view page 77) (Audio recording, advanced options).

Import audio CD

The steps are similar to transferring Wave files into an arrangement:

- Insert an audio CD into the CD/DVD drive of the PC
- Go to your CD/DVD drive in the Media Pool. The individual CD titles appear in the file list.
- A simple mouse-click starts the playback of the CD title for sampling purposes
- Drag & Drop the CD title into a track of the current arrangement, and it will be digitally scanned and copied to the hard-drive. The files will be saved in the import folder (may be specified under File > Settings > Program > Folder).

The audio object appears in the track and can be played back or edited immediately.

CD Manager

This option opens the CD Manager where you can select tracks from Audio CDs and partially or fully import them into the arrangement. You can also select and configure the CD-R if you have more than one drive.

The CD Manager lets you import audio data using most CD and DVD drives.

You may have to contact your technical support to find out which drive is suitable. Data is imported entirely digital. Audio tracks are imported into the arrangement as wave files. The files are saved in the import folder. (Program settings -> Folders).

To import audio tracks you should proceed as follows:

- Select the desired CD-R drive if you have installed more than one drive.
- Click on the "Track list" button.
- Select the desired title from the track list (using the key combination Shift or Alt and the cursor keys).
- Click on "Save selected tracks... ". The audio material is now copied from the CD drive onto hard disk. The progress is displayed.
- Close the track and drive lists. In your arrangement there are now one or several new objects that contaion audio material of the disc.

Drive list dialog

Tracklist: This button opens the track list dialog for copying one or multiple tracks.

Configuration: This button opens the configuration dialog where you can make various special settings, SCSI IDs, etc.

Reset: Restores the default settings of the drive.

Add drive: Creates a new drive entry in the list, which you may wish to adjust.

Delete drive: Deletes a selected drive from the list.

Save setup: Saves the current drive list and all configuration data in a *.cfg file.

Load setup: Loads the current drive list and all configuration data from a *.cfg file.

The tracklist dialog

Copy selected track(s): This button starts audio copy. A new object is created for every track in the arrangement and the corresponding track marker is created.

Play: Starts the audio playback of the first selected track on the list (for testing).

Stop: Stops playback.

Pause: Stops playback so as to start it later from the same position using the "Resume" button.

Resume: Resumes playback if it had been paused before.

Select all tracks: All audio tracks are selected, for instance, to copy the entire CD. Track markers can also be made using Shift or Alt pressed together with the arrow keys. Multiple tracks can be selected by pressing "Ctrl + mouse click".

Deselect all tracks: All markers are reset.

The CD-ROM configuration dialog

Drive name: Lets you edit the name of the drive in the list. This is useful if you create more than one entry accessing the same physical drive.

Host adapter number: Lets you specify the number of your SCSI adapter - normally "0".

SCSI-ID: Lets you set the ID of your CD-ROM drive. Be sure to set the correct ID; there is no error checking!

SCSI-LUN: Select the SCSI-LUN parameter, normally "0".

Alias: Lets you select the manufacturer type of your CD-ROM drive.

Normal copy mode: Copies the audio data without any software correction.

Sector synchronization copy mode: Copies the audio data using a correction algorithm. This is especially useful, since many CD drives have problems finding an exact position again and gaps can occur.

Burst copy mode: Optimizes the speed of the copy process; no software corrections made.

Sectors per cycle: Defines the number of audio sectors that should be read from the audio CD in a read cycle. The higher the number of sectors, the faster the copying process. Many SCSI systems have problems with more than 27 sectors.

Sync sectors: Sets the number of audio sectors that will be used for software correction. A higher number results in a better synchronization but also in a slower copying process.

Scanning CD tracks with the recording dialog

Some CD-ROM drives do not support this mode (trying digital extraction results in an error message), or they only support it with difficulty (results in

audio objects with crackling noise, skips, etc.). In this case, the CD may be "scanned" by recording it into the computer. When recording the CD to the computer, the CD titles are simply played back from the CD-ROM drive and are re-recorded as .WAV by the sound card. Before recording a CD to your computer, change the program settings in the"File -> Audio/Video options" menu. To ensure easy recording of the CD titles via the "Recording" dialog, the audio output on the CD-ROM drive must also be connected with the sound card input. This connection is usually already set up on modern multimedia PCs. If not, this is easily done by installing a cable inside the computer case.

Adding a sound track using MIDI songs

A few words about MIDI: MIDI files do not contain the actual sounds like wave files, only the note control information. This data is interpreted to effect playback by the synthesizer chip on the sound card. This has several advantages:

- MIDI files need a lot less memory than wave files, so more MIDI files will fit on a CD-ROM.
- MIDI files can be adapted to any beat (BPM) without affecting the sound; only the playback tempo needs to be changed.
- MIDI files are very easy to transpose to another pitch; a section in a song does not have to be saved in several different keys. The version in C major is sufficient, and it can then be transposed to any key by simply clicking with the right mouse button.

The disadvantage of MIDI files: The sound is not true audio. The audio is only produced when the synthesizer chip on the sound card plays it back. As a result, high-quality sound cards or external synthesizers will sound completely different and better than standard sound cards, depending upon the settings for playback "voices". Therefore, it is definitely worth using a good sound card or external MIDI synthesizer with MAGIX Video Pro X3!

Arranging MIDI files

Integrating MIDI files in an arrangement:

Search for a directory containing MIDI files using the Media Pool located at the left edge of the screen. Click on a file, and it will be played back immediately. Now drag the desired file into the arrangement to finish the process.

An object will appear which displays the MIDI notes as dots. The high notes are dots in the upper section, and the lower notes are the dots further down in the lower section. You can even see the velocity of the notes. The louder the note is played, the brighter it appears on the screen.

MIDI objects may be arranged, the volume may be modified (middle handle) or fades (in or out) may be added (top right and left handles) in the same way as audio, video, or synthesizer objects. The "element bar" lets you "open" an entire track instantly from a MIDI loop. If a MIDI file seems to be empty, check the MIDI replay device in the "Playback parameters" window ("P" key or menu "File -> Settings -> Playback parameters"). Your sound card driver or your MIDI interface must be set correctly to hear MIDI!

MIDI interface and external sound generator

Of course, MIDI objects can also be played back over a MIDI interface into external synthesizers, sound modules, etc. Start by setting FX to 1.0. The timing between MIDI and audio can be balanced later if you notice a delay between the two. This is important for very slow arrangements, since the sample rate on the sound card is not entirely. The MIDI drivers can be set in the "Playback parameters" window ("P" key or menu "File -> Settings -> Playback parameters").

Convert MIDI files to audio files

Before exporting (as a video, for example) an arrangement, all MIDI objects must be converted into audio objects first, since these contain only pure control information for the sound reproduction before they are exported.

First, connect the MIDI synthesizer (usually the sound card) output to the sound card input. Now the MIDI file can be played back and simultaneously recorded as an audio file using the record function. The result is an audio file that can be processed and exported together with other multimedia files.

Mixer

The Mixer can be opened by pressing the "M" key or via the button bar in the main window (also: "View" > "Mixer").

Mixer tracks

Each track has its own volume or brightness fader. This fader also affects added MIDI objects.

The stereo position for each audio track is defined with the Pan controls.

The "Solo" button switches a track to solo mode, i.e. all other tracks are muted. The "Mute" button mutes a track.

Double clicking any of the controls resets them to their default passive setting (no boost or cut in level), and no processor output will be required.

Track effects always apply to all audio objects of a track. This sets the mixer (view page 160). Please read the chapter "Audio Effects (view page 160)" for functionality and handling of the individual audio effects.

DirectX audio plug-ins

The MAGIX Video Pro X3 supports DirectX audio plug-Ins. These are usually effects modules such as reverb, equalizer, etc.

The DirectX system must be installed on your PC prior to using the DirectX plug-Ins – a manual installation is only required on rare occasions. Generally, DirectX is already available through the Windows installation. If your PC does not have the DirectX System installed or if it is out of date, you can find a DirectX installer on the MAGIX Video Pro X3 disc. Of course, DirectX plug-ins have to be installed first, depending on the plug-in used.

Two so-called "slots" for track effects are located in the channel strip of the mixer for the corresponding track, plus in the FX tracks.

Clicking on the small triangle will let you select an effect from the list. Select "No effect" to remove a plug-in from the slot. A left click temporarily disables the plug-in. Active plug-ins are displayed in light blue. Right clicking on the slot opens the settings dialog of the plug-in.

FX tracks (effect tracks)

Two FX send controllers (FX1 and FX2) are located below the plug-in slots.

You can determine the volume at which you want the signal to be routed to the two available FX tracks.

Note: Individual objects can also send to an FX track. For more information, go to the "Effects and titles" chapter in "Audio effects" > "Audio effects in the Media Pool" (view page 134).

An FX track is a complete, additional mixer track which provides a complete track FX rack and two plug-in slots for use as a send effect.

A send effect differs from a normal effect found in the track (insert) insofar as it can edit the signals from multiple tracks or objects simultaneously.
It roughly corresponds to the scheme of a parallel switch, while an insert on a track is like a series switch.
A special feature offered by MAGIX Video Pro X3 is that audio objects can also send directly to the FX track.
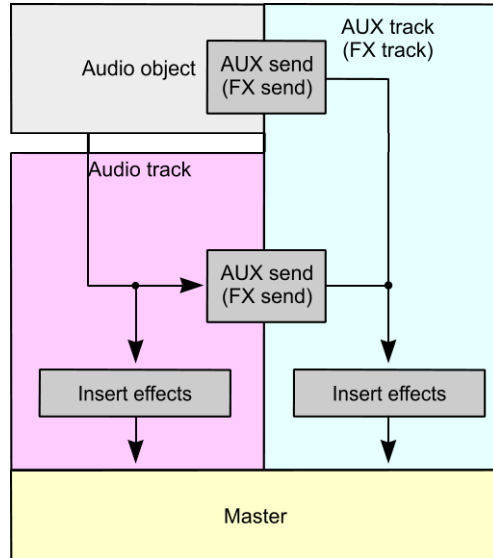
The FX are usually hidden in the mixer. They will be displayed as soon as one of the FX send controllers is used.

In the first FX track the hall function is activated as standard as it is the most important application of the send effects.

The volume controllers serve to regulate the volume of the FX track and corresponds to an old AUX return controller. The mute button is used to switch the FX function on and off. The solo button enables you to single out FX individual tracks. The peak meters of the tracks, which send to the FX track, are displayed in grey.

Master track

The FX button and the plug-in slots function exactly like in the tracks. The FX button opens the master audio effects rack. The complete mixer settings (including the FX tracks) may be reset via the "Reset" button.

Mastering: Opens the MAGIX Mastering Suite (view page 171).

5.1 Surround: This button switches the mixer to "Surround (view page 187)" mode.

Both faders control the total volume.

 Link buttons: If the link button is deactivated, the volume of the right and left channels may be set individually.

Volume and panorama automation

You can automate the volume and panorama course of a mixer track. This means you can record this movement of the track volume faders and panorama controls while playing the movie. This way, for instance, you can simulate the movement of a sound source and volume adjustment from left to right instantly during playback.

As long as the "Auto" button in a track is active, all movements of the volume and panorama controller are recorded.

The automation is displayed as a curve in the arranger and can be edited later with the mouse.

Note: Unlike the automation curve of the Mixer, the Dynamic Effects are track-dependent, i.e. irrespective of the objects contained in the track.

5.1 Surround

MAGIX Video Pro X3 supports playback and export in authentic 5.1 surround.

Requirements

You will require a sound card or a sound chip which is integrated into the computer's motherboard with six individual outputs to playback the individual channels:

- front left (L) / right (R)
- centre (C) / subwoofer (LFE)
- back left (Ls) / right (Rs)

Surround playback is possible with all audio driver models (see Playback settings), (Wave, DirectSound, ASIO).

DirectSound is supported by most of the standard sound cards.

Wave drivers are similarly supported by many standard sound cards; however, individual sound cards (for example, Soundblaster) require access to DirectSound.

Note: 24-bit surround playback is often not possible, therefore please select 16-bit output.

For surround output with ASIO drivers, you will require a 6-channel-capable ASIO driver (e.g. MAGIX Low Latency). Older multi-channel audio cards that activate their stereo output couples via multiple separate drivers are not suitable.

Output of the six output signals is achieved in all driver models in the output channels in the same (standardized) order:

Channels 1/2: L-R
Channels 3/4: C-LFE
Channels 5/6: Ls-Rs

When using WAV or ASIO drivers, the loudspeaker settings normally have to be changed to 5.1 playback in the control panel.

In order to do this you have to start the Control Panel for "Sounds and audio devices" and select "Loudspeaker settings", "Advanced", "5.1 surround loudspeakers".

On most systems the program does this automatically while using DirectSound.

Importing and exporting surround audio files

Import

When importing MPEG-2 files with Dolby Digital sound (e.g. VOB files from DVDs or DVB-TV recordings), you can choose from two different applications:

- Mixdown: Surround sound is displayed as an audio object under the video object, playback of the surround track is reduced and recalculated to stereo playback. Use this option if you don't wish to edit the surround sound, but rather wish to export it. You can also use it if you think that a stereo export is enough to meet your requirements
- Surround mix: The individual surround channel pairs (L-R, C LFE, Ls-Rs) are split into three audio tracks as separate objects and the mixer is then set to surround mode. This mode allows you to change the surround mix.

In MAGIX Video Pro X3 the import of Dolby Digital surround is always executed as a mixdown. MAGIX Video Pro X3 can also import interleaved wave files (multi-channel wave files), multi-channel Windows Media Audio and MP3 surround files; a surround mix is always created.

Export

Surround mix exports can occur in any one of the following formats:

- 6-channel PCM files (interleaved wave)

- Windows Media files (as a surround soundtrack of a Windows Media Video or WMV-HD disc)
- MPEG-2 files with a Dolby Digital audio track

The files created are fully compatible with the normal file formats, this means that they can also be played on computers incapable of playing surround (in normal stereo).

The export is performed via the same menu commands (e.g. "File -> Export movie -> Audio as wave") like the normal stereo export. You will then be asked if the export should be in stereo or surround format.

Export Dolby Digital surround via Smart Encoding

You can also burn material to be exported with surround sound again without the need for the Dolby Digital codec (in MAGIX Video Pro X3 or MAGIX Video Pro X3 without Dolby Digital encoder activation) to DVD or export the corresponding MPEG files while keeping 5.1 surround sound. To do so, use the "Smart Rendering" option which transfers the unprocessed parts of the output material without renewed encoding. Read more on this in the MPEG encoder settings section "General settings (view page 360)".

The import has to be executed as a mixdown, the audio material cannot be changed (no fades, no audio cleaning, no volume adjustment). Harder cuts, e.g. removal of commercials are allowed, but they may not happen precisely according to the frame, but at the GOP (group of pictures) borders.

The mixer in surround mode

To activate surround playback, open the mixer (M key) and click on "5.1 surround" button in the master.

In the master, six peak meters for the individual channels are provided. The normal panorama button turns into a representative display of the surround editor (see below), which can be opened by clicking on the display.

The surround sound editor is also available to the effects tracks. For example, you can send the original track to the front L/R speakers, the FX track however will remain at the rear L/R speakers.

The master volume is applied to all channels, here the left controller influences channels L and Ls, the right controller; channels R and Rs and the middle value of both controller; the channels C and LFE.

The master plug-ins are only applied to the front channels.

The full effects palette of the mastering effects rack in MAGIX Mastering Suite is not available in 5.1 surround mode, but rather only the compressor and the parametric equalizer (from the Mastering Suite) are provided. The settings of these effects have the same effect on all six channels.

5.1 Surround editor
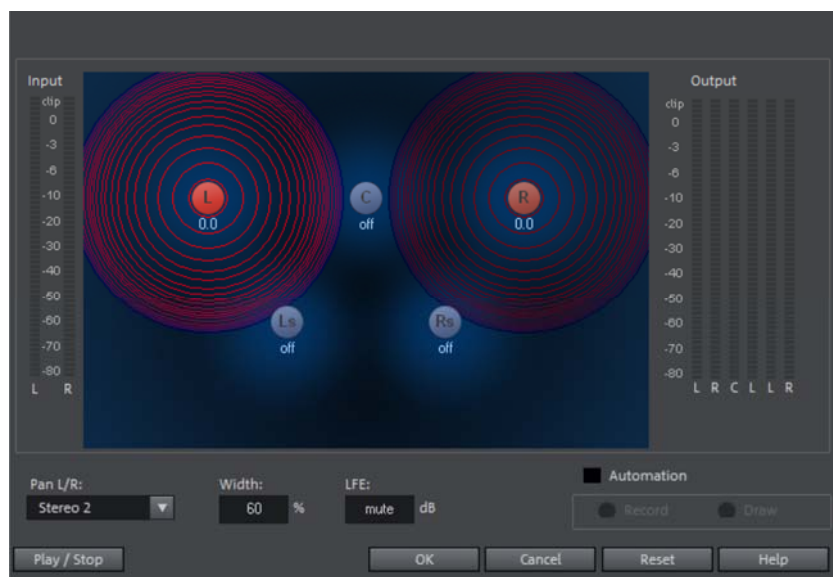
The selected mixer track's 5.1 surround editor allows you to arrange the audio signal of a track (displayed as two red sound sources) in stereo space. The signal is dispersed to the 5 (blue) loudspeakers which represent the individual surround channels.

There are 6 channels:

L: front left
R: front right
C: center
Ls: back left/left surround
Rs: back right / right surround
LFE   subbass (Low Frequency Effect) channel

Dispersing the signal to the 5 loudspeakers occurs after the sound source emits a sound field of a certain level (displayed as red circles). The further away a loudspeaker's source is, the lesser its share of the corresponding loudspeaker channel. The position of the loudspeaker can be moved with the mouse.

The subbass share (LFE) is set directly from the corresponding value table. It can also be changed by dragging the mouse.

There are various modes in which you can use the source signal:

- Mono: The (stereo) source signal is seen as mono material, the left and right channels are mixed together and arranged together. The original stereo information is lost here.
- Stereo 1: Similar to mono mode insofar as the left and right channels are moved together, but only a portion of the left source is audible in the loudspeakers L and Ls and only a portion of the right source in the right channels R and Rs. The stereo information remains as intact as possible.
- Stereo 2: The left and right channels can be moved individually. The distance between the left and right source is retained when you move the left source. You can move an individual source by holding down the "Alt" key.
- Center/LFE: Only the left channel is arranged. In return, the LFE share is drawn solely from the right channel. This mode is only important for importing Surround material.

Width determines the level of the sound field of an individual source.

Automation:

Panning of the sound source on the loudspeaker can be automated to simulate movements in the room.

For this to happen "Automation" must be activated. There are two methods to create automations: record and draw.

To record (when automation is on), the sound source is moved between the loudspeakers during playback. When recording the automation, the "Record" check box lights up red.

The draw function is an alternative to drawing out complex movements. When drawing in active mode, all panning movements are transmitted to the time interval between the start and end marker (when the mouse button is held). You can thus draw the entire movement curve for the selected time range.

"Reset" deletes surround automation from the track.

There is no automation of the parameters for width and LFE, of the distance between the left and right source in "Stereo 2" mode, or of the loudspeaker positions.

Transfer surround tracks from Samplitude/Sequoia to MAGIX Video Pro X3

Note: In order to be able to use Samplitude/Sequoia parallel to MAGIX Video Pro X3, the programs will have to be synchronized with each other. Read more about the topic "Synchronizing Samplitude/Sequoia with MAGIX Video Pro X3".

Existing surround tracks are transferred directly to MAGIX Video Pro X3 from Samplitude/Sequoia. Set a playback marker first in MAGIX Video Pro X3 at the starting position of the movie – the wave file will be added at the position of this marker.

Note: In MAGIX Video Pro X3, the last six tracks must be free to ensure that correct transfer can take place. Set the number of tracks to a higher number in the Movie settings as required.

- Switch to Samplitude/Sequoia
- To transfer, open the menu item "Export to MAGIX Video Pro X3" in the "File" menu under "Export".
- Please note that when exporting, a sampling rate of 48 kHz should be set, since this is the sampling rate used in DVD audio streams.
- Click "OK" and enter the save location and a logical name for the surround sound in the dialog that opens.
- After export, the six surround channels will be loaded directly into MAGIX Video Pro X3. 5.1 surround mode will be activated and the channels will feature the corresponding track settings.

Set multiple sound tracks

Multiple sound tracks are provided for adding multiple audio tracks to the video for selection via the disc's menu. This has primarily two main uses:

- Creating audio tracks for different languages
- Mixing stereo and Surround audio separately

These two applications can be combined, since MAGIX Video Pro X3 features up to 8 separate multi-sound tracks.

Define multiple sound tracks

A context menu may be opened in the track boxes which enables every track to be set as a DVD audio track. Name the tracks logically, because they will appear in the menu of the burned disc later.

In the example, 2 different multi-sound tracks ("stereo" and "Surround") have been created. Now assign the tracks for the stereo sound to "Stereo" via the DVD audio track's context menu and the assign the Surround sound tracks to the "Surround" multi-sound tracks.

Note: This approach may also be applied in the same way to create a multi-language disc.

Note: In case different sound formats are needed for the multi-sound tracks, these may be set via the encoder settings!

Dub individual languages

Once all multi-sound tracks have been defined, MAGIX Video Pro X3 sets the first one by default for you to mix.
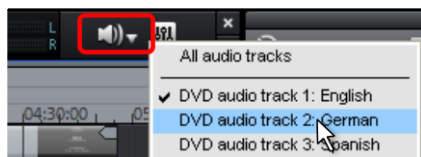
Once this is completed continue with the other multi-sound tracks simply by switching the active DVD audio track.

A recording may be muted by clicking the small arrow next to the button.

Combine Surround and stereo tracks

Note: The method described here is only recommended if the stereo track requires a separate mix, since it normally isn't necessary to add an extra stereo track. Playback devices automatically apply a mix to stereo sound in place of 5.1 Surround when it is required.

In case you want to create a disc which features 5.1 Surround as well as normal stereo tracks, MAGIX Video Pro X3 offers a solution for this, too.

Mixing stereo
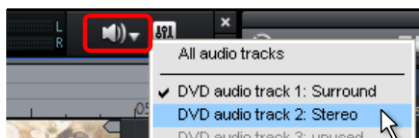
Now set MAGIX Video Pro X3 so that only the stereo track can be heard. You can mute the recording by clicking the small arrow next to the button, and then select "Stereo" in the DVD sound track.

Now open the mixer (view page 181), and if "5.1 Surround" mode is still active, then shut it off. Mix the stereo as you normally would, and then close the mixer.

5.1 Surround mix
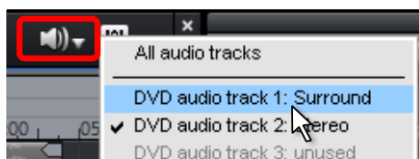
Now set MAGIX Video Pro X3 so that only the Surround track can be heard. Mute the recording by clicking the small arrow next to the button, and then select "Surround" in the DVD sound track.

Now open the mixer (view page 181) and activate 5.1 Surround mode. Mix the Surround (view page 184) like usual.

Set formats of individual multi-sound tracks

Next, make the necessary changes to the formats of the multi-sound tracks. These settings are located in the MPEG encoder settings panel, which may be opened via the "Burn" dialog.

The simplified settings dialog displays an additional section for the multi-sound tracks. Select the DVD sound track you want to adjust from the dropdown menu. Next, assign the desired format to any track, i.e. 5.1 Surround to some tracks, stereo to others – just like in the illustration.

Click "Edit" to open the advanced audio settings dialog for the MPEG encoder. Specify which format the selected DVD sound track should feature. For more detailed information, read the section "Audio settings (view page 363)" in the chapter "MPEG encoder settings (view page 360)".

Note: Even if all of the multi-sound tracks are created as 5.1 Surround tracks, this setting must be made for each of the tracks.
Sound tracks which feature the setting "Apply to all multi-sound tracks" will always be mixed with the other multi-sound tracks, although these will be created using the format set for them.

Synthesizer

Creating synth objects

The software synthesizers are located in the "Audio effects presets" folder in the Media Pool's "Effects" tab.

Icons appear there for all available synthesizer plug-ins. Use drag & drop to add them to the arrangement. A synth object appears in the appropriate track and the plug-in's interface opens. Synth objects can be programmed via this interface.

Programming the synth object

Depending on the plug-in, various functions to create and control sound can be applied via the operating console.

To monitor programming, playback can be started and stopped at any time with the space bar while the operating console is open.

Arranging the synth object

Once you have finished programming the melodies or rhythms of the synth object, you can close the operating console and arrange the synth objects on the tracks. They can be stretched or compressed, faded in and out, turned down or up, etc. with the help of handles: These steps are the same for all objects.

The operating console of every synth object can be reopened at a later stage by double clicking or via the synth button if you would like to reprogram the object. In addition, you can drag as many other synth objects of the same software synthesizer as you like onto the tracks and program them separately.

Synth objects - effects and mixdown

Synth objects and audio objects may be edited using all available master FX effects. You also can use the synth objects to control the effect curves. You can adjust the level of every synth track precisely in the real-time mixer.

The mixdown function (view page 197) mixes all tracks including the synth objects down to a single file.

Atmos

Atmos is a synthesizer which can be used to easily create realistic nature sounds in no time. From thunder and lightning to animal sounds and traffic noise, Atmos helps you design natural-sounding atmospheric noises for your projects.

- In the upper border window, select the top category "Scenario". You can select a desired nature sounds category (for example, "Thunder and Lightning").
- In the middle of the window, a collection of control elements appears for designing the desired "Ambience". Each element has its own description (e.g. "Thunder") and two faders, i.e. "Volume" and "Intensity". The "volume" control adjusts the loudness portion of the element. The "Intensity" fader controls the behavior of the sound, depending on controller element. For example, with "Thunder", you can set how often thunder and lightning should sound; with "Rain", the strength of the rain can be regulated (if moved to the far left, light rain can be heard, while if moved to the far right, a downpour with loud splashing noises is audible).
- At the bottom right border you will find a master volume fader with which the master volume of the synthesizer can be set. Furthermore, the "Randomize" setting is also located here. This way you can change the settings of the control elements by yourself.

Drum & Bass machine 2.0

The Drum & Bass machine is a dual synthesizer, uniting both distinct styles of drum'n'bass in one piece of equipment to produce fast beat crashes and rumbling bass lines. With the Drum & Bass machine you need no special skills to create authentic sounds for your drum'n'bass songs.

A tip: The typical speed for Drum'n'Bass is usually around 160-180 BPM. The Drum & Bass machine also fits in perfectly with other music styles, e.g. bigbeat (120 BPM) or trip hop (80-90 BPM).

Setup
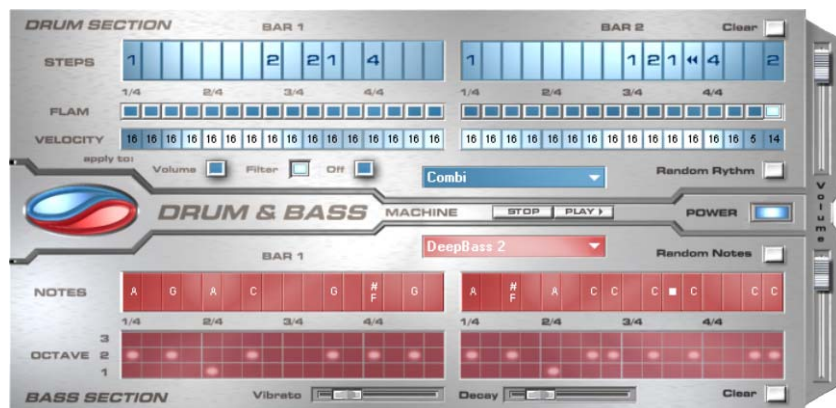
The top half of the synthesizer controls the rhythm section, the bottom half controls the bass section. Between the two, on the left side you will see a symbol where both sections can be turned on and off individually. You can turn off the bass section, for example, so that you take only the drum section break beat into the arrangement. The MAGIX Video Pro X3 arrangement mix will then only include the drum section in the mix file.

The volume control is on the right border, controlling the volume for both sections. The play and stop buttons allow you to listen to your drum'n'bass creations up front in MAGIX Video Pro X3.

The "Drum'n'Bass" label covers a menu containing functions to load and save drum'n'bass patterns (Load machine state/Save machine state), and functions to delete or generate patterns (Clear all/Random all). The submenu "Velocity presets" contains some help functions for programming of the velocity row.

The rhythm section (top half)

You can easily create complex and authentic jungle break beat sounds. In a professional recording studio, jungle break beats are created by dividing any given drum loop into several small "bits" and putting them back together in a different order. This lengthy process is significantly simplified by the Drum & Bass machine. You just have to design your own new play sequence.

You set up the new sequence in the top ("steps") row. The blue cells indicate the individual sections ("notes") for the subdivision of the loop.

A left mouse click on one of the blue cells allows you to select one of six possible symbols. Each symbol represents a different note or other way of playing the note. Every time you click on one of the blue cells, the next symbol is chosen.

Rely on your own intuition and creativity when programming your beats. It is not absolutely necessary to know the exact meaning of each individual symbol in order to create cool and authentic beats.

Summary symbol description:

1: Play drum loop from beginning

2: Play drum loop from the second note

3: Play drum loop from the third note

4: Play drum loop from the fourth note

Backward symbol: Play backwards from this point

Stop symbol: Stops play

The right mouse button allows you to delete the step cells individually. The "Clear" button on the right deletes all step cells; the drum loop is played in its original sequence. The "Random rhythm" button generates a random sequence. You can then alter the rhythm as you wish.

By clicking on the blue field in the bottom part of the rhythm section you open a pop-up menu where you can select the drum loop sound. If you select a different drum loop, it will be loaded and played as programmed by you.

In the "Flame" row you can set the note to be played twice quickly in succession instead of only once, allowing you to program rolls and fill-ins.

The "Velocity" row allows you to set intensity values between 0 and 16 with the mouse (left mouse click increases value, right mouse click decreases value). Use the three buttons under the "Velocity" row to determine how these values will affect the sound of your loop. If you select "Volume", the velocity value alters the volume for this cell (16 = loud, 0 = quiet). If you select "Filter", the velocity value alters the filter strength for this cell (16 = sharp, 0 = muffled). The "None" button blocks use of the velocity values.

The bass section (bottom half)

The bass section allows you to create the right bass lines for your rhythm quickly. As in the rhythm row, there are two-step rows.

- With the first "Notes" row, you determine the sequence of the notes, i.e. the sound sequence.
- By clicking on a cell with the left mouse button, you open a pop-up window, where you can select the notes.
- By clicking with the right mouse button, you delete a cell.
- If you click on an empty cell with the right mouse button, you will see a "Stop" symbol. This function is similar to that in the rhythm section, i.e. it stops the bass sound at this point.
- In the "Octave" row you can determine the bass octave sound. Octave 1 creates a deep tone, Octave 3 a high tone. You can only set the octave values if there is a note in the row above.
- As in the rhythm section, there are also buttons for "Clear", "Random notes", and a red selection field at the top border of the bass section. The red selection field allows you to set the bass sound.
- Underneath the step rows, you will also find two sliding controls for sound adjustment. You can use the "Vibrato" control to make the bass tone "swing" at its pitch. If the control is pushed all the way to the right, the swing will be stronger; all the way to the left will have no effect on the pitch.
- With the "Delay" controller you can set a time for the sound to completely fade out. All the way to the right makes the sound fade out quickly (after approx. ¼ second); all the way to the left means ongoing sound.

Scrubbing

The term "scrubbing" originates from the age of cassette players and provides quicker monitoring of passages of a film or a piece of music. The function plays short samples at the original speed.

Note: In order to preview individual audio objects completely, use "Preview (view page 48)" mouse mode.

Scrubbing: Activate
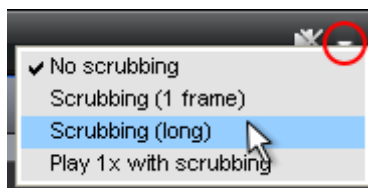
Scrubbing can be activated via the menu beside the speaker button on the upper edge of the arrangement window.

Scrubbing: Modes

No scrubbing: Scrubbing is inactive. If the playback marker is set or moved, then sound will not be played.

Scrubbing (1 frame): Scrubbing is active and samples are only 1 (video) frame in length. The speed is 25 fps, i.e. 1/25 second. This mode is suitable for positioning the playback marker exactly.

Scrubbing (long): Scrubbing is active, the sample length amounts to approx. 0.5 seconds. In this mode, locating specific events is particularly easy.

Play 1x during scrubbing: If this option is active, the current position will be played one time. If it is inactive, then it will be repeated.

Application

If "Scrub" mode is selected, then you can simply set the playback marker with the mouse at a location on the timeline. Hold down the mouse button and move the playback marker to different locations in the arrangement.
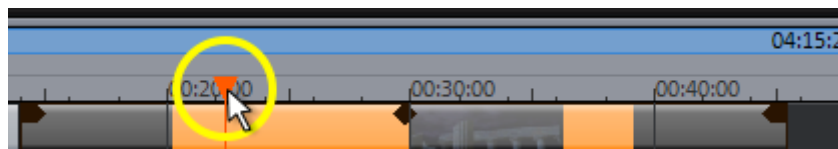
Using the jog and shuttle wheels in the video monitor also enables scrubbing, even for different hardware controllers, which makes the program feel just like an analog video editing system!

Mixdown of audio objects

If the arranger becomes too full to manage, the system is out of RAM, or you just want to "summarize" your production, use the mix down function to convert the entire audio arrangement into a single audio file. Just click on the mix down button in the button bar or select the function from the "Processing" menu.

You can choose a name and a destination for storing the mix down object. The default directory is "My audio/video".

Storage of the audio arrangement will take up a little more space on your hard-drive, but it requires less RAM for playback than an unmixed entire arrangement.

Note: The mix down effect optimizes the volume automatically. Even if the mix down function is used various times, you will not lose audio quality.

MAGIX Soundtrack Maker

The MAGIX Soundtrack Maker adds atmosphere. Music tracks corresponding to the specified mood are generated automatically. Even mood changes are possible.

Open the MAGIX Soundtrack Maker using the Edit > Assistants (view page 291) menu. The work is split into 3 steps.

Then close the dialog by clicking on "Apply". If you click on "Cancel", the dialog will be closed and all changes will be discarded.

Select music style

Choose a musical style first. The option "Apply only between start and end marker" limit the length of the background music you want to create. Start and end markers (view page 102) may be set with the left and right mouse button if MAGIX Soundtrack Maker is open.
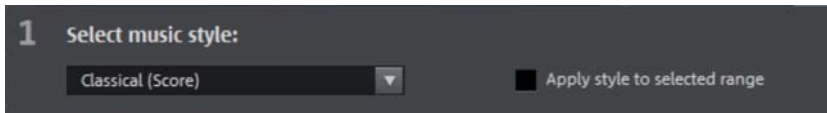
Set mood change:

You can select a mood from the list.
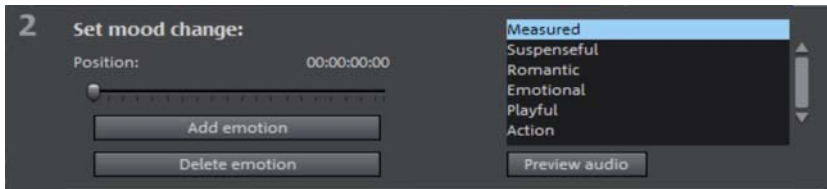
Preview: Preview the selected mood here.

Position: Use the position slider to skip to a certain position in order to set the mood for a certain position. The start marker may be moved instead with the left mouse button. The preview will be displayed in the video monitor simultaneously.

Insert emotion: This button inserts the selected mood at the current position. MAGIX Soundtrack Maker will then suggest a new position for the next emotion by repositioning the position slider. Of course, you may also position this elsewhere to insert further moods.

Delete emotion: Removes the currently set.

Generate background music

Clicking "Create soundtrack" creates a new soundtrack. "Progress" shows the current status.
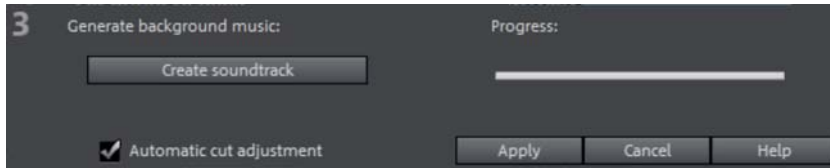
Variations

If the background music that has been created is not suitable, a variation may be created. This process may be repeated for the entire background music as well as for individual emotions:

- If you want to vary the entire background music, then simply click on "Create variations".
- If you only want this to apply to a certain emotion, then move to it with the position slider first in the dialog (or the play marker on the main screen). Activate the option "Vary only selected emotions". Now click "Create variation".

Automatic cut adjustment: This option re-arranges the video and photo objects in your project to match the music. Make sure this option is deactivated in case this function is unwanted.

Burn disc

  Switch to the "Burn" screen first by pressing the button displayed.

Burn your movies including selection menus onto CD, DVD, or Blu-ray Disc^{TM} here.

All movies loaded into the project will be included. If you want to remove some of the loaded films, then switch to the "Edit" screen again and delete the unwanted movies from the project there. To do so, switch to the corresponding movie, open the "File" menu and select "Manage movies -> Remove movie (view page 281)".

Note: The program is displayed differently at screen resolutions of 1280 x 1024 pixels and up. This makes the program more manageable and easier to use. The work steps remain the same in spite of the different display.

Preview and editing

MAGIX Video Pro X3 provides two different modes for designing and previewing the disc menu.

▶ Preview	"Preview" mode simulates the behavior of a playback device, e.g. DVD player or Blu-ray player. You may also load a template quickly for the entire menu, and then burn your disc.
🔧 Edit	"Editing" mode enables you to adjust many of the disc menu's features. Templates are also available here that may be flexibly adjusted to suit your needs.

Remote control

The virtual remote control is an important helper when it comes to checking how the disc will perform later.

When the disc featuring the project is inserted into the player, this remote control will control the preview picture just like a "real" remote control controls the picture on a monitor or TV. The menu navigation may be activated via the arrow keys or the "OK" button. Activated buttons are highlighted.

The number keys select the corresponding entry on the menu page. All menu entries are marked with a corresponding number. Within a chapter menu, playback is started from the particular scene. In the movie menu, the corresponding chapter menu (if available) is changed or movie playback is started.

Navigation button: Use these buttons to navigate in the menu of the disc being burned. The individual entries may be changed and confirmed by pressing "OK". The remote control reacts exactly like a genuine DVD/Blu-ray player's remote control.

Skip/move forward/back: This allows you to skip to the next or previous scene while playing back your movie. In the menu, you can skip forward or back from one menu page to another.

Play: Starts the first entry in the menu. In case chapter menus are available (view page 204), the chapter menu will be displayed first. Press the play button again to start playback at the beginning of the first scene of the first chapter.

Stop: Pressing stop halts playback.

Disc: Switches to the first page of the film menu.

Sub: Switches to the chapter menu (if available) for the currently selected film.

Menu

MAGIX Video Pro X3 can add graphical selection menus to your movies. The menu is also burned to disc and appears when inserted into the player. Just like with a purchased DVD or Blu-ray Disc^{TM}, you may easily select your movies with the help of preview pictures, or access particular chapters within a movie.

Templates

Templates for DVD menus and layouts are provided below the preview monitor and the editing elements.

The lower edge of the "Burn" screen features the templates.

The left side features a tree structure that makes it easier to select the template type. Select templates in the "16:9" or "4:3" (default) format using the two buttons in the tree structure.

- Animated (DVD): These templates contain background and introductory videos as well as music. The control elements are displayed in various states. The templates can only be used only for mini DVDs, DVDs and AVCHD discs.
- Static (4:3 only, DVD): These templates are suitable for normal background pictures and elements.
- Individual: These templates adjust to your disc project, i.e. the videos and scenes you use are integrated directly into the menu.
- HD static (16:9 only, for DVD, Blu-ray, AVCHD, WMV HD): These templates contain super-sharp, high-res background images that are particularly noticeable on HD TV devices.

Note: These menus require "Film menu" and "Chapter menu" to be activated in "Edit" under "Disc options".

If you selected a specific type of menu template, you can use the horizontal scroll bar to view all the templates. There are a number of options for using templates:

- To apply a template to all menu pages, double click the desired template. The entire template will be applied.
- You may also combine various elements of the individual templates. Switch to "Edit" mode to do this beforehand. If, for example, you wish to combine the text format of a template with the background of another one, double click on a complete template first. Next, click on the "Text" tab. No select the desired template for the text.
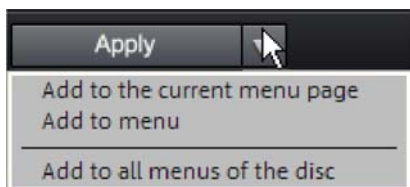
The template (or individual template elements) may be loaded for the current menu (movie or chapter) as well as for all menus.

Note: Some menu templates include intro videos featuring a smooth transition to the menu page!

Edit disc menu

The preview pictures and the menu title can be moved freely in the preview monitor. The menu may be edited very flexibly.

Activate the "Edit" button to do this.

Load on-disc editing project from disc

 This button enables a DVD-/+RW in the drive to be loaded for on-disc editing. More information about this is available in "On-disc editing".

Edit menu elements

Hold down the left mouse button and drag text boxes or graphical elements to the desired position. The size may be adjusted by dragging out the corners and edges of the frame.

This command allows you to undo the last changes made. This way, it's no problem if you want to try out critical operations. If the result is unwanted, then you may always revert to the previous state by clicking "Undo".

This function undoes the previous "Undo" function.

Set aspect ratio: To avoid distortion, use this button to set the aspect ratio for the menu elements.

Group: Menu elements including the description text and number may be moved or scaled in size.

Show TV display area in the preview monitor: This option displays the image borders of the television (view page 143) as lines in the preview monitor.

Grid: This button shows a grid to help position frames exactly next to each other as required. A dialog may also be opened to set the grid more precisely using the small arrow next to the button.

Navigation
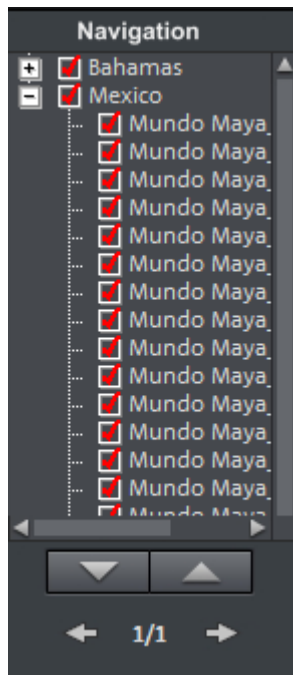
- All movies are listed as first entries. The corresponding menu level is the film menu.
- All scenes are listed as second entries to the right. The corresponding menu level is the chapter menu.

Removing the red check deactivates the corresponding entry in the photo menu. The scenes are still displayed of course, but you can no longer select them directly from the menu.

- If you double click a superordinate film entry, then the film menu will for editing.
- If you double click one of the chapters listed, then the chapter menu will open for editing.

Disc options

You may deactivate the menus entirely or customize them here.

Intro video: Press this button to load videos to be used as introductions to your DVD or mini DVD. The *.avi, *.mpg, *.mxv, *.vob formats are supported. The intro is played immediately after the DVD has been inserted into the player. The DVD menu will then appear. A check mark "Do not skip" ensures that the intro video must be played completely each time the disc is inserted and that it may not be skipped with the remote control or otherwise.

Film menu & chapter menu

The disc menu essentially consists of two layers:

Film menu: The upper layer includes the film menu, which is only used if a project contains multiple movies.

Chapter menu: This is the lowest layer of the disc menu, which assumes the chapter markers in a movie as menu entries. More information about this is available in "Chapter markers (view page 104)".

Note: A chapter menu cannot contain more than 99 entries. If your movie has more chapters, then you can either burn it without a chapter menu or split it into multiple parts.

Note on SVCD compatibility

Some DVD players may have difficulty playing created SVCDs (despite fault-free burning) if the disc contains a project burned in "Chapter and photo menus" mode and contains several slideshows and/or a large number of photos. These compatibility problems can be avoided by:

- Using menu mode 1 or 2 for SVCD,
- Only adding a single movie to the disc, or
- Turning off the PBC (playback control) function, i. e. the menu navigation of the DVD player.

Preview pictures: Shows/hides the preview pictures in the disc menu.

Numbering: The numbers beside the menu entries may be selected directly using the remote control, but they might be unwanted at times. Use this option to show/hide them.

Frame: A frame borders the preview pictures. If this is unwanted, it may be removed easily using this option.

Create your own menu background

| In arranger | 🔧 | Every menu background can be created new from scratch or edited. |

A click on this button switches to the "Edit" interface and loads the selected menu background as video. Here you can change and design the background as you please. The created film must be saved and then applied as a menu background.

Tip: If you would like to design a menu background yourself from scratch, first press Ctrl + A to select all objects, and then Del, to delete them.

Design page

Background graphic: You have three options in this case. You can either set a certain "color value" for the background. Or, you can select an image file from your hard drive. You can also select a certain frame from a video in your project.

New menu pages may also be added or irrelevant pages may be removed.

Adds a new menu page.

Removes the selected menu page.

Animated selection menus

Audio-visual animations may also be added to the DVD menus. As required, background videos are played as endless loops while the menu is shown on the screen. Add background music in various formats or use any background picture for each menu.

Sound/music: Load an audio file into the preview monitor and use it as an animation in the menu background.

Video: Load a video or graphics file into the preview monitor and use it as an animation in the menu background. In addition to the options for the background graphic (see above), you may also use a sequence from a loaded slideshow or from a different video file.

Background video options:

- Create animated menu buttons: The preview images for individual movies in the movie menu are shown as small movie samples. Set the start point and length of the animation using the sequence options faders.
- Use video's audio track: The audio track of the background video is used with the menu.

- Play menu animation as a loop: The background video (audio and/or video) is played back as a loop.
- Length of the menu view is set by: Audio/video or whichever medium is longer. You can specify how long the background video should be here. The other medium will be played as a loop.

Design button

MAGIX Video Pro X3 enables simple editing of any menu entry. They will appear in the disc menu as buttons with preview images.

New menu entries may also be added or irrelevant pages may be removed.

Adds a new menu entry.

Removes the selected menu entry.

Tip: If you would simply like to deactivate unused menu entries, this may be done via the navigation.

Note: The chapter menu is formed via chapter markers (view page 104) and can be influenced in detail with these.

Edit   Pressing this button or double-clicking the menu entries allows menu entries you have created to be edited. The dialog with the properties of the menu entries (view page 207) will open.
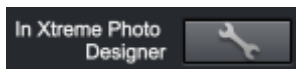
In Xtreme Photo Designer   Edit in MAGIX Photo Designer: These buttons open MAGIX Photo Designer for further editing of your background pictures or the selected menu elements.

Jump to linked page
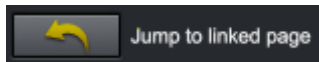
Jump to linked page   To test the targets of menu entries, select the desired menu entry and click the button.

Menu entry/menu page properties

Double clicking the preview picture or a menu entry opens an editor for you to adjust the preview picture or menu entry.
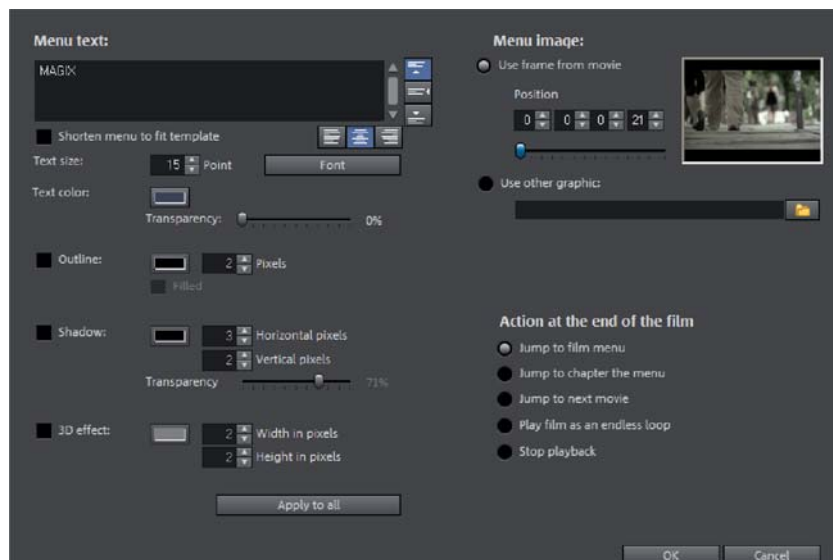
Menu text

In the text input field, you can enter any text to match the chosen menu entry.
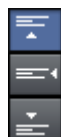
 Set the vertical direction of the text (upwards, centered or downward).

 Set the horizontal direction of the text (left, centered or right).

Font size: Set the height of the text in pixels.

Font color: Define the foreground color of the text.

Font: Set which font and which style (bold, italic, etc.) should be used.

Shadow: Set the color and size of the shadow that will appear underneath the text.

3D effect: If you would like to make your text appear three-dimensional, you can set the width, height, and color of the 3D effect.

Apply to all: Except for the text, all settings are applied to all entries in the current menu.

Menu image

Use frame from movie: Use the fader to set which frame should be used in the video as a preview picture. The numerical input fields are sorted as follows: Hours:Minutes:Seconds:Frames.

Use different graphic: You can also load your own bitmap images to be used as menu pictures.

Hint: It may be the case that there are no menu pictures in some menu templates, so changing the menu picture won't have any noticeable effect.

Actions at the end of the movie (preview images in film menu only)

Enter which action should be carried out once the film has finished playing here. Select from:

- Stop playback: This option depends on the DVD player being used. Most DVD players show the DVD player's own menu (or background picture) after playback.
- Jump to movie menu/chapter menu: Jumps back to the previously displayed menu.

Tip: If one of these two options is not available, please check which menu mode is set.

- Jump to next movie: The next movie will be played without any additional action.
- Play movie as endless loop: Any movie may be burned onto a disc as a loop. This means that the movie will be played as a endless loop until the next menu entry is accessed using the remote control or playback is stopped. This way, you can transform your TV into an aquarium, a train journey, a fireplace or anything that you could watch over and over again.

Note: This option only functions for DVDs, Mini DVDs, or Blu-ray Discs.

Edit your own menu entries

There is another view in this dialog to edit menu entries you have created. Menu links can be edited here. This makes it possible to link a menu entry with a certain action, menu page, or a certain position in the movie.

No link: The menu element cannot be selected and has no function other than to display menu text.

Link to page in current menu: Jumps to a menu page in the current movie or chapter menu in the current film.

Link to another menu: Opens another movie or chapter menu.

Link to chapter in a movie: If this option is selected, enter a film and chapter marker where playback should start.

Note: For DVDs, only chapters within the current movie may be jumped to.

Link to film start: The movie will play back from the start.

On-disc editing

On-disc editing allows you to burn more movies onto disc at a later stage and customize the menu accordingly. It's also possible to just rework the menu.

In order to be able to use on-disc editing, the DVD must have been burned featuring the option "Prepare disc for on-disc editing". This option is located in the burning options (view page 219) of the "Burn" dialog.

To put a film onto DVD, first load the film and then switch to the "Burn" screen. Insert the DVD-/+RW and press "Load project".

MAGIX Video Pro X3 will ask if the movie loaded in the "Edit" screen should be added to the disc. If yes, then the existing menu on the disc will feature the corresponding entry.

It is not possible to edit movies via the "Edit" screen later that you have already burned onto disc. Use the function "Restore backup project" to do this. Changes may only be made to the menu.

In addition to normal menu design (view page 201) options, you may also hide entire movies in "On-disc editing" mode, for example, to replace them with an entirely revised version.

Select the film in the navigation structure and press the Del key. To display the film again, press Shift + Del.

> Note: It is not possible to delete parts of DVD-/+RWs. Each new version of the menu is added to the disc, which means that the amount of storage space available is reduced accordingly. It is also not possible to delete movies from the DVD. If you remove a movie from the menu, it will still be played back if you have set the "Actions at the end of the movie" accordingly. Please also note the "Menu entry properties (view page 208)" in the burn window.

"Burn disc" enables you to create a "new" disc. In this case, only the new movies and the adjusted menu will be encoded and burned to disc.

Edit DVD menus with Xara Xtreme Pro or Photoshop

Besides the option of editing the menu template directly in the preview (view page 202), menu templates may also be exported as a Photoshop file (*.psd) and edited in an external graphics program. This provides complete control over the appearance of your menu including complex text effects and the design of highlights.

Export menu

The transfer of the menu templates to the graphics program takes place in one of two ways:

If a complex, longer edit is required or if you have created a menu without a template, then use the PSD import/export function in the menu editing functions.

Next, open the PSD file in the graphics program of your choice.

For smaller changes, you can also shorten this process: click the button "In external editor" in the "Disc options" on "Design page".
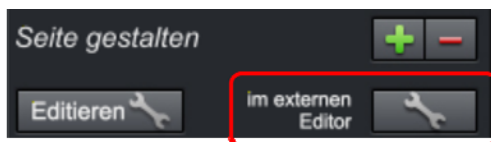
A temporary PSD file will be added and opened in the program that has been selected in the program settings as the menu editor (view page 272). After editing has been completed and saved in this external program, the temporary PSD file will be imported again and the menu page will be updated immediately.

Menu text with external menu editing

Menu elements are transferred as a bitmap during PSD export as well as during import of the edited PSD. This also applies to the text displayed in the menu. This text may also normally be changed in the "Menu entry properties" dialog. The menu text are adjusted if movies or chapters are added or removed.

The PSD contains these texts as a bitmap and cannot be changed. During importing, the bitmaps replace the original text entries. By the way, this is maintained, and the font will only be set to a size of 0 so that texts are not displayed in duplicate; the menu will therefore look identical after external editing.

It is important that no more movies or chapters are added to the menu. Otherwise the preview images, that have also changed along with the menu structure will no longer match the bitmap text, since the bitmap text will not match the changed references in the menu structure!

An example

A chapter with two entries is present. Entry 1 is named "travel preparations". Entry 2 is named "arrival". A chapter named "the trip" is going to be added between chapter 1 and chapter 2. The second chapter now becomes chapter 3 and moves to the next menu page.

Normal text behavior: The second entry (now with preview image for the newly inserted chapter) receives the new title "the trip". The next menu page features chapter 3 as the first entry with the name "the trip".

Text after external menu editing: The second entry will feature the title "arrival" (as a bitmap, as a component of the button), but the preview image will feature the new chapter "the trip"! The next menu page now features the preview image for chapter 3 (formerly chapter 2, "arrival"), this is now called "travel preparations"! The name is a component of the button as a bitmap for the first menu entry on the page, and this is "travel preparations" on the first menu page. Completely out of order!

If the number of menu entries displayed is increased, this results from copying the layer groups in the PSD (see below). Of course, the rendered text layers are also copied into the layer groups, which results in incorrect text again.

The best way to proceed is to edit the text entries at the very end, since changes normally will not follow at this point. If changes are required nevertheless, then proceed as follows:

1. Restore the "correct" chapters or movie names by resetting the font size in the dialog "Menu entry properties" to the default value. Two texts will be displayed; the incorrect bitmap and the correct one.
2. Export the menu template as a PSD.
3. Delete the incorrect bitmap object in the corresponding layer and re-import the PSD.

Of course, the menu text may also be added from the start via an external graphics editing program only (in order to take advantage of the additional options provided in this case). Delete the corresponding bitmap objects in the PSD immediately after export and replace these with your own text objects.

Structure of a PSD file

MAGIX Video Pro X3 produces a PSD file during export that contains a layer for each object of the menu entry. This uses a naming scheme that enables assignment of the objects in the file to their contents. Individual layers feature mathematical signs that indicate their function. This naming scheme is similar to that featured in Adobe Premiere and which is only expanded occasionally in MAGIX Video Pro X3 to describe additional mechanisms.)

This is how these mathematical characters are used:

Characters for layer groups

(+-) or (+)	Play button/start film
(++)	Chapter menu button
(+>)	Next page
(+<)	Previous page
(+^)	Root menu button (jump back from chapter menu)
(+*)	Menu title:
(^^)	Layer group is ignored

Characters fro individual layers

(-)	Layer contains text
(=1)	Layer contains a bitmap with a highlight of the menu element.
(%)	Preview image/thumbnail from the movie to be referenced Bitmap information will be ignored during import and only the size and position will be exported.

Edit menu templates

The resulting PSD file will now be loaded into the external application. The following steps may differ slightly depending on the application that is used. The following steps, for example, describe the workflow in Photoshop CS, Photoshop Elements 8, and the download version of Xara Xtreme Pro.

Editing a menu from 3 to 5 movies.

Photoshop Elements:

In Photoshop Elements, it is enough to touch an object with a held-down Alt key on the video monitor and drag a copy of it to a new location. A movie button and a chapter menu button should be duplicated each two times. Assigning the movie takes place later via the index in the layer group hierarchy. Make sure that the "x" chapter menu button ends up next to the "x" movie button in the optical hierarchy. Otherwise, the screen will cause confusion for its users.
Save the results.

Photoshop CS1:

In the context menu of the layer group to be duplicated in Photoshop CS1, select "duplicate layer set". This must be done twice for the movie button and the chapter menu button. Drag the created layer sets to the required positions. To do so, the layer must be selected and the Ctrl button be held down during the click.
Save the results.

Xara Xtreme Designer Pro 6:

In Xara Xtreme Designer Pro 6 you must first open the object galelry after loading the PSD file. There, for each layer of the PSD file, corresponding Xara layers will be created with contained objects. The layer groups are represented with the names of individual Xara layers, with PSD layer names separated by backslashes.

Find the layers of the group, which you would like to duplicate. In the example, this refers to the 4 layers on the movie button ad two l ayers of the chapter menu button. To ensure visual assignment of the objects to the work area, you have to invest some effort since the Designer does not select the corresponding objects when a layer is selected, and conversely it doesn't select the layer when the work area with objects is selected. You have to open a layer in the object gallery and select the contained object. Now you will see the selection on the work space.

Now, the 6 layers will be copied along with the corresponding objects in the object gallery by clicking on "duplicate". The newly created layers will always be placed at the top position, so it makes most sense to copy the

existing layers from the lowermost to the topmost. Otherwise, you will have to restore the correct order of the new layers using drag & drop.

Now, select all objects of the button while holding the Shift key and move them to a new position. Usually, you also have to select the frame and chapter meny objects behind teh highlight layers and move those, too. Mutliselection in the object gallery is not possible because the objects are in various layers, and the program will prevent you from selecting them together.

These steps must be repeated for the second additional button.

Finally, the changes must be saved as a PSD file. To do so, select "Export" in the File menu ("Save as..." wouldn't work).

Change text font

Photoshop Elements:

In Photoshop Elements it is recommended that you export the template after changing the font size of the text to be edited to 0. This way, no text will be visible in the PSD to be exported. This step is necessary because in Elements you cannot change anything in the created layer groups and nothing in the existing font layer can be removed.

Create the desired font objects using the text tool. A separate layer will be created for each font object. Name the layers clearly by selecting "Rename layer" from the context menu. Change layer names so that they begin with "(-)". If additional layers are needed for the text (for example background picture/frame, etc), their names will also have to start with an "(-)".

Add the created layer to the proper layer set using drag & drop (for example, the new label for the movie button to the "(+) menu entry" layer set or the new header to the "(+) title" layer set. To do so, you select the layers with the mouse inside the layer container and drop them into the proper layer group.
Save the results.

Photoshop CS1:

In Photoshop CS1 you can access layer groups and can first delete text layers in order to add your own text objects. Replace labels on movie buttons, by opening all "(+) menu entry" layer sets and deleting text layers ("(-) ..."). Using the text tool, create new text objects, one next to each movie button. Use all of the program's functions in order to realize your ideas.

Drag the text layer using drag & drop into the layer container into the respective layer sets. Adjust the layer names. Add an "(+)" to each text

layer. You can generate additional layers that may be necessary for the text, such as shadows, background frames or bitmaps, etc. During reimport, all layers of a group with a (-) in front will be pooled into one text object. Save the results.

Xara Xtreme Designer Pro 6:

In Xara Xtreme Designer Pro 6, activate the text tool after loading the PSD file and write the desired text next to the movie button.

Now, you have to localize the existing movie buttons (object gallery technology, see above). You can drag and drop the text object from the background into the found layer and delete the text object there (Del or "Delete" in the object gallery). Because naming takes place in the surrounding layer and the objects in Designer themselves don't have names, you don't have to rename anything.

Repeat this for every movie button and "Export" the result.

Adjust background and butttons

Photoshop Elements:

In Photoshop Elements you can only add something to existing button graphics and highlights since individual layers in layer sets cannot be deleted an no new layer sets can be created. The general method is similar to text editing: create new layers and add these to existing layer sets using drag & drop. Finally, adjust the layer names: All layers, containing the highlight to be displayed, must again recieve a name that begins with a "(=1)".

You can create graphics for your new menu for "Prev" and "Next" buttons by dragging them into the open PSD file. They are, for example, 4 layers, two button graphics and twop highlights. The highlight layers must be renamed and scaled and placed on the screen using the mouse. Move the layers using drag & drop into the "(+>) next button" or "(+<) prev button" layerset. Save the results.

Photoshop CS1:

In Photoshop CS1 everything works similarly to Photoshop Elements. In contrast to MAGIX Video Pro X3, generated layers can also be deleted, so that button graphics can really be replaced.

Xara Xtreme Designer Pro 6:

In Xara Xtreme Designer Pro 6, the workflow is similar to creating new texts. When the menu template is open, you can drag and drop, for example, 2 graphics for navigation buttons into the ready PSD. Two new layers will

appear in the menu template with two new graphics objects. Drag these into the layer with the Bitmaps to be replaced. Renaming is unnecessary, since the surrounding layers do this, too. Localization, scaling and moving on the screen is analogous to Photoshop programs.

Play back menu in MAGIX Video Pro X3

After editing, a PSD file is created, which is imported into MAGIX Video Pro X3 again and must then be assigned to a menu page as a template.

PSD If access takes place via "Edit externally" see above (view page 210), this is done automatically during saving and closing of the graphics program. Otherwise, use the button "Import PSD" to do this.

This imports and converts the PSD (saved to an automatically generated folder in the folder Content\DVD\Layouts, with TPL files and the generated bitmap files).

Create DVD menus without a template

It is recommended that an existing menu template is adjusted first with a graphics program. This exercise will help you learn about the functions and structure of a DVD menu as a PSD file to create menus without using any templates.

You can create PSD files without templates if the following is observed.

- MAGIX Video Pro X3 can only use bitmap layers from the menu PSD file. Text layers are read as a bitmap (graphic) so that MAGIX Video Pro X3 cannot make any changes to the text. Layer effects, etc. cannot be read by MAGIX Video Pro X3. For this reason, all layers featuring additional features in the graphics program need to be reduced/combined to bitmap level.
- The correct naming of layers is very important! MAGIX Video Pro X3 assigns the layers and layer groups to the menu items via their names, which makes their correctness important. The characters added in front (view page 210) of the layer names should therefore be observed.

A correct menu PSD contains the following elements:

- background
- menu title
- x movie buttons with preview image, frame bitmap, text for menu, text for numbering, highlight
- one chapter menu button per movie button with bitmap and highlight
- 3 navigation buttons: in front, in the back, and the root menu

Background: The background utilizes all layers from the PSD file from the very back to the foremost "usable" layer groups. All of the layers up until

this are combined via alpha layering. If the appearance of the background in the graphics and in MAGIX Video Pro X3 is different, then this step may also be made in the graphics program. In Photoshop, all associated layers would be combined with the background layer.

Menu titles: In the next step, the layers of the menu title are added and combined into a single layer group. This must feature a name that begins with "(+*)". Besides the text layer, additional layers such as text background, shadows, etc. may be present. All layers are unified as a single layer via alpha layering.

Film buttons: Layers for film buttons are each combined as a layer group that features the prefix "(+-)" or "(+)" at the beginning of its name. The layers themselves have different functions that are kept together via this naming prefix.

Preview image: The name of the layer for the preview image begins with "(%)". In this case, MAGIX Video Pro X3 only reads the position and size of the layer and uses this range to generate the preview image. In case multiple preview images are present, their right corners will be combined during importing.

Text layer: This includes text layers beginning with "(-)". "(-) index text" serves as an identifier for the naming, all other text layers will bear the name of the button label.

Highlight layer: The highlight layer is the top of the layer groups. Its name begins with "(=1)". This should contain a highlight version (e.g. altered color) of the frame bitmap.

All other layers will be combined into a frame bitmap.

Chapter menu buttons: The last portion features the layer groups for the chapter menus and navigation buttons. These are named variously ("(++)" or "(+>)","(+>)", and "(+^)"), by they feature the same principle the structure. All highlight layers (beginning with "(=1)") become the highlight bitmap; all other layers become the buttons bitmap via alpha layering.

The sequence of the layer groups from the PSD file is basically not considered by MAGIX Video Pro X3. Characterization in the program takes place in the order outlined here, even if the associated layer groups in are saved in a different order in the PSD file.

An exception is formed by movie and chapter menu buttons: arrangement in MAGIX Video Pro X3 takes place in the sequence featured by the PSD file. The first chapter menu button detected belongs to the detected movie button, the second to the second movie button, and so on.

Burn disc

 Switch to the "Burn" screen first by pressing the button displayed.

Burn your movies including selection menus onto CD, DVD, or Blu-ray Disc^{TM} here.

All movies loaded into the project will be included. If you want to remove some of the loaded films, then switch to the "Edit" screen again and delete the unwanted movies from the project there. To do so, switch to the corresponding movie, open the "File" menu and select "Manage movies -> Remove movie (view page 281)".

Note: The program is displayed differently at screen resolutions of 1280 x 1024 pixels and up. This makes the program more manageable and easier to use. The work steps remain the same in spite of the different display.

Burning wizard

 Click "Burn" to open the screen where you create DVDs, Blu-ray Discs, or another video medium, including a menu.

Here you can select what kind of disc you would like to create. Under "Additional options" you will find other disc formats that are used more seldom.

Note: For each disc format there are different limitations. For example, with many formats animated menus are not possible or no menus and transitions at all are possible. You can find an overview of these limitations in the PDF manual or in "Help" under "Appendix: Digital videos and storage media".

Burn dialog for DVD player

Here you can select your burner, the type of disc, the encoder settings. MPEG-2 is used for DVDs. Blu-ray Discs also use MPEG-2, and higher bitrates are employed in order to reach the higher HD resolutions. AVCHD discs use a much more complex MPEG-4/H.264 codec, which is documented in detail in the "MPEG-4 encoder settings (view page 346) section of the PDF manual and in Help (F1 key).
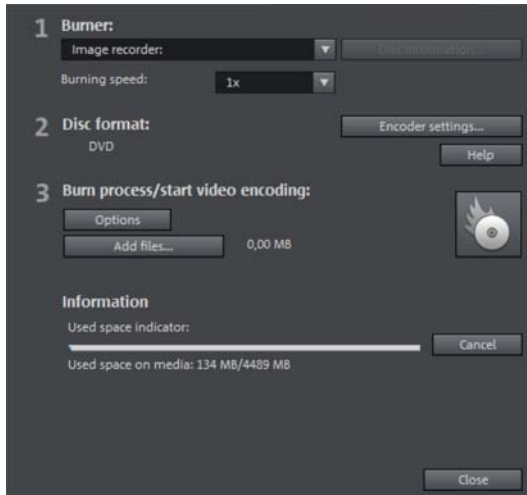
Proceed as follows to burn a disc:

- Set up burner and burn speed: If multiple burners are installed, you may select which device you wish to use in this menu.
- Encoder settings: Use the "Encoder" button to access the selection dialog to specify settings for the MPEG encoder (memory requirements, quality, and duration of the MPEG conversion). "Advanced settings" accesses a dialog featuring additional options. You can adjust all the fine settings for the MPEG encoder here.
- Burning disc/starting video encoding: The button "Burn disc" starts the disc burning process. Every time you burn and every time a simulation is carried out, the disc project is encoded. Please note that the MPEG file is not deleted from the hard disk after the burn process has finished. Depending on the length of the project, encoding and burning may take some time. The time required can be seen in the dialog.

Creating an ISO image

The simplest way to create an ISO image is to select "Image recorder" under "Burner". When starting the "Burning process", you have to specify a name for the image file you wish to create.

Options

Simulate first: If you are not sure about the write speed or memory requirements of the selected disc, you can simulate the write process before burning.

Add project backup: Use this option to add additional project data to the CD/DVD together with the selected video format. You can then load the disc project from the finished disc to re-edit it and create a changed version.

Activate buffer underrun protection: Many burners support techniques that prevent "buffer underrun". Use this option to activate this protective feature and burn your files at higher speeds (without risking making a coaster out of your blank disc).

Completely format DVD/CD-RW media: This option reformats the RW media and deletes all existing file material.

Prepare disc for OnDisc editing: With a DVD±RW, it is possible to add more slideshows to the disc, or to edit the menu at a later date. The disc has to be burned with the option "Prepare disc for OnDisc editing" activated.

Shutdown computer after burning: Activate this option to automatically turn off the computer after encoding and burning has been completed. You could, for instance, start the encoding and burning process in the evening, and then you don't have to wait for the process to finish to switch off your computer.

Activate the burner's defect management option: If a certain section of the disc is defective, then this will be recognized by the burner and labeled as such. No content will be saved there as a result.

Burn standard video DVD onto same disc: On a WMV HD disc you can use this option burn an additional normal DVD video onto disc. This ensures that your discs can also be played back on standalone DVD players. See Multi disc.

CD/DVD title: This is the title of the DVD as displayed as disc name on the PC. The disc project name is displayed here by default.

Disk space

Disc type	Storage media	Menu	Quality	Length (optimal quality)
DVD	DVD	Yes	***	98 min.
WMV HD	CD/DVD	Yes	*****	107 min./DVD 15 min./CD

Blu-ray Disc™ (view page 342)	Blu-ray Disc™	Yes	*****	110 min.
AVCHD (view page 342)	DVD/Blu-ray Disc™	Yes	*****	30 min./DVD 160 min./Blu-ray Disc™
Multi Disc	CD/DVD	Yes	****	45 min./DVD 7 min./CD
MiniDVD (view page 341)	CD	Yes	***	approx. 20 minutes
JPEG DISC	CD/DVD	No	*****	This depends on the original images and the DVD player*

* The set duration for some DVD players may be determined by this table. The amount of image material that can be put onto a CD or DVD depends on the sizes of the picture files.

You may also use the menu templates from the category "TV Showtime DVD" for the disc types MiniDVD and DVD. Each picture of a slideshow is displayed fullscreen on its own menu page (without having to playback the slideshow).

For the MPEG-2 encoder especially, which is used for SVCDs, DVDs, and MiniDVDs (i.e. CD-ROMs written in DVD file format), it can be difficult to supply reliable relating to the required memory space. If the "variable bit rate" of the MPEG-2 encoder is activated, encoding will occur according to the movements in the picture. The required memory depends on the film material; an action film would need more memory than a drama, for instance.

If you cannot save your disc project on a single blank CD, you will have to divide it up into different sections.

Further information on MPEG compression and formats can be found in the chapter "Attachment: video and data storage devices (view page 338)" of the PDF manual.

Test series with variable encoder settings

If you would like to know how much memory space you require for various encoder settings, you should run some simulations before burning.

So you don't waste any blank CDs while testing, you should activate the "Simulate first" option.

Then create, for example, a short (ca. 5 min.) disc project and simulate burning in multiple cycles with various settings.

After every simulation you can access the created file on the hard disk to check how large the file has become.

From the results, you can extrapolate how much disc space your disc project will require. The memory requirements of a 5-minute disc project would have to be multiplied by 20 in order to estimate the space required for a 100-minute movie. You should also add buffer for the selection menu. (view page 201)

Separate project onto multiple discs

Automatically: If the disc project requires more memory than is available on the CD or DVD, a dialog will appear before burning asking whether the disc project should be automatically segmented for multiple discs. Confirm this by clicking "Yes". The disc project will then be automatically divided into individual disc projects and burned sequentially onto multiple discs. This is the easiest method since everything is automatic, and all you have to do is insert a new blank CD when required.

Manual

Case 1: If several movies do not fit onto a single disc...

In this case, switch back to the "Record" screen and delete as many movies as is needed until the remaining movies fit onto the disc. You can create a new disc project and load and burn the other movies afterwards.

Case 2: When a long film doesn't fit onto a disc...

In this case, the movie has to be split into two or more parts that will be burned separately onto disc.

- Switch back to the "Edit" view and place the start marker to the position at which you wish to divide the movie. In the "Edit" menu, select "Cut -> Separate movie".
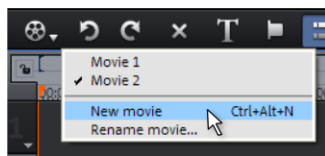
- All passages behind the start marker will be removed from the movie and made into a smaller movie. Both movies can be moved using the "Select to edit" menu in the arranger. Save both of them separately to your hard disk ("Save movie" menu option, for example, as "Part 1" and "Part 2").

- Remove one of the two movies (for example, "Part 2") from the disc project ("Manage movies -> Remove movie (view page 281)" menu option).
- Switch to the "Burn" interface and burn the first film ("Part 1") to CD or DVD.

- Create a new disc project ("New" button), switch to the "Record" view and load it into the second film ("Part 2").
- Switch to the "Burn" interface and burn the second movie to CD or DVD.

Encoder settings

Use the "Encoder settings..." button to access the selection dialog to specify the properties of the MPEG encoder (memory requirements, quality, and duration of the MPEG conversion

Preset: This features useful settings for the selected disc type. Here are several sample DVD presets:

Long-play video DVD	DVD with extra-long playing time. The bit rate is reduced, which compromises quality.
Long-play music DVD	DVD with extra-long playtime for music. The bit rate for the soundtrack remains at the highest quality level.
Standard DVD	Normal DVD
Widescreen DVD	Normal DVD in 16:9 format

Note: NTSC (USA and Japan) or PAL (Europe) may be selected for all settings.

Bit rate: The bit rate determines the memory required for the completed video. The higher the bit rate, the larger the file, and the shorter the maximum playing time of the movie that fits on a disc.

Adjust bit rate: The expected file size of the finished video is estimated, depending on the set bit rate. If the movie does not fit onto the disc, the bit rate is corrected accordingly.

Quality: Specifies the quality of the encoding process. The higher the quality, the better the finished video will look; however, encoding will take considerably longer.

Smart rendering: Smart rendering considerably reduces the load of encoding processing for MPEG files. During the production of MPEG files, only those parts of the movie that were changed in the program are re-encoded. Please note: The MPEG files contained in the movie must have the same format, i.e. the bit rates (variable or constant), audio formats, image resolutions and video formats must match.

Anti-interlace filter: This option should only be activated for playback on a TV screen, since it is intended to reduce line flickering.

3D mode: In case your project features 3D material that has been edited with Stereo 3D, a mode may be selected here for burning the material to disc. 3D is switched on as a standard.

To return to the standard settings, press the Reset button.

The "Advanced" button opens the "Advanced settings" dialog. You can adjust all the fine settings for the MPEG encoder here. Details about the "MPEG encoder settings (view page 360)" are available in the PDF manual and in the help file.

Create PC show

Click this button and a presentation optimized for your PC will be created.

First, enter a path where the PC show will be found again later, and click "OK".

Special functions and wizards

In this chapter, we will introduce you to some of the especially useful special functions.

Automatic scene recognition
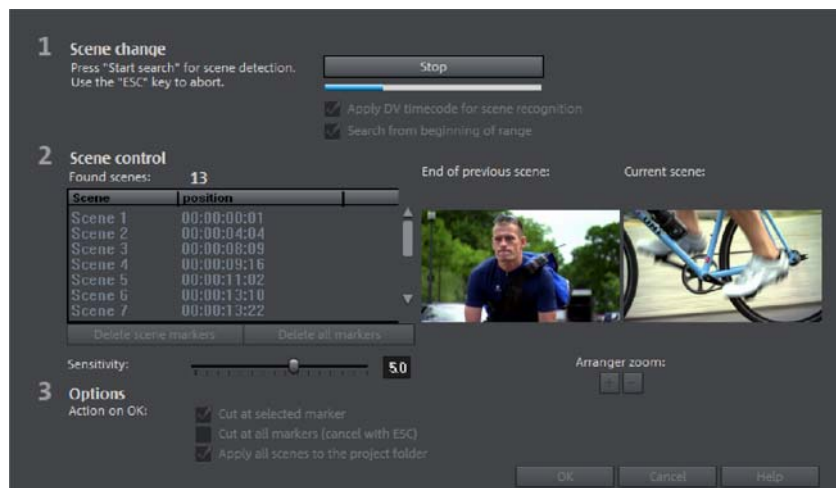
Automatic scene recognition can be opened via the "Effects" menu. The scene recognition function analyzes the film for scene transitions and scans for drastic changes in the brightness and color distribution within the picture.

Automatically created timestamps from digital video devices (the points in time at which the device was turned on and off) are also marked as scenes.

- First, select "Start" from the "Scene change" box. The search for possible scene transitions will begin. If you have a large amount of material, then this may take a while, but the image analysis has to be done just once for each recording. The results are saved together with the video file.
  If the scene recognition is performed again with the same source material, then the scene transitions found are immediately displayed. If you are still not happy with the resulting scene partitioning simply repeat and correct where necessary.
- All found scene transitions in the list can be checked in the dialog. Every scene marker can be selected or deleted. Select a scene transition from the list of found scene transitions and use the preview images to check whether the found transition is really a scene change or not.

Tip: This option is helpful, for example, if a camera flash was captured in the source footage. The flash from the camera would cause a sudden brightness modification even though there was no actual scene change.

The preview always displays the end of the previous scene and the beginning of the new scene. If the images do not differ except for the brightness, then the scene may have been falsely recognized. In this case select "Delete scene marker".

Via the zoom +/- buttons you can enlarge the part of the arranger where the selected scene begins or previous scene ended.

You can use the "Sensitivity" controller to change the sensitivity of the scene recognition to detect different scene changes, depending on the settings.

"Action on OK" lets you specify whether the movie should be cut at the selected scene transition or at all scene transitions and whether the found scenes should be saved as takes.

Search for and remove ads
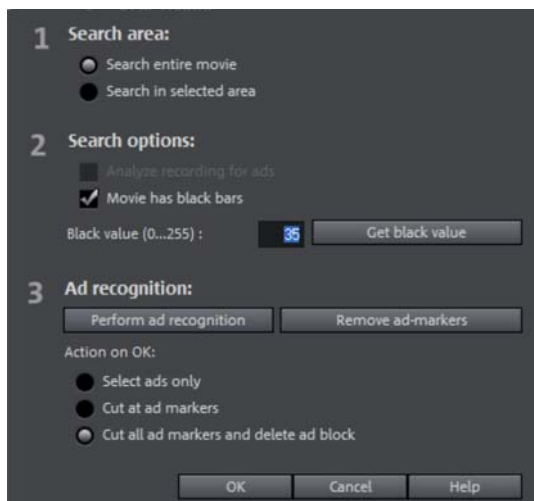
This wizard in the context menu for video objects may be used to locate and remove advertising blocks in the recorded material automatically.

The principle: The program searches for typical signs of a beginning and end of an ad break, these sections are selected and cut out, so that the ad is removed. The ad-remover works particularly well for movies in 16:9 format. These movies in wide screen format have a black stripe at the top and bottom of the screen. When the ads start, these stripes often disappear. MAGIX Video Pro X3 searches for and removes those sections. "Get black values" allows you to click on the black stripes in the video monitor with the eyedropper tool to determine the black value for improved detection. Another general sign of advertising is increased volume.

The dialog enables you to select whether you simply want to mark commercial breaks initially or delete them immediately. Additional search and display options are also available.

Tempo and beat recognition
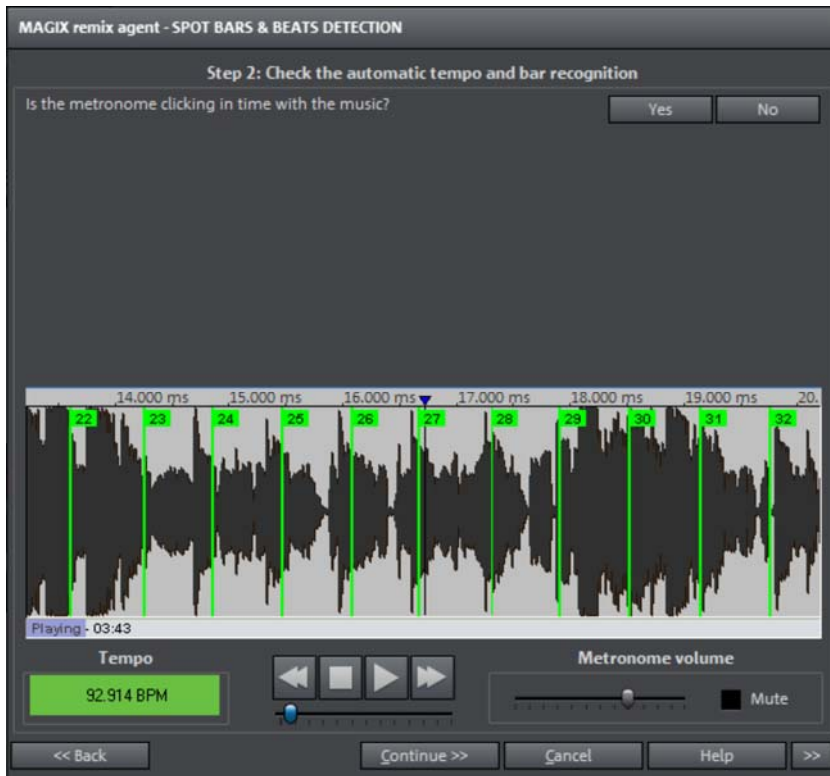
The Tempo and beat recognition in MAGIX Video Pro X3 is a special tool for video clips. This analyzes the rhythm of an existing piece of music. The basis of this is the tempo, which is measured in BPM (= beats per minute).

After the BPM value of the music has been determined, the piece may be separated into equal section (remix objects). The resulting objects, which are exactly one beat long, will remain grouped so that the overall piece is not unintentionally "rearranged". This does not hinder you from doing this, however; simply click "Ungroup" to do this.

The resulting object borders are important for editing. Because all objects may snap to each other on their edges, videos may be arranged to transition exactly to the beat of the music: the points along the track where videos lock together are exactly in time with the music.

Prerequisites for using the beat recognition assistant

- Songs must be longer than 15 seconds
- Songs must be "rhythmic" (i.e. they can be danced to)
- Songs must be in stereo format

Preparation - Setting the start marker and object end

Before opening the Auto Remix Assistant, you should set the start marker at the position in the song object in the arranger where you want detection to start. If the song contains a long intro without beats, set the start marker after the intro. As a rule of thumb, the Auto Remix Assistant should always be "fed" dance music.

- The start marker should be set before a quarter note beat or, better still, briefly before a beat at the start of a bar.
- If the start marker lies before the song object, the object is examined from the beginning.
- If detection is not performed by the end of the song, the object can be shortened accordingly with the object handle at the end of the object.

Automatic Tempo Recognition

When the Auto Remix Assistant is launched, the selected song object is analyzed and played back. A metronome begins to click according to the result and lines visualize the positions of the quarter notes found in the wave-shaped display.

The following cases are differentiated:

- Position of the start of a measure (the one): red line.
- Position of the other quarter notes (the two, three, and four): green lines.
- Reliably recognized positions: thick lines.
- Unreliably recognized positions: thin lines.
- When tapped, blue lines appear.

If the tact and tempo information is already present, points are indicated above the display at the appropriate positions. The metronome volume can be regulated below and to the left of the wave-shaped display. To the right, the BPM value is indicated. If a valid BPM value was found, it is displayed in green.

If the metronome clicks in time with the music, the measure start is correct. If not, you can correct the tempo manually.

Setting the manual and and Onbeat/Offbeat

If the result is incorrect, you can help the Auto Remix Assistant with a few mouse clicks on the correction buttons.

There are two possibilities:

On the one hand, the "Tempo correction" list offers alternative BPM numbers which could also fit with the music. The adjustable BPM values are

detected automatically – the total BPM can therefore deviate from song to song.

For more difficult audio material, we recommend using the "Tapping input" mode. Either the "T" key must be pressed or the "Tap tempo" button must be clicked with the mouse in time with the music. With repeated tapping of the tempo correction button, one should keep an eye on the color in the BPM display. In the "unlocked" condition (red), the tapping is not in time with the music. One should tap until the "locked" condition is displayed. After a short time, you will hear if the result is correct via the metronome.

Subsequently, offbeat correction takes place as required. If the detected quarter note beats lie around the length of an eighth note (transferred behind the real positions of the quarter note beats), one or more alternatives can be selected from the onbeat/offbeat correction list.

Determining the start of a measure

Next, the starting point of the measure is corrected. The beat at the start of the measure must always agree with the high tone of the metronome and/or the red line in the wave-shaped display.

Corrections can be made by tapping; If the start of the measure can be be heard, tap with the mouse or press the "T" key. Alternatively, you can also select how many quarter notes the "one" is to be pushed to back.

If the starting marker was set briefly before the first beat of a measure, this correction is not necessary.

Note: With all corrections, the metronome and visualization react to the lines in the wave-shaped display only after a short delay.

Using BPM and beat detection

Now you may select one of the actions to be adapted to the arrangement song (or vice versa) or cut up the songs at the ends of a measure.

Save only Tempo & Beat information

Only wave file data is stored. This makes sense if some manual post-correction is required for determining beat/tempo.

When the data is stored, tempo & beat regulation can be released for future tempo adjustments or to create object remixes.

Tempo adjustment

Setting the object tempo to the arrangement tempo

This fits the object length to the existing arrangement. Three different procedures are possible: timestretching, resampling, or audio quantization.

- Timestretching keeps the pitch of the song constant, but sometimes the sound quality can suffer.
- Resampling changes the pitch (similar to changing the speed of a record player), and retains the sound quality of the song as much as is possible.
- During audio quantization, the audio file takes the tempo adjustments into consideration as if the first remix object (see below) were created and combined immediately into a new audio file. If the recognition is uncertain, extreme tempo fluctuation may result. It is particularly important to set the starting marker so that the tempo is recognized definitely. The advantage of audio quantization is that small tempo fluctuations in the music balance out. The start of the measure always agrees with the start of the arrangement measure and never plays out of time.

Setting the arrangement tempo to the object tempo

The arrangement adopts the detected BPM value. If you would like to use the cut-up song as the basis for a new composition (e.g. for remixes), then this option should be active.

Creating remix objects

The song is cut by beat into individual objects. Some applications may include:

- To produce loops from complete songs which can then be used with other material. Most importantly, not all remix objects are suitable as loops. Ideally, less complex material should be used, e.g. drums from an intro.
- To remix songs, thus changing the sequence of the objects, cutting or doubling beats or to enrich the song with other loops or synth objects.
- To mix two songs: If percussion and tempo fit perfectly, can you blend the songs without "side effects"?

This option can be activated later from the "Object" menu, provided that the tempo data is stored.

The "Audio quantization" option: Audio quantization fits new objects exactly in time with the arrangement.

With homemade music, tempo fluctuations are common, and therefore different measure lengths may result. Nevertheless, so that the objects fit into the rigid timing pattern of the VIPs, the time processor is activated automatically and object timestretching is used to correct the different lengths.

Setting resampling for small corrections: If the necessary corrections are very small, better quality resampling can be used instead of timestretching. Afterwards, you should not change the master tempo any longer, since definite pitch changes may arise.

Remix objects in "Loop" mode: New objects are set in "Loop" mode. When extending the object with the right object mouse handle, the original length of the object is played again and again.

Setting the arrangement tempo to the object tempo: (see above)

Note: Time correction assigned to objects can be subsequently cancelled if the time processor is called up and edited ("Timestretch/Resample object", or double click on the object to open the FX racks associated with the time processor).

Cancel: The dialog is closed.

Problems and Remedies regarding the Auto Remix Assistant

Problem: The playback stutters, the metronome is suspended, the computer is overloaded... (on older computers.)

Remedy: We recommend changing to wave drivers ("P" key, "Playback parameter" dialog) instead of DirectSound.

Problem: The metronome does not work and there are no lines on the the wave-shaped display.

Probable cause: The material does not contain beats or the song contains a passage without beats.

Remedy: The song should be limited in such a way that only rhythmic passages are contained.

Possible 2nd reason: Inaccurate tapping or a false BPM value has been entered.

Remedy: Try the tempo correction buttons or tap until the "locked" condition is attained.

Problem: The metronome sounds inaccurately or is jerky, the lines in the wave-shaped display are irregular and thinly drawn.

Travel route animation

Open "Edit -> Wizards -> Travel route animation" to import and edit travel routes in MAGIX Video Pro X3.

Note: In order to be able to use current map data, maps are fetched by the travel route animation directly from the Internet. This requires an Internet connection.

After opening the function, you will see the screen pictured here:
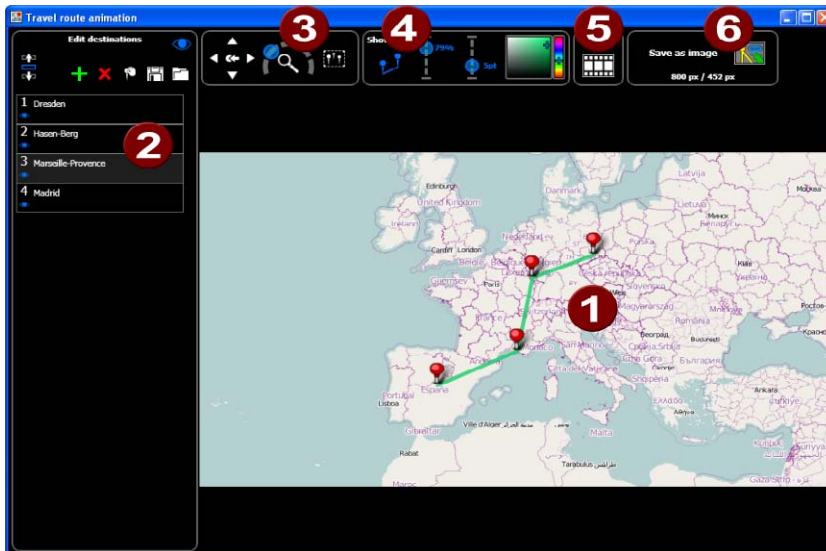
1 Map: Displays map material from openstreetmap.com.

2 Selected locations: All locations, searched using geonames.org or selected manually on the map, will be shown on the list and marked using pins.

3 Map section + zoom: The map may be moved by pressing the arrows. Zoom enables you to zoom into the current section (+) to view more details or to zoom out (-) for a better overview.

4 Show lines: If at least 2 locations are marked on the map, then this function will be available for linking the locations. The line color and thickness may be changed.

5 Animation: Create animations of your trip route and save them as a video.

6 Save as image: The current map section may be saved as an image in the format PNG, BMP, JPG, or TIFF.

Select locations in the map

There are several options for selecting locations on the map for creating a list.

Note: If you would like to view details about a location, simply zoom via "+" on the number block into the detail view.

Search and select locations:

- Open "Edit locations" via the "+" button to add an entry. This will be marked green behind existing locations.
- Enter the name of the desired location. A list with possible matches will open.
- Click the desired location to add it; the marker will be added to the map.

Manual tagging - search for locations and enter them by hand

- Navigate on the map to the desired location.
- Click "Edit destinations" to activate manually entered locations, or use the keyboard shortcut "M".
- Click the target destination. A list entry and a marker will be added.

Import GPX files

If you have created a route with a GPS device and saved it as a GPX file, you can import it and show the route on the map.

Hint: Depending on the length of the route, it can take some time for the file to be imported and displayed. If you hide the pins that point to selected locations, the map will load faster.

Move and delete selected locations

Move locations inside the list:

The sequence of the locations in the list matches the sequence in the animation later. Change the sequence by selecting a location and then pressing the arrow key up or arrow key down.

Remove selected locations from list:

To delete a location from the list, select the list entry and click this button.

Click the eye below the location entry to hide a location, and click the eye again to show the location. Click on the eye again to display the location again.

Save and load routes

The entire list of marked locations may be saved to load it later - without having to search for and select all of the locations again.

Save list:

- Click "Edit destinations" via this button or use the keyboard shortcut "Ctrl + S".
- Enter the save location and name of the location list in the dialog that appears.
- Click "Save" to back up the list and quit the dialog.

Open list:

- To load a saved location list, click "Edit destinations" or use the keyboard shortcut "Ctrl + O".
- Navigate to the save location and select the location list in the dialog that appears.
- Click "Open" to close the dialog and the list will appear with the corresponding locations.

Adjust map section

Use this button to move the map section upwards (north), ti the right (east), downwards (south), or to the left (west).
The arrow keys on the keyboard may also be used to move.

Use this controller to zoom out of the map (left) or into it (right). The keys "+" and "-" on the keyboard or the mousewheel may also be used to zoom in and out.

If you would like to show all marked locations and reveal as much of the map as possible, click this button and the map will be adjusted accordingly.

If you would like to display only the route without the location markers, click here and the pins will be hidden. A repeat click will display them again.

If you want to, you can hide the list of locations to the left to show a larger section of the map.
Another click on the eye symbol will show the list again.

Show lines (connect locations)

For two or more marked locations, the function "Show lines" will appear. Use this function to connect the locations with a line on the map.

Click this symbol to show lines connecting selected locations. The functions for line transparency, thickness, and color are to the right.

Tip: The locations in the list may be moved in the list of the connecting sequence should be changed. Simply drag the corresponding list entry with the list and release the mouse button when you have placed the entry at the correct location. Or use the arrow buttons below "Edit destinations".

Hide lines: To remove the lines, click the button "Show lines" again (the button will turn white again).
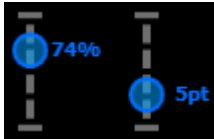
Transparency and line thickness: Use the controller to change the transparency (left controller) and the thickness of the lines (right controller).

Line color: Set the color you like for the lines via the slider and the color window.

Tip: You can also create animation for the connecting line in the "Animation" (view page 235) section and save it as a video.

Animation

For two or more marked locations, the function "Animation" will appear.
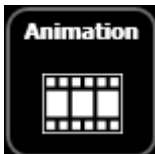
This enables you to display your travel route in motion and even save it as a WMV format movie, e.g. to integrate it into vacation movies or to send it.

Scroll map: Activate "Scroll map" and the map will move from location to location when the animation is played back.

Soft animation: The animation starts slower, speeds up, and then slows down before each location.

Animate object: You can select an object to follow the trip route. Besides a pre-selection of objects, e.g. a car or an airplane, you have the option of loading your own subjects. Click the object selection on load object.

Animate line: The connecting line slowly connects all selected locations, from the first to the last.. It is moving at the speed of an animated object.

Duration (seconds): You can adjust the duration of the animation however you like, depending on the length of the route. Enter seconds into the filed and test the results via the preview option to see if you like the animation.

Preview: Before you save an animation as a video, test it to see if it looks the way you like by clicking "Play".

Click this button and the animation will be saved as a WMV video. Enter the save location and name of the video in the dialog that appears.

Close: To leave the animation area, click "Close".

Create a picture of a map

You can create a picture from a section of a map (including location markings), e.g. to print it.

Step 1: Zoom into the map until you have reached the desired level of detail.
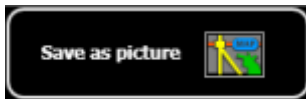
Step 2: Click this button (shortcut "Ctrl + E") and enter the save location and the name of the image in the dialog that appears. You may also select the format for the picture.

Note: This button indicates the height and width of the future image. These values are adjusted as soon as window sizes are adjusted or when the location list is shown.

Step 3: Click "Save" to create the image and close the dialog.

If you want to, you can hide the list of locations to the left to show a larger section of the map.
Another click on the eye symbol will show the list again.

Keyboard shortcuts

Manually marking locations	"M"
Zoom into map	"+" on the number block
Zoom out of map	"-" on the number block
Save location list	"Ctrl + S"
Load location list	"Ctrl + O"
Save map section (with location markings) as image	"Ctrl + E"
Move map section north (upwards)	"Up arrow"
Move map section east (right)	"Right arrow"
Move map section south (downwards)	"Down arrow"
Move map section west (left)	"Left arrow"
Cancel video export	"Esc"

Slideshow Maker

Slideshow Maker is ideal for converting still images into moving pictures, adding background music, and effects.

- Open Slideshow Maker via "Edit -> Wizards".
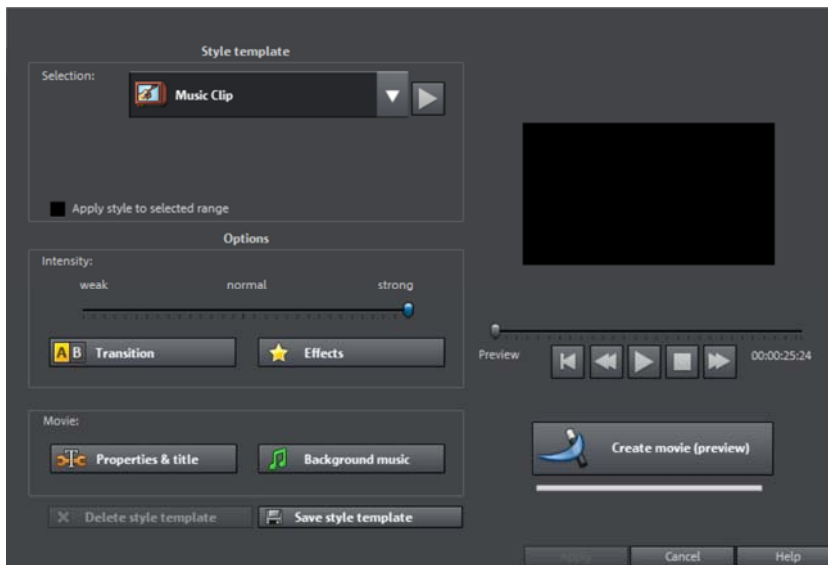
Style templates

Select a template that best matches your needs.

Intensity

Controls the portion of video and image objects that feature effects.

Transitions

The different sliders are used to set the portion of individual fade types.

3D / Other:

Fade duration: Set the length of the fades in seconds.

Random fades: The fades are set to random values.

Effects

The faders enable the respective effects types to be specified.

Random effects: The faders that control the amount of effects are set randomly.

Treat special image formats intelligently: Panoramas and portrait photos can be treated "intelligently". If this option is activated, then panoramas and portraits will be treated with special effects adjusted to the format. These effects can also be selected in the detail view.
If this option is selected, then these images will use the same effects as all other images.

Details activates effects or fades in the corresponding category. The arrow below the preview monitor plays a preview.

Properties & title

Film length

Resulting film length: This is an estimation of how long the film will be after applying Slideshow Maker.

Available music: This is the complete length of the music that is currently selected. Background music (view page 239) enables detailed settings for the pieces of music to be used.

Adjust film length to the music: An attempt is made to adjust the length of photo objects to the background music. If the film is too short the music will be cut off. If the film is too long, the music will repeat.

Adjust music length to the film: Photo objects have a set length, and the resulting film is filled with music. The music at the end of the movie is simply faded out.

Including video objects

Process videos: If this option is set, then videos will be automatically processed with effects and transitions.

Length: Settings may be made here about whether the original length of the video should be maintained or if it should be shortened.

Opening and closing credits

Set the text for opening and closing credits here.

Text: Enter the corresponding text for opening and closing credits that should be added by Slideshow Maker.

File: A title template, a video, or an image file may also be used.

Note: Titles created using Slideshow Maker may also be edited (view page 113) at any time.

Group associated images together

If this option is active, an attempt is made to detect associated events via their date information and to separate them from each other optically. Detection of individual events is based on the time span of these events to achieve a sensible separation.

Begin group with black fade:A black fade is added between the different events.

Begin group with title and black fade:A black fade is added between the different events.A title is also faded in with a suitable duration, e.g. 1st/2nd/3rd day, provided the events take place over multiple days.

Begin group with title and picture:A black fade is added between the different events.A title is also faded in with a suitable duration after the black fade, e.g. 1st/2nd/3rd day, provided the events take place over multiple days.

Background music

Specify if and which music should be used for the background here.

Use background music: Adds background music.

Load file(s): A file selection dialog will open to choose a folder featuring music; select one or multiple files.

Remove: The selected pieces of music are removed from the list and will not be used.

Insert random: MAGIX Video Pro X3 selects random pieces of music from the folder "Import -> My Media -> Slideshow music" in the Media Pool.

Preview: This button previews the selected piece of music.

Volume ratio: This slider controls the volume ratio between the original sound and the background music.

Tip: Pieces of music in the first track are listed and used for the background music, provided they are not removed.

Produce panorama pictures

This special function may be selected for highlighted photos under "Effects > Video object effects > Create panorama". Using it, you can combine several photos into a wide panorama photo. You don't need to create exclusively "proper" panoramas; Let your imagination run wild and put together anything you want to.

Tip: Optimize you photos beforehand, so that the transitions are not to be seen in the finished panorama.

Select pictures for panorama

Load all necessary images into the film project as usual. The images that should make up the panorama should be selected one after the other while holding down the "Shift" key. Select the entry "Panorama photo" from the context menu "Effects (view page 296) -> Video object effects".

Invert image sequence for panorama image

Sometimes photos are accidentally loaded in the wrong sequence or were created from left to right. If you forgot to sort your photos correctly beforehand, then simply click "Invert sequence".

Calculating the panorama image

If you click "Create", the panorama image will be processed. Depending on the resolution and number of original images included, this may take some time. The original photos are replaced in your slideshow with the panorama image you've created, but the original files on the hard drive will remain intact.

Hint: You can create a panorama image from a maximum of six images. Click on "More options" for more information on the upgrade.

Finished panorama (2 images)

Finished panorama from 2 images

Batch conversion

Batch conversion makes it is possible to convert multiple video files, movies, objects, or whole projects into another format in just one step.

Open batch conversion

Batch conversion can be opened using different presets. A pre-selection appears only if you have loaded a film or a project.

The following scenarios exist:

- Batch conversion has been opened from the context menu in the Media Pool: The file selected in the Media Pool beforehand will be transferred to the task list and can be converted to the available formats. In case of projects which contain multiple movies, all movies will appear as individual tasks.
- Only one empty movie is open: A dialog opens additionally for batch conversion, in which video files that have to be converted to other formats can be selected and loaded.
- A movie with video material and more than one object in the first track is opened. A dialog opens, in which you can select which tasks should be created for batch conversion.

  - All scenes in the movie: All objects present in the 1st track will be used as starting points for the video files to be exported. An application for this could be that all scene beginnings of a movie should be exported as bitmap files or a backup for a movie is to be created as individual scenes.

  - Multiple movies: The opened movie will be exported as a whole video. Additional movies can be added to the list in the dialog.

- Multiple movies with video material are open: The opened movie will be exported as a complete video. This is especially useful for large projects with a lot of individual movies, eliminating the need to export each one individually.

Administration

Save and load your settings here. These include the list of files to be exported and the export settings and names of all entries.

Caution! Batch conversion references the projects, movies, and the objects contained therein directly. Keep in mind that when converting entire movies, the source material must also be available. During conversion of individual objects from movies, you have to make sure that the movie file has not been changed between loading and saving.

Queued entries for batch conversion

This is the list of all objects that have to be converted into the indicated format. Each task can have its own export settings.

Add files (not during conversion of individual objects from movies): Manually add files, including video files and projects.

Remove selected: The marked tasks will be removed from the list.

Duplicate selected: If you would like to export tasks in multiple formats, you can simply mark and duplicate them and assign individual export settings to them.

Format settings for the selected conversion process

These are settings for the currently selected tasks, and multiple tasks can be given a setting simultaneously. Select one or more tasks from the task list.

Note on format setting for multiple tasks: If one of the marked tasks already has an individual setting, its will be lost after another format is selected. To prevent this, remove the selection for each task using Ctrl + mouse-click.

Set the target format in the flip menu. Windows Media Video format (*.wmv) is the default.

Advanced settings: This opens the dialog for the advanced format settings. This corresponds to the dialog for normal video export of a movie.

Tip: If you give several tasks the same file name, the files created will be documented intelligently. For example, you can easily convert and simultaneously line up multiple movies that belong together thematically.

Shut down PC automatically after successful export

This option is especially useful when you export long movies and are using an especially high-quality and resource-demanding export format. You can leave the computer to work on the individual tasks and after finishing them it will turn itself off.

Start batch conversion

Click on "Start conversion" to start the process. After ending conversion processes, a list of all export processes with a message informing of its success will appear.

Hint: During batch conversion, messages that appear during normal file import will be for the most part suppressed. This is to enable the smoothest conversion of all tasks. Therefore, please make sure that all files to be converted or the project can be easily loaded before starting a batch conversion.

Options for using the final movie

Create playable disc

MAGIX Video Pro X3 allows discs to be burned for playback on conventional playback devices (e.g. DVD players, Blu-ray players). For more information, please see "Burning discs (view page 199)".

Export movie

A movie may be exported in different video formats via "File -> Export movie". The options available vary according to the selected format.

Presets: These are typical settings for the selected format for the most important applications.

Click "Save" to save your own settings and "Delete" to remove them from the list.

Export settings: Specify general export parameters like resolution, aspect ratio, and frame rate here. Select the most frequently used values from the list fields; to set your own values click on the "..." button. The "Advanced" button opens the specific settings for the selected video format. "File" enables you to export your file to another folder than the preset one. The option "Overwrite file without confirmation" option allows you to execute multiple exports in the same file.

Other: "Other" also provides the option to switch off your computer automatically after long encoding processes and to limit export to the selected area (between the in and out point).

Output after export: Some formats allow special playback options (e.g. DV-AVI on the camera or WMV export with output via Bluetooth to your mobile phone).

Video as AVI

When exporting to AVI video, you may set and configure the size and frame rate of the AVI video and the compression codec for audio (audio compression) and video. Please see the general information about AVI video formats (view page 339) as well.

Shortcut: "Ctrl + Alt + A"

Video as DV-AVI

This option exports the video as a DV encoded AVI. You will be asked for which video standard you want to export DV data. PAL (Europe) or NTSC (USA/Japan). The arrangement can be easily transferred to the Digicam via the FireWire interface.

The window will provide further information on all available options. You can access it via the button "Advanced..." in the "Export" dialog.

Keyboard shortcut: Alt + B

Video as MPEG video

MPEG stands for "Motion Picture Experts Group" and is a high-performance compression format for audio and video files.

Details on the settings of the MPEG encoder can be found in the "MPEG encoder settings" appendix.

Keyboard shortcut: Alt + C

MAGIX video export

Exports the movie in MAGIX video format. This format is used for video recording by MAGIX video software and is optimized for digitally edited high-quality video material.
Keyboard shortcut: Alt + D

Video as Quicktime Movie

Exports the movie in QuickTime movie format. This enables streaming playback of audio and video files over the Internet.

As with RealMedia export, appropriate adjustments can also be made for video site, frame rate, and codec settings. However, the export dialog does not permit you to add commentary to the video.

For QuickTime files (*.mov) you have to install the QuickTime library.

Keyboard shortcut: Ctrl + E

Uncompressed movie

When exporting an uncompressed AVI video file you can adjust the size and frame rate of the AVI video you wish to create. The video material will not be compressed by a codec.

Note: This will create very large files!

Shortcut: "Ctrl + Alt + U"

Video as MotionJPEG AVI

Opens the export dialog for AVI video in Motion JPEG format. This format is supported by digital picture frames, for example.

Shortcut: "Ctrl + Alt + O"

Movie as a series of individual frames

This option exports the video as a sequence of single frames in bitmap format. This means a graphic file will be created for every frame of the video. The image count may be determined in the export dialog under "Frame rate".

Shortcut: "Ctrl + Alt + E"

Windows Media Export

Exports the arrangement in Windows Media format. This is a universal audio/video format from Microsoft. The setting options in the Advanced dialog are correspondingly complex.

Manual configuration

Audio/Video codec: Various codecs corresponding to the many versions of Windows Media (7, 8, 9) are possible. If playback compatibility problems arise, try an older codec with a lower version number.

Bit rate mode: Constant and variable bit rate modes are possible; however, most devices and streaming applications require a constant bit rate. For VBR two-pass modes, the movie is compressed in two passes for optimal use of the bandwidth required for highly-compressed movies on the Internet.

Bit rate/quality/audio format: The bit rate substantially determines the display and audio quality. The higher this is, the better your videos will look and the larger the files and the required encoding time will be. For variable bit rates, the bit rate is adapted dynamically to the requirements of the corresponding picture or sound material. Here, either the quality value of between 1-100 can be set or, for two-pass encoding, an average or maximum bit rate. For audio, the bit rate is set additionally by the audio format.

Import from system profile (export type): For the most used methods (other than for playback on mobile devices; for this you should use the supplied presets), e.g. Internet streaming, Microsoft provides a diverse selection of system profiles. If you have the Windows Media Encoder 9 installed (available from Microsoft as a free download), then you can edit the profiles or create your own. These can be loaded by pressing the "Import from profile file" button.

Go to Clip info to insert title, author name, copyright details, and a description.

Keyboard shortcut: Alt + F

Video as MPEG-4 video

MPEG-4 is the most advanced video format available at the moment. Unlike other formats, this provides very high-quality pictures at the same file size. The presets list is correspondingly long. We recommend looking through this list for settings for each application and corresponding device.

MPEG-4 refers to a highly complex "academic" standard that operates and is supported variably according to make. To go into detail on these differences and parameters would be beyond the scope of this documentation. For this reason, indications, along with the operational

manual of your device, are given that should help create executable MPEG-4 files. For more experimental users, the complete setup options of the MPEG-4 codec can be found behind the "Advanced settings..." buttons.

Video/audio: MPEG-4 and the newer MPEG-4 H.264 are currently available, and these are used with new devices especially. MPEG-4 video may be combined with AAC or AMR sound (the latter is mainly for mobile telephones). The combination of MPEG-4 H.264/AAC is more seldom applicable (Apple iPod Video). MPEG-4 H.264 featuring AMR will almost never occur.

Multiplexer: This features so-called container formats and special options for Apple iPod, iPhone, and Sony PSP. MPEG-4 is usually used as an output format, while mobile phones (but not iPhone) mostly use 3GP.

For more information about MPEG-4 encoder read the "MPEG-4 encoder settings (view page 346)" chapter.

Shortcut: "Ctrl + Alt + G"

Audio as MP3

Note: MP3 export requires Windows Media Player version 10 and up.

The MP3 encoder cannot be used as a codec for the AVI audio file audio tracks.

Options

The "Options" section allows the format and the compression level for the audio file to be set.

Bit rate: "Bit rate" selection specifies the compression level: the higher the bit rate, the higher the quality of the exported audio file will be. On the other hand, the bit rate also determines the final file size: the smaller the bit rate, the smaller the files will be.

Mono/stereo/5.1 Surround: Most mobile devices have only one loudspeaker. To save on memory, you may export in mono for these devices. In "5.1 Surround" mode, you can also export in MP3 Surround. Read "Mixer in Surround mode" for more about this.

Normalize: This function should always be activated. It guarantees that the music is not too loud/overmodulated or too quiet.

Transfer format:

Specify here whether the created file should be transferred via device connected via Bluetooth or via email.

Audio as wave

The movie's audio track is exported in the wave (*.wav) audio format.

Shortcut: "Ctrl + Alt + W"

Export as transition...

Please see "Creating custom alpha transitions"

Single frame as BMP

Exports the image at the position of the start marker and displayed on the video screen as a BMP file.

Keyboard shortcut: Alt + M

Single frame as JPG

Exports the picture located at the current start marker and displayed in the video monitor as a JPG file.

Keyboard shortcut: Alt + N

Animated GIF

The video will be exported as an animated GIF file (also called "AniGIF). This file format is supported by many mobile phones.

Export movie information as EDL

Exports the current movie in a Samplitude-compatible EDL format. This export is mainly intended for transferring audio files to Samplitude/Sequoia, since the program cannot process all of the video formats MAGIX Video Pro X3 can manage. Only object cuts, tracks, pans, and volume (with curves) are transferred, since the EDL format only saves this information in a limited manner.

Items that are not transferred: All effects, Surround positions, video transitions, markers (chapter markers, scene markers).

The basic audio and video files will not be exported. They will either be loaded by the EDL-importing program automatically (if they are available in the same folder of the EDL file) or requested during importing.

The following is a recommended approach for using an editing list in EDL format:

- Save the media you use beforehand in a folder (e.g. via "File -> Backup copy -> Copy film and media to folder".
- Export your film as an EDL editing list and add the EDL file in the same folder as the media.
- Load the EDL file into the importing program (e.g. Sequoia). The EDL file provides the correct positioning of the individual media. After editing, you can export the audio track as a WAV file, e.g. to import it again into MAGIX Video Pro X3 to replace existing audio objects.

Note: Cut lists may also be imported from external programs. Select the menu item "File -> Import cut list (EDL)" to do this.

Shortcut: Alt + D

Output audio/video
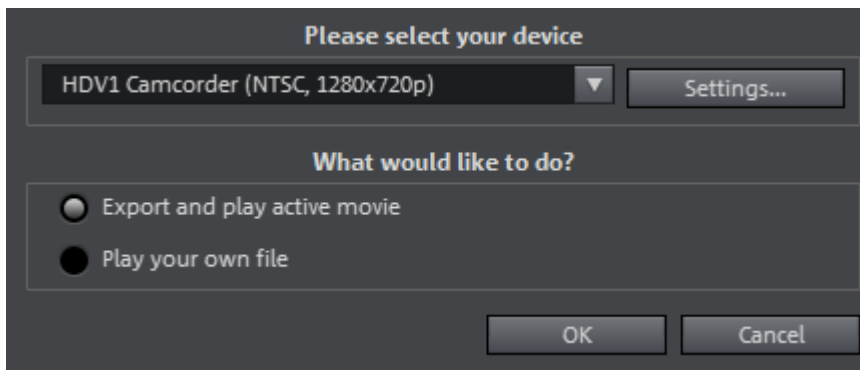
This window lets you transfer your finished video onto external devices. Besides the Camcorder options for digital camcorders (DV/HDV) and VHS recorder for playing analog video for recording onto digital camcorders and analog VCRs includes many options for further players such as mobile video players, Smartphones, PDAs, or games consoles.

Video playback via TV output

Video or graphics cards with TV outputs allow you to transfer videos directly to external analog video recorders. The arrangement must be displayed in fullscreen mode and recorded by the external device. Make sure that the TV output in the Windows Control Panel (in "Display") is active.

Warning: For many graphic cards, the TV output can only be activated when a television or video recorder is connected before turning on the computer!

For the best video monitor quality via TV output, select "Overlay" mode. When in doubt, make sure that "Overlay" mode is selected as the video mode in the program settings ("File -> Program settings -> Display options").

You can play the video directly from the arrangement. Errors may result if the processor is overloaded by real-time calculations of video effects and transitions.

If direct playback doesn't work without errors, open the menu item "Output video" and select "VCR -> Render and output in fullscreen". All tracks and effects are then combined as a single file. The file will be played back after this analysis.

If you would like to play a finished movie several times, export it as an AVI file and reload it into a new movie! It should then be possible to play the file directly without constant rendering.

Playing videos on digital devices

The digital output always consists of two processes:

1. Exporting, i.e. compiling all tracks, video, music, effects, transitions, and titles into one single video file. This video file is created in the format required by the target device and then temporarily saved to your computer's hard disk.
2. Output: In this case the created video file is transferred to the mobile device or to the camera. The data is either written to the device via FireWire as a removable device if connected to the USB port or transferred by Bluetooth or infrared.

Both processes are normally performed together. However, you can only export vie "File -> Export movie" or export via the option "Output file" in the dialog "Output audio/video".

The Settings button opens the "Export" dialog (view page 243) of the file format for your selected device.

Output DV/HDV

For digital output please select "File" > "Output audio/video" and then select Camcorder in the device menu. For DV cameras you can select the device DV camera for HDV camcorder HDV1 or HDV 2 Camcorder.

With Settings you can open the respective export settings dialog (DV-AVI export for DV camcorder, MPEG export for HDV camcorder). For most

applications you should use the settings defined here. Advanced takes you to the DV export settings (More Informationen can be found in the section "DV export settings" on page 251).

Now connect your camera and follow the displayed instructions.

If you want to export a rendered (already edited) movie to DV, there's no need to render it again. Simply activate the "Play own DV file" option and select your DV video from the "My audio video" directory.

Tip: Digital cameras that can digitally record via a PC connection are usually more expensive. You may be able to reduce your purchase costs considerably by buying a digital camera that cannot transfer digitally and have the function activated by a camera specialist. You should enquire about this option before making your purchase.

DV export settings
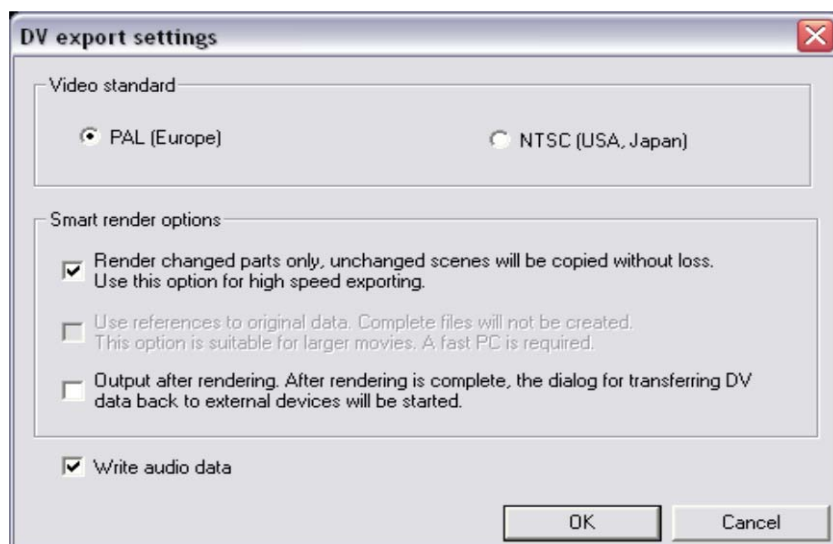
PAL/NTSC: The PAL format is used in Europe, and the US and Japan use NTSC. This option usually does not require changing.

Render changed parts...: Non-edited original files are simply copied into a completed DV AVI. Normally, you have to decompress the DV data, add the set effects calculations, and recompress it. If no effects processing is pending, then these steps may not be necessary. This option can be permanently activated.

Use references to original material...: Unedited original files are exported directly to the device. Effects are rendered in real time. Use this option for

finished movies without edits and effects, since real-time effects processing of DV data causes high processor loads that often result in output errors.

Transfer DV back to device after export...: Deactivate this option if you are only rendering your movie but do not want to export it. You can export your movie later by clicking "Export own DV file" from the "Export" dialog.

Export to mobile devices

Most devices require certain format settings (file format, resolution, bit rate, picture repeat rate, etc.) to be able to play a video.

The menu is divided into various device classes (mobile phones, organizers and PDAs, games consoles, and video players) to make it easier to select your device. The last three selections are saved as favorites in the top part of the device list if you have more than one device or want to present your movies to your friends.

If your device is listed here, you won't have to worry about the format settings, because the necessary settings of the export dialog (view page 243) are automatically customized to the target device. Simply select your device, and then click the "OK" button - that's all.

Transfer with Bluetooth

Warning! The procedure described here refers to Windows XP with Service Pack 2!
Dialogs may be different depending on the Bluetooth driver and operating system version, or their order may vary (e.g. for password allocation) when transferring to your mobile phone. However, the process is usually similar if other drivers are used. Read more on this in the help file or the corresponding chapters of your operating system's manual and Bluetooth adapter.

- If you own a Bluetooth device, you can export the movie straight to your device. To do so, your device and your PC must both have Bluetooth interfaces. If your system has a Bluetooth device, you can activate the "Transfer via Bluetooth" option.
- After converting the movie into the desired format, the Bluetooth file transfer assistant opens.
- The first time you try to transfer files to your device via Bluetooth, you have to specify your device as the receiver in the dialog by clicking on "Search...", selecting your device and then pressing "OK". The name of your device in the Bluetooth network is specified in the Bluetooth settings of the device. Check your device manual for this. Select your device and confirm your choice by pressing "OK".
- Now enter a password of your choice, which you will later have to confirm on your device and click on the "Continue" button in the assistant. Since

connections between multiple Bluetooth devices can be set up simultaneously in a room, the password serves to identify certain connections as well as to safeguard your data.

The order may be the other way around, depending on the Bluetooth device driver, i.e. the mobile phone will request a password which must be confirmed on your PC. It's important that you use the same password in each case.

- You may be asked once again to enter the file name and path of the movie. In this case, we recommend using a folder that you will be able to find again quickly to export the file (e.g. "...My Files/My Videos").
- Click the "Scan..." button, open the set up folder, and select your video file by double clicking it. Now, in the wizard, click the "Continue" button.
- Next, you may have to activate the reception of files on the device and re-enter the password. Afterwards, the transfer of the videos will begin automatically.
- Once the transfer has been completed successfully, "1 new message" will display on your device. Read more on how to save and play videos in the corresponding device manual.

Warning! We only recommend activating data reception via Bluetooth on your device once this function is actually required, e.g. for transferring files. Once you have completed the uploading process, you should deactivate Bluetooth again, since permanently activated Bluetooth reception constitutes a security risk!

My device is not in the list, what should I do?

User-defined:

If your device does not appear in the list after the online update, you can set up the export settings manually. No need to worry though; you only have to do it once, since these settings can be saved as a preset.

Read the instruction manual of your mobile device to find out which file format is required for this. If your device supports multiple formats, then you can experiment with the formats to get the best results.

Specify the file format by opening the target device's menu and selecting "User-defined -> Video -> ...Format". If you then click on "Export", you arrive at the Export dialog (view page 243) of the selected file format where you can set all the advanced settings.

For details on these settings, please consult your device manual. Explanations for the file format's settings can be found in the Overview of the device

classes chapter, for the special settings of the export dialogs see "Export movie (view page 254)" in the "File menu" chapter.

Tip: If the format settings for your device are not accessible, then you can try out a different device from the same manufacturer and, using it as a template, make adjustments accordingly.

If you find settings you like, we recommend saving these as a preset for further use.

Overview of the device classes

This chapter explains the various supported device classes and which peculiarities should be noted when manually setting the export format.

Quick overview of the device types*

Example devices	MPEG-4 profiles (audio + video formats within MPEG-4 container format)
iPod & PSP	AVC (video) + AAC (audio)
Mobile phones	3GP (video) + AMR or AAC (audio)
	Additional video formats
Symbian mobile phones	MPEG-4
Video players	DivX / XviD
PDAs, PocketPCs	WMV9

*No guarantee taken for correctness of information

Mobile phones

This refers to multimedia mobile phones and SmartPhones.

File format: For SmartPhones running the Symbian operating system, you should ideally use the Real format for maximum compatibility, since RealPlayer is integrated into the system. Many mobile phones also play MPEG-4. It's important in this case that the correct container format (for mobile phones, usually 3GPP) is set up ("Video as MPEG-4 video export")

Resolution: The resolution corresponds to the display size of your mobile phone in pixels. Standard resolutions are 128 x 96 pixels (sub QCIF), 176 x 144 pixels (QCIF), 300 x 180 pixels, and 320 x 240 pixels (SmartPhones). You can find out the resolution of your mobile phone from its documentation. Many mobile phones require the precise setting in order to play back videos. If the aspect ratio does not correspond to the display resolution (300 x 180 corresponds to 5:3 instead of 4:3), then black bars are

added. For broad displays (optimized for 16:9) we recommend the video effects Aspect ratio 16:9 (anamorph/letterbox).

Frame rate: Picture repeat rate, i. e. the number of frames per second (fps). For mobile phones this is usually reduced from 25fps to around 10 or 15fps in order to save memory space and because mobile phone processors are not powerful enough. If you don't have to save on memory, select the largest frame rate possible (see device manual) because at low frame rates the video can be very jerky.

Organizers and PDAs

Under "Organizers and PDAs", Pocket PCs and similar devices are listed.

File format: For Pocket PCs, you should ideally use Windows Media Video format for maximum compatibility, since it usually only runs on modified Windows Operating Systems (Windows Mobile), and the Windows Media Player is integrated in the operating system.

Resolution: The resolution corresponds to the display size of the PDA, mostly 320 x 240 pixels. You can find out the resolution of your PDA from its documentation. A PDA can also play back at higher resolutions than those set; mostly, however, the CPU is usually not able to handle this as it must scale the picture before output, which can cause errors.

Frame rate: Picture repeat rate, i. e. the number of frames per second (fps). If you don't have to save on memory, use the largest frame rate possible (see device manual) because at low frame rates the video can be very jerky.

Games consoles

Several portable games consoles are also able to play videos. These consoles are extremely limited in terms of overall settings for file formats. Sometimes they even use their own variations of file formats.

Warning: Do not change the presets!

Warning: Sony PSP and Apple iPod video only play movies when they are copied with a specific name into a pre-defined target folder. Always copy movies for these devices from the export dialog along with the corresponding presets (at the top of the "Preset" list and at the bottom beside "Play after export").

Video players

Video players are considered to be video devices if they have been developed especially for mobile video playback. They usually have relatively

large displays and their own hard disk or a very large flash card memory (in GB).

File format: Mostly DivX AVI or WMV (Windows Media Video) are used. While WMV is its own format, AVI is a so-called container format. This means that the actual file format is set via the medium's codec (view page 339).

In addition to the AVI format, you will also have to set up a codec that your mobile device supports when exporting AVI files.

A much-used codec for AVI is the DivX codec. This is supported by a large number of portable video players. Specific standards have been set up between the codec manufacturer DivX and the device manufacturers (profiles) that a certified DivX device has to fulfill.

Unlike Windows Media or MPEG4, a separate audio codec (ACM codec) is required for the sound in order to encode the sound track in the same high compression at acceptable quality. Select the codec you wish to use for the sound under Audio compression. MP3 56kBps is used as a preset. For improved sound quality, you should read your device manual to find out which sound formats AVI audio still supports and, if required, install further ACM codecs from the Internet.

The DivX codec can be downloaded from www.divx.com http://www.divx.com.

Resolution: Video players can handle almost every resolution up to TV resolution (720x576), as most models can display your video picture in TV resolution via an analog TV output. For the optimum picture quality on the device display (if you do not wish to use the TV output) use the resolution that the device can display.

Frame rate: Picture repeat rate, i. e. the number of frames per second (fps). This isn't problematic, since the frame rate of the output material is used.

Warning: Sony PSP and Apple iPod video only play movies when they are copied with a specific name into a pre-defined target folder. Always copy movies for these devices from the export dialog along with the corresponding presets (at the top of the "Preset" list and at the bottom beside "Play after export").

Upload to Internet

With this option you can upload your movie directly to YouTube®, Vimeo or Facebook (deluxe version). YouTube® maybe the best-known portal for self-made clips of all kinds. Vimeo is an up-and-coming portal for more demanding videos.

Community: Select a platform: YouTube® or Video.

Name: Here you can enter the name of your movie.

Description: Here you can create a short description of your movie to orient other community member as to its contents.

Category: Select the category for your movie here.

Send: Here you can select whether the film should be private, accessible only to you and authorized persons, or public, meaning freely accessible.

Export settings:Here you can set various quality settings.

Managing video projects

Project and movie settings

When you create a new video project, you can make settings for the new project already in the start dialog. You can change these later.

In the following chapter we want to present the settings offered by MAGIX Video Pro X3 for movies and projects.

Note: Please differentiate between settings for a concrete movie and project and general program settings. The latter are described in detail in the PDF manual or Help (F1 key).

All settings dialogs can be reached via "File > Settings".

Movie settings

Open the movie settings via "File -> Settings -> Movie..." or by pressing "E". The following dialog opens:
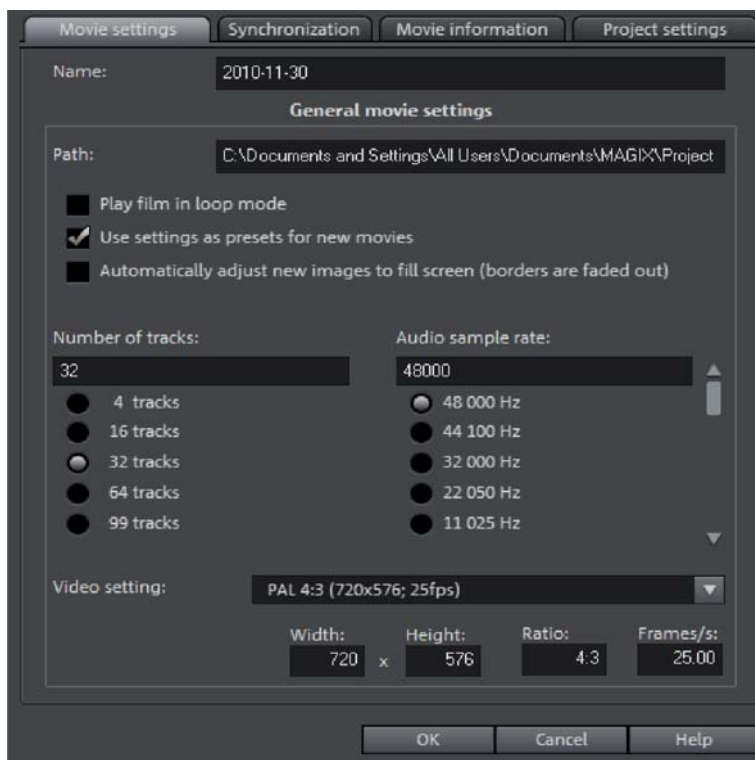
The buttons at the top are for the four tabs in the dialogs: "Movie settings -> Synchronization ->Movie information" and "Project settings".

Movie settings

Name: You can enter the name of the current movie here.

Path: This is where you determine the path to the folder on your hard drive where your movie is saved.

Play movie back in loop mode: The movie is then played over and over again, i.e. once the movie reaches the end marker, it is started again from the beginning.

Cut new images to fit the screen automatically: Fits all images and videos inserted into the project automatically so that they fit the screen.

Number of tracks: Changes the track number.

Audio sample rate: The preset sample rate is 48 kHz. This sample rate is applied to all recordings and is also a prerequisite for DVDs. This setting guarantees optimum sound quality. Audio material at different sample rates (e.g. CD audio at 44 kHz) is automatically adapted when loaded (resampling). Only change this value if you are working with sound material at a different sample rate or if your sound card does not support this sample rate.

Video settings: You can select the standard settings for the picture format and frame rate for PAL or NTSC images or for your own format. Please note that MPEG encoding requires a width/height ratio divisible by 8.

Synchronization

Synchronization dialog
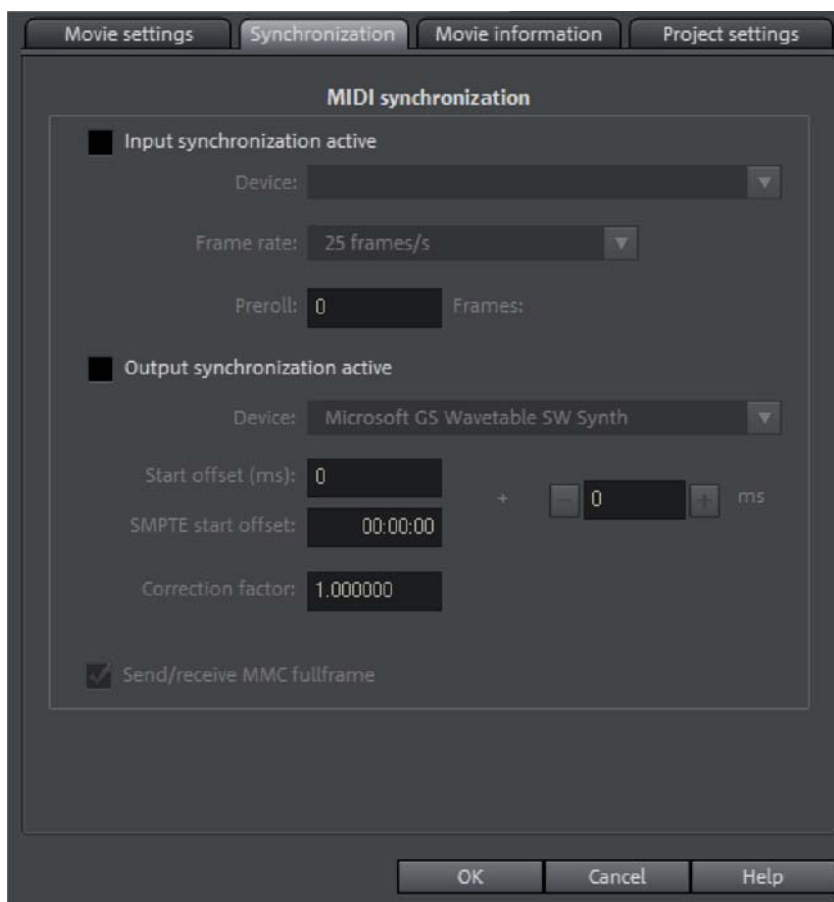
Note: You will find descriptions of all synchronization dialog elements here. You can find a description of how the synchronization settings are made in the "Synchronization settings" (view page 261) chapter.

Input synchronization: Here you must select the driver which the MAGIX Video Pro X3 will receive the MIDI timecode. This setting will also be used for SMPTE. With synchronization via SMPTE, please make sure that the device corresponds to the SMPTE input of your MIDI interface.

Frame rate: Here you can determine the fitting SMPTE frame rate, for example 24 for cinema film, 25 for PAL video and audio synchronization, 29.97 drop/non drop or 30 for NTSC video.

Preroll: Here you can enter a frame number which MAGIX Video Pro X3 will ignore before it starts synchronization. This accommodates the fact that

analog devices need time to reach their correct speed. To make sure that MAGIX Video Pro X3 synchronizes to a valid time, this segment can be skipped using pre-roll frames.

Output synchronization: Here you must select the driver, which MAGIX Video Pro X3 will use to send MIDI timecode. When synchronizing via SMPTE, please make sure that the device corresponds to the SMPTE output of your MIDI interface.

Start offset (ms/SMPTE): Here you can enter a time value in milliseconds or in SMPTE frames to be subtracted from the SMPTE time before the time is used for synchronization. With an offset of 60:00:00 (1 hour), a tape whose SMPTE code starts at 1 hour may be synchronized by MAGIX Video Pro X3 as starting at 0.

Specify synchronization

MAGIX Video Pro X3 is capable of being synchronized by external sources or synchronizing external sources.

Synchronizing MAGIX Video Pro X3 with Samplitude or Sequoia is also possible via a virtual MIDI cable (e.g. "MIDI Yoke" or Hubi's MIDI Loopback Device"). The requirement in this case is simply that the virtual MIDI cable has been installed successfully.

MAGIX Video Pro X3 as master

If MAGIX Video Pro X3 should synchronize external programs or sources, then proceed as follows:

- Open the Synchronization dialog (view page 260).
- Under "Output synchronization", set the MIDI device that is connected to the device that MAGIX Video Pro X3 is supposed to sync with.
- In case you want to synchronize another program (e.g. Samplitude/Sequoia) via a virtual MIDI cable with MAGIX Video Pro X3, please make sure that the corresponding MIDI device is set in both programs. The program to be synchronized must support MTC and be configured as the "slave".
- For example, if you use "MIDI Yoke NT1" under "Output synchronization", then the device "MIDI Yoke NT 1" must also be set in the MTC input of the program to be synchronized.

MAGIX Video Pro X3 as slave

MAGIX Video Pro X3 set as the slave causes the program to follow an external source or another program during playback.

- Open the Synchronization dialog (view page 260).
- Under "Input synchronization", set the MIDI device that is connected to the device that MAGIX Video Pro X3 is supposed to sync with.

- In case you want to synchronize another program (e.g. Samplitude/Sequoia) via a virtual MIDI cable with MAGIX Video Pro X3, please make sure that the corresponding MIDI device is set in both programs. The program that is set to be the synchronization source must support MTC and be configured as the "master".
- For example, if you use "MIDI Yoke NT1" under "Input synchronization", then the device "MIDI Yoke NT 1" must also be set in the MTC output in the master.

Synchronizing Samplitude/Sequoia with MAGIX Video Pro X3

This section should help you synchronize MAGIX Video Pro X3 with Samplitude/Sequoia for Surround productions.

The introduction featured here provides a single example. In this case, MAGIX Video Pro X3 is the master: Samplitude/Sequoia follows the time information from MAGIX Video Pro X3 but sends information from the transport control to MAGIX Video Pro X3. This method allows playback from both programs to be started while they run synchronously.

The chapter "Transferring a Surround project to MAGIX Video Pro X3 (view page 189)" explains how completed Surround projects are transferred from Samplitude/Sequoia to MAGIX Video Pro X3 and how they are processed.

Requirements

Since synchronization occurs via MTC (MIDI time code), a virtual MIDI driver must be installed. Examples are "MIDI Yoke" or "Hubi's MIDI Loopback Device". Configure the driver as required so that at least two virtual MIDI devices are available.

If a Surround project is to be created, then you require a Surround-capable sound card with at least 6 channels.

Setting up MAGIX Video Pro X3

- Open the synchronization dialog
- Activate the box "Input synchronization active".
- Under "Device", set the first free virtual MIDI device (e.g. "MIDI Yoke NT 1").

Now set the transport controls via MMC (MIDI machine control):

- Click the "MMC button" to open the "MIDI machine control".
- Activate the box "Receive MMC commands (slave)".
- Under "Device", set the second free virtual MIDI device (e.g. "MIDI Yoke NT 2").
- Close both dialogs by pressing the "OK" button.

Setting up Samplitude/Sequoia

- Start Samplitude/Sequoia; MAGIX Video Pro X3 can remain open.
- Open the Samplitude/Sequoia synchronization dialog. Right-click the "Sync" button on the transport console, or select the entry "Synchronization settings" in the "Options" menu.
- Activate the box "Output synchronization active".
- Under "Device", set the first free virtual MIDI device (e.g. "MIDI Yoke NT 1").

Now set the transport controls via MMC (MIDI machine control):

- Click "MMC settings" to open the "MIDI machine control" dialog.
- Activate the box "Send MMC commands (master)", "Transport window as remote control for external device", and "Space bar for remote control".
- Under "Device", set the second free virtual MIDI device (e.g. "MIDI Yoke NT 2").
- Close both dialogs by pressing the "OK" button.

Now you can conveniently dub your movie in Samplitude/Sequoia while you edit and cut your work in MAGIX Video Pro X3. Playback can be started from both programs and always runs synchronously.

MIDI Machine Control (MMC)

MMC modes

The synchronization window provides settings for remote control via MIDI Machine Control. MAGIX Video Pro X3 supports synchronization of external devices via MMC. Three working modes are provided:

Receive MMC commands (slave): If you have set up MAGIX Video Pro X3 to work as a slave, activate this option. MAGIX Video Pro X3 keeps track of the JOG shuttle operations and fast forward and rewind commands of external devices. MAGIX Video Pro X3 also receives the current playback position of the device and displays it as an additional blue cursor of the timeline.

Send MMC commands (Master): MAGIX Video Pro X3 operates as master. The external device follows the time position every time the playback cursor moves to a certain position within the arrangement.

While playing a range in MAGIX Video Pro X3, the MMC device stops once the end of the range is reached. If this option is activated, the start and stop commands sent by the space bar only control the MMC device.

Movie Information

This option opens an information window:
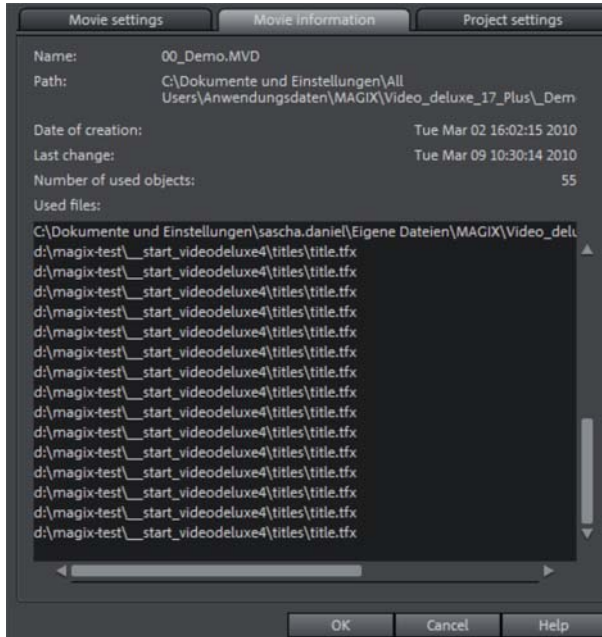
Name: Here you can enter the name of the current movie.

Path: This is where you select the folder on your hard drive in which your movie is saved.

Created on: Displays the time the movie was created.

Last changed: Displays the time of the last save.

Number of used objects: Displays the number of all objects in the movie.

Used files: All files used in the movie are listed here.

Keyboard shortcut: E

Project settings

You can change project settings here. A project can consist of multiple movies and is saved as an mvp file.
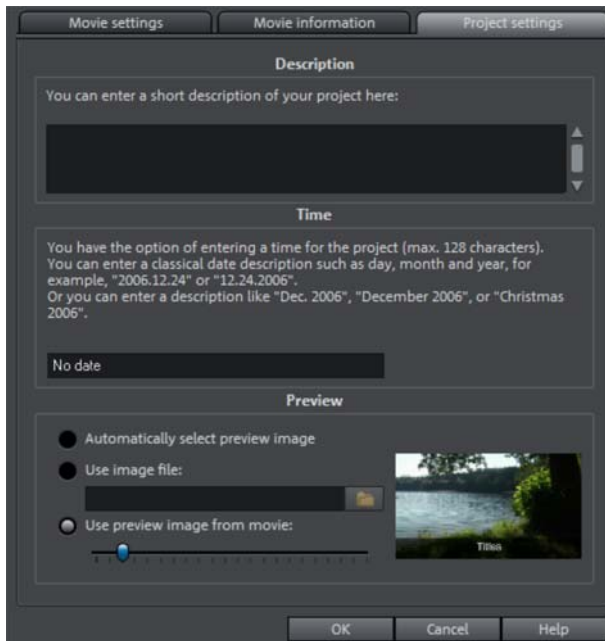
Description: Here you can give you project a description - perhaps a few statements about the state of the editing progress, etc. This field functions like a notepad.

Time point: You can assign your project a certain date. You can choose between simply a date - e.g. "24.12.2009" - or a written-out description - e.g. "Christmas 2009".

Preview: This is the preview in a data manager such as the Windows Explorer, a comparatively insignificant setting. Instead of an automatic selection, you can select a certain image or a preview frame from the project.

Automatically select preview image

MAGIX Video Pro X3 uses an automatically-selected preview image.

Use image file

Clicking the folder button opens a dialog to load image files. In this dialog, you can navigate to the directory where the image file is found and select it by double clicking.

Use preview image from movie

Use the controller to select a frame from the corresponding directory.

New project disc settings or new movie

When you start MAGIX Video Pro X3 the following dialog will open:
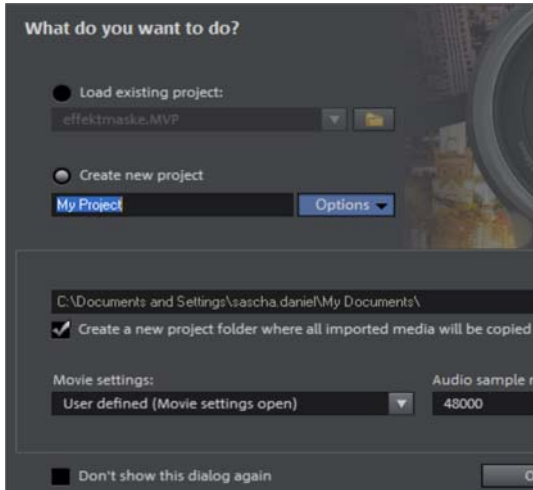
Decide in this dialog if you want to "Load an existing movie" for further editing and burning to disc, or if you want to "Create a new movie". Under "Options" you can "Create a new movies folder". All data that belongs to the movie will be saved in this folder.

We're still at the very beginning, so let's stick with keeping an overview of everything. Click "OK" to end the dialog and continue.

Open

With this option you can load a project or a media file. Please note that all media files associated with it must be loaded along with a project. MAGIX Video Pro X3 will search for all used sounds and video files in the folders in which they were located when the move was saved.

Keyboard shortcut: Ctrl + O

Save project

The current disc project is saved with the name displayed in the project window. If you have not specified a name for your project yet, a dialog will open for you to do so.

Shortcut: Ctrl + S

Save project as...

A dialog opens where you can specify the path and name of the video for saving.

Keyboard shortcut: Shift + O

Program settings

All basic settings for MAGIX Video Pro X3 are made in this window. This allows you to influence the settings in MAGIX Video Pro X3 in detail.

Keyboard shortcut: P

Playback
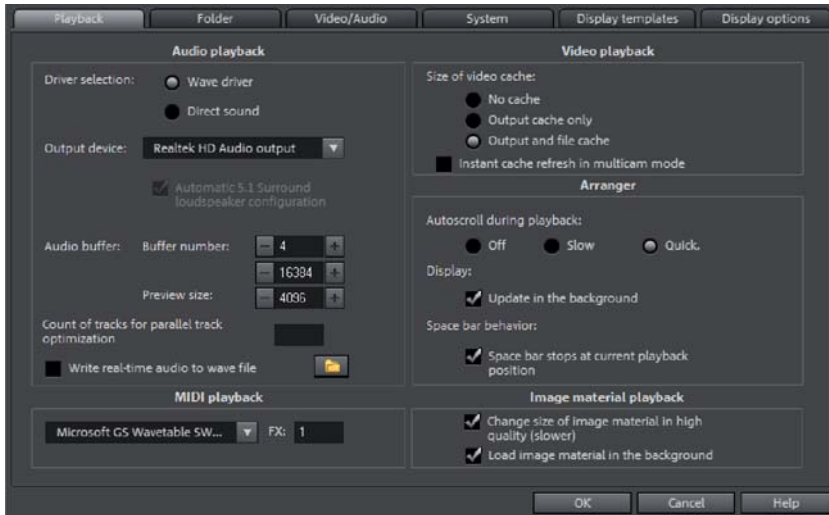
Audio playback

Driver selection: Specify whether you wish to use the standard Windows driver for the sound card or the DirectSound driver here. DirectSound is a component of DirectX and, if required, is installed together with MAGIX Video Pro X3. DirectSound has the advantage that the sound output (for all modern sound cards or onboard sound chips) may also be used by other programs simultaneously. Wave drivers are recommended if the CPU load is increased, since the larger buffer allows load peaks to be absorbed better (otherwise this would cause crackling).

Output device: Use this option to specify which sound card plays the wave audio objects. This is especially important if multiple sound cards are installed on the computer, e.g. "onboard sound" as well as an additional sound card.

Audio buffer: In order to allow smooth playback of a complex arrangement, MAGIX Video Pro X3 creates a RAM data buffer into which the current data is loaded. Therefore, it is not the entire arrangement that is preprocessed; instead, processing occurs step-by-step.

Number of buffers: Specify how many buffers should be used here. More buffers increase stability for crackle-free playback of the arrangement, but they also increase the memory requirement. When played via DirectSound, only one buffer is used automatically.

Note: As a rule, if response and loading times are too slow, reduce the number of buffers and their; otherwise, increase the buffer size if the audio playback is choppy or if real-time errors occur. Since error-free playback is usually more important than speedy reaction times, the buffer size should be raised to 16384 or 32768 if dropouts occur. The possible number of buffer updates is between 2 and 10.

Preview size: Specify the buffer size used to play the entire arrangement or for previewing waves in the file manager.

Write real-time audio to wave file: If this option is active, the entire audio track may be mixed live and recorded simultaneously. During playback, for example mixer fades and effects may be controlled live and all real-time activities are recorded and saved in a separate wave file.

MIDI playback

Specify which sound card or which MIDI interface should be used for MIDI playback.

Video playback

Video cache size: The video cache ensures smooth on-screen playback for files and effects by pre-loading them. The ideal setting depends on your system; experiment to find the best playback performance on your system.

Arranger

Autoscroll during playback: If autoscroll is activated, the screen view automatically shifts when the playback cursor reaches the right edge of the screen, which is useful for longer arrangements. Select the size of the scrolling steps: "Fast" (whole pages) or "Slow" (half pages).

Note: Scrolling requires constant recalculation of the screen view, which may lead to interrupted playback if the amount of system RAM is too low. If this happens, simply deactivate the autoscroll feature.

Display: update in background: The object display after move and zoom operations in the arranger is updated in the background in order to allow you to work smoothly.

Space bar behavior: Set whether stopping playback with the space bar moves the playback marker to the current position or returns the marker to its original position.

Image material playback

Resizing high-quality image material: Use this feature to improve the quality during resizing, particularly when downsizing to less than half of the original size (e.g. for picture-in-picture effects). This also requires more CPU power.

Load image material in background: Image material is loaded in the background to spare processing power.

Folders
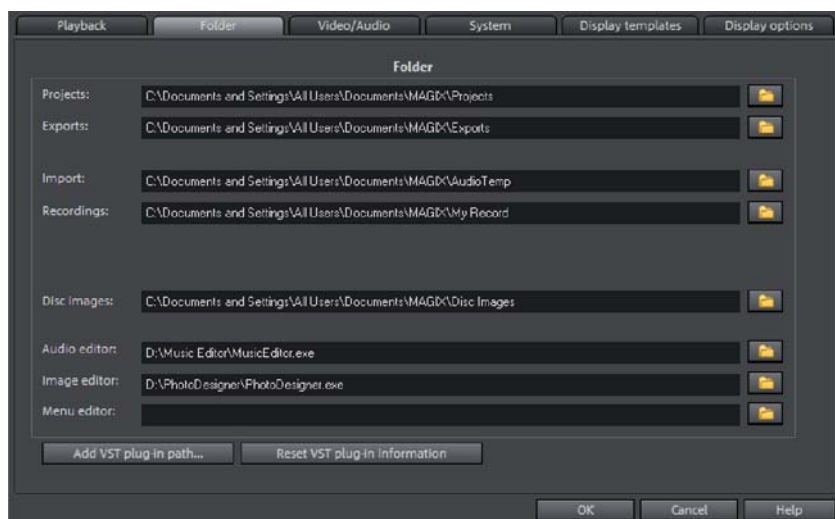
Set the path where

- projects are saved (Projects) here,
- where files are exported (Export) or imported (Import), and recordings (Recordings) are saved,
- where disc images are saved,
- where EXE files for the external audio and picture editor are located so that they are able to be launched via the context or effects menu.
- and where the VST-plugins were installed.

Video/Audio
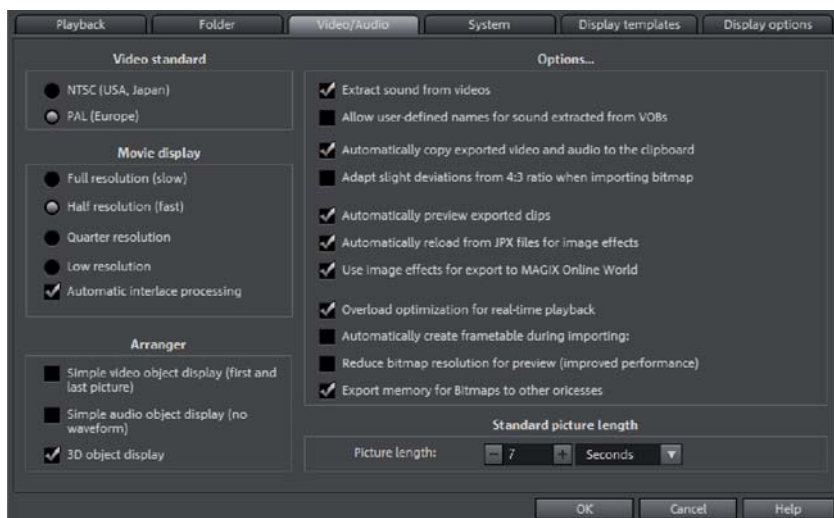
In this tab you will find all settings concerning video and audio files.

Video standard

PAL is used in Europe, the US and Japan use NTSC.

Movie display

The resolutions that can be set here concern only the picture display in the Arranger. If playback becomes jerky, we recommend entering a lower value. The quality of exported videos is not influenced by this.

Automatic interlace processing: MAGIX Video Pro X3 normally detects whether the loaded video files were recorded with the interlace or progressive processes automatically, and half-image format is detected for interlaced movies. In case automatic detection fails, you can deactivate it here and set the object properties (view page 308) of video objects to the correct process.

Video options

Extract sound from video: If a video file contains video and audio data the audio track of the video will also be imported if this option is activated. It will be displayed as an audio object in the arrangement below the video object. Both are automatically grouped together. If the audio track has to be edited or replaced later, you first have to ungroup it ("Ungroup" button in the tool bar or via the "Edit" menu).

Allow user-defined names for sound extracted from VOBs: Specifies whether a warning will be displayed for each imported file during VOB import (VTS_01_1.vob) allowing you to enter a name for your movie (check box

"checked") or whether you would like an automatically generated name to be assigned (check box "unchecked").

Automatically copy exported material to clipboard: This option is particularly useful when used with other programs, such as Microsoft Powerpoint. If activated, a multimedia file you have just created is immediately copied to the clipboard and can be used in other applications. For instance, you can insert it into an opened MS Powerpoint template by pressing "Ctrl + V".

Adjust 4:3 aspect ratio to screen: This option automatically customizes photos that have an approximate 4:3 aspect ratio to the television's 4:3 picture. The pictures are therefore easily stretched or compressed. This inevitably brings about distortions in the picture. If this option is deactivated, black bars appear to the sides.

Automatically preview exported clips: This option starts the clip immediately after exporting for verification.

Automatically load/save picture effects from JPX file: If you have edited pictures using another MAGIX program (e.g. MAGIX Digital Photo Maker), then a .jpx description file is saved along with the image which contains information about effects editing and texts. This option adds that information into your editing process.

Use picture effects when exporting to MAGIX Online Services: If this option is selected, all the picture effects are included with the sent file.

Hardware acceleration for 3D effects: Here you can (de)activate hardware acceleration of your graphics card for 3D effects. You can find more information about this topic in the 3D fades (view page 93) chapter.

Automatically create frametable during importing: Sometimes, rebuilding a frame table can get rid of problems in certain MPEG files. For example, such problems can be present if the navigation (positioning of the playback marker, transport) is bumpy or doesn't function at all.
Normally, when loading MPEG video, a frame table is not created in order to speed up the loading process. If you do create one anyway, MPEG files are normally noticeably faster and easier to edit.

Reduce bitmap resolution for preview: The resolution of image files is reduced during playback to decrease required memory. This requires less computing power than playback in full resolution; full resolution is always calculated during export.

Arranger

Simple display of video objects: Displays only the first and last image of a video in the Arranger.

Simple display of audio objects: Does not display a waveform for audio objects in the Arranger.

3D object display: Shows objects in the Arranger three-dimensionally.

Standard picture length

Determines how long an image loaded in MAGIX Video Pro X3 is shown for by default.

System
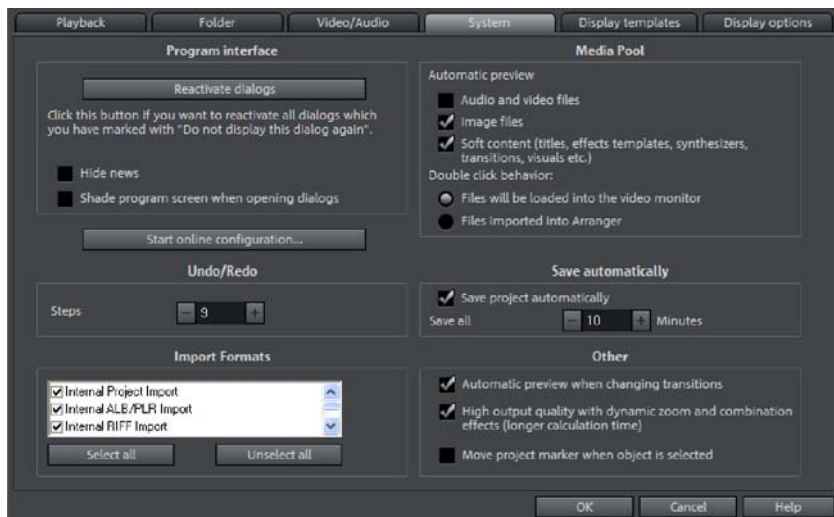
Dialogs: Once installed, MAGIX Video Pro X3 displays a number of security queries in various parts of the program. Each of them can be switched off by clicking the small box at the bottom that says "Don't show this message again". To display these warning messages, select the "Reactivate dialogs" option. "Hide news" enables current messages concerning MAGIX Video Pro X3 to be deactivated, and the screen may also be set to darken when dialogs are displayed.

Start online configuration: Configure the various services for MAGIX Online World here.

Undo/redo: Set the maximum number of undo steps are available here.

Import formats: You can unselect file formats that you never use so that are no longer imported. Bear in mind that several import modules exist for some file types (AVI, WMA); MAGIX Video Pro X3 uses the fastest one in each case. If you experience problems importing certain files, try experimenting with deactivation of certain import modules, which forces the program to use the slower, more compatible import module.

Media Pool: Select which file types should be previewed automatically. You may also select whether double clicking a file starts a preview in the Media Pool or imports it directly into the arranger.

Automatic save: The automatic backup function may be set to save the project in the project folder as a backup file with the ending "MV_" (instead of the normal "MVD"). Select if and how often the project is saved as a backup.

Other

Automatic preview during transitions: If this option is activated, a short preview of the transition effect will be played quickly between two objects.

High-quality output for dynamic zoom and combination effects: This improves the display quality of zooms and effects, but results in longer loading times.

Move playback marker when selecting objects: This option causes the playback marker to move to the beginning of the selected object.

Display templates

These presets provide a collection of useful configurations for display on the monitor. On systems with only a single connected monitor, only the first two are practical. The presets are explained on the right side of the dialog. All window properties of the arranger, program monitor, etc. can still be changed manually after the application of a preset.

Display options
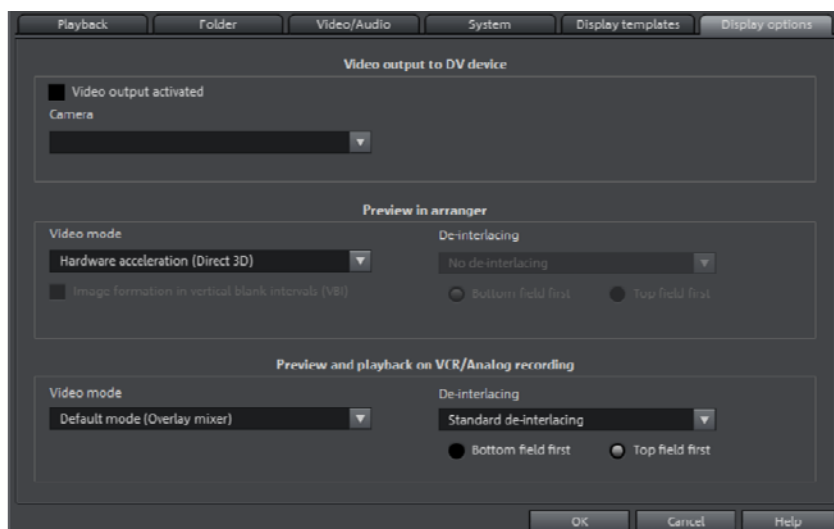
Video output to DV device

Video output on a DV device: This option displays your arranger view on your TV via your DV camera. This is useful if your graphics card doesn't have a TV output. However, since your PC must then compress the video signal in real time in DV-AVI format and in addition to processing all real-time effects, so you need to have a powerful PC for jitter-free playback. Even if your computer is not particularly powerful, you can still use this function to see how your video looks on your TV screen, since the analog video output signal of a good DV camera is better than the TV output of an average graphics card.

Playback in the Arranger/Preview and playback in video recorder

You can set the playback mode separately for the arranger (including all preview windows and effect dialogs), and the preview monitors during recording and in the video recorder.

Video mode

Standard playback (video for windows): This is the standard mode that functions on all systems.

Direct 3D (hardware mixer): This mode provides an extreme increase in speed by letting the mixing, many effects, and various transitions be calculated directly on the graphics card. Depending on the graphics card, performance can increase by 300%. The graphics card will not be used during export.

Note: To use this mode the graphics card must posses at least 128 MB own memory. You will need to install Direct 3D 9 or higher, and the graphics card driver must support "High Level Pixel Shader Language 2.0". MAGIX Video Pro X3 checks the corresponding properties when this mode is selected, and switches it off if necessary.

Standard mode (overlay mixer): In this mode you can use a hardware-like de-interlacing for the output on your PC screen or progressive scan-capable projector. Playback of recordings with interlace turns out much better.

Alternative mode (video mixing renderer 9): This mode uses the hardware de-interlacing function of modern graphics cards together with DirectX 9. Make sure that you are using the most recent version of your graphics card driver, which must be compatible with DirectX 9 to function properly. This mode works better than the standard mode (overlay mixer) only for a few graphics card models.

Image formation in Vertical Blank Intervals (VBI)

The image formation takes place in the vertical blank intervals of the monitor signal (or the connected TV signal). This helps avoid image interruptions. Warning: Because of the necessary waiting time on the next VBI, this process adds significant computation time!

You can deactivate this option for digital displays such as TFT monitors. In "Overlay" mode, image formation occurs exclusively via VBI.

Acceleration for high-resolution MPEG2 files

This option can be selected only in the "Hardware acceleration (Direct 3D)" video mode and indicates that videos in MPEG-2 format will be processed directly from the graphics card GPU. Depending on the graphics card performance, an improvement of up to 300% can be achieved!

De-interlacing

The DirectShow modes "Overlay mixer" and "Video mixing renderer 9" enable activation of hardware de-interlacing for the graphics card. For general information about de-interlacing and the options "Top/bottom field first", please read the corresponding article "De-interlacing (view page 368)" in the manual.

Comparison image in source monitor for editing effects in the Media Pool

If this option is activated, the "Selected objects without effects" comparison mode will be automatically activated when switching into the Media Pool effects, and will be automatically deactivated when the mode is exited. This serves to compare the original and edited image.
This automation will be suppressed if the option is deactivated.

Preview rendering

Use this dialog to set how MAGIX Video Pro X3 renders a set range in the arranger. This dialogs may be accessed via "File -> Settings -> Preview rendering".

The preview rendering function enables complicated passages in the project to be rendered beforehand for fluid video previewing. This may be accessed via the marker bar's context menu. More about this is discussed in the chapter "Markers (view page 103)".
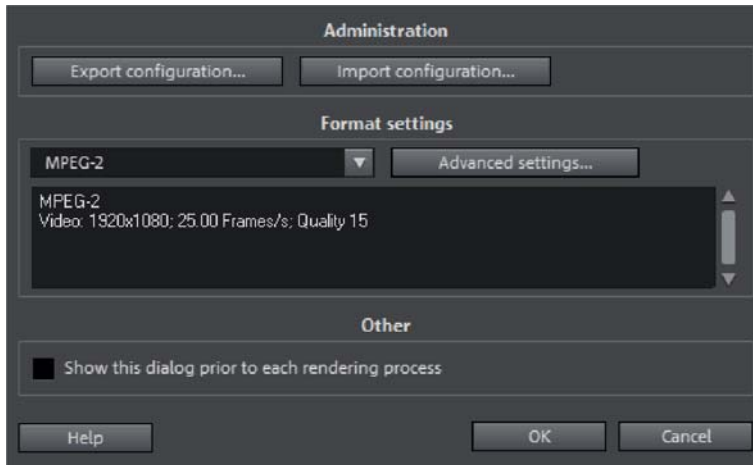
Admin: This provides options to load various settings (import configuration) or save settings you have adjusted personally for use later (export configuration).

Format settings: Specify here which format should be used to render a set range. "Advanced settings" enables you to adjust the selected format to suit your own particular requirements.

Other: Access this dialog prior to every rendering process (the dialog does not appear by default).

Note: Rendering may take longer depending on the selected format and size of the set range.

Backup copy

Files must be saved to be able to be easily retrieved in case of a hard drive crash or some other error.

Copy movie and media to folder/copy disc project and media to folder

This menu option allows you to put a complete MAGIX Video Pro X3 arrangement, including all applied multimedia files, into one folder. This is especially useful if you want to archive an arrangement for later use or in case the files are on multiple data carriers (CDs, DVDs, etc) so that on loading you continually have to change them. Effects files used are also saved in a folder together with the other files.

If the option "Copy disc project, movies, and media in folder" is activated, all movies in the current disc project, including all of the related media, are combined and copied into the selected folder.

Note: MAGIX Video Pro X3 also features DV logging. Large DV-AVI and audio files no longer need to be backed up, since MAGIX Video Pro X3 saves the position of this material on the DV tape and imports missing files automatically when reloading the DV tape.

A dialog opens to specify the path and name of the video.

Shortcut:

Copy movie and media into folder	"Shift + R"
Copy project and media into folder	"Alt + S"

Burn project and media onto CD/DVD/burn data to CD/DVD

Use this option to burn the film as well as all associated files to disc. To do so, you must have a burner installed on your computer and a blank CD must be inserted.

If you choose the option "Burn project and media", the current project and all of the associated media files are grouped together and burned onto disc.

Even larger projects can be burned straight to disc. The project, if necessary, will be split up and burned automatically to multiple discs. A restore program which is burned to the first disc of this type of backup guarantees that the backup can be restored without any problems.

Restore project from video disc

This command restores a project backup that has been saved on a disc. The disc must have been burned with the option "Add project backup" (see "Burn disc" dialog options).

Choose which of the movies contained on the disc should be restored by selecting it from the list and highlighting and selecting the corresponding directory. You must also indicate the directory where the project should be saved. A subfolder "Backupxxx" will be created in this folder where all project files from the disc will be saved. All of the restored movies will be loaded into MAGIX Video Pro X3 for editing.

Select the option "Restore image files only" and only the original image files contained on the disc will be restored.

Load backup project...

This option loads an automatically created slideshow backup. This type of automatic backup gets the file extension MV_ (underscore). This command is only intended for use in emergencies, for example, if you unintentionally saved your change and wish to return to the previous version of the movie.

Keyboard shortcut: Alt + O

Tip: Under "File -> Settings -> Program...", you can determine how often an automatic backup will be created in the "System" tab under "Automatic backup".

Importing & exporting EDL files

Import EDL (edit list)

The menu "File -> Import edit list (EDL)..." allows you to import edit lists in the Samplitude EDL format into MAGIX Video Pro X3. It is important in this case that the folder structure remains unchanged. During importing into MAGIX Video Pro X3, the file locations must match the place where they were when the cut list was created using Samplitude/Sequoia.

- If an empty project is opened, the complete EDL file will be imported.
- If the tracks are muted before importing the EDL file, then they will not be removed.
- If there are already objects in the project, then you will be asked the files should imported into the project or if a new project should be created for them.

Export EDL

The menu item "File -> Export movie" enables EDL files to be created using the "Export movie information as EDL..." for additional editing in other programs, e.g. Samplitude or Sequoia.

This section features a completely new input mask. Use the check boxes to select whether video and/or audio should be exported. As required, a selection may be made whether individual tracks should be rendered or referenced as original files via EDL. Video rendering takes place in the DV-AVI format, and audio rendering as WAV stereo. For Surround projects, 6 mono files will be rendered.

An export folder may be specified via the selection dialog. The EDL file and the rendered files will be stored there as required.

Check boxes may be used to select whether the EDL file should be loaded directly into Sequoia (if present). The program will either be launched automatically, or the files will be added into a running instance of the program. The user may enter the path to Sequoia in the input mask.

Clean-up wizard

The clean-up wizard helps delete projects from the hard drive, including all of the media files used. Use this function to free up disk space for future projects.

Caution: If the files you used in the movie have also been used in other movies (like trailers, opening music, etc.), then you should make backup copies of these files beforehand.

Shortcut: Ctrl + Shift + Y

Delete specific files

Choose this option if you would like to select certain files for deletion. In the file selection dialog, you can select the desired files. In the next step, the clean-up wizard searches for other files which belong to your selection. Using this method, you can delete an entire movie with all of its accompanying media, help, project, and backup files. Before they are deleted, you will receive relevant information in a dialog and a confirmation request.

Search and delete superfluous files

Choose this option if you would like to find unnecessary files or free up some space on your hard drive. The clean-up wizard automatically looks for

extraneous files created during use of MAGIX Video Pro X3. Before they are deleted, you receive relevant information in a dialog and a confirmation request.

Advanced

"Advanced" lets you set which files and folders should be included in the cleaning process.

Menus

Certain menu items are not available on the "Record" and "Burn" screens. The menu reference describes the full menu as found on the "Edit" screen.

File Menu

New project

Creates a new MAGIX Video Pro X3 project. A dialog with settings for a new disc project or a new film (view page 266) opens to get started.

Keyboard shortcut: Shift + N

Open

With this option you can load a project or a media file. Please note that all media files associated with it must be loaded along with a project. MAGIX Video Pro X3 will search for all used sounds and video files in the folders in which they were located when the move was saved.

Keyboard shortcut: Ctrl + O

Save project

The current disc project is saved with the name displayed in the project window. If you have not specified a name for your project yet, a dialog will open for you to do so.

Shortcut: Ctrl + S

Save project as...

A dialog opens where you can specify the path and name of the video for saving.

Keyboard shortcut: Shift + O

Manage movies

New movie

Use this option to create a new movie for your recordings and imported files. Since a film is normally already opened, you will have to decide whether the movie should be inserted into the existing project or if a new project should be created.

Keyboard shortcut: Ctrl + Alt + N

Delete movie

This option lets you remove the current movie from the project. However, it is still available on the hard drive and can be loaded again at any time.

Shortcut: Shift + F4

Attach movie

Using this function you can attach a movie to an opened one. This is then attached to the end of the movie and automatically takes on the original movie's settings.

Import movie file

Use this option to load a movie into your disc project. Please note that all media files associated with it must be accessible. MAGIX Video Pro X3 will search for all used sounds and video files in the folders in which they were located when the move was saved.
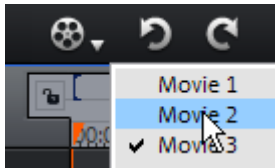
 The "Select movie for editing" button lets you switch between movies.

Export movie file

A dialog will open to enter a file name for the movie to be exported. The movie may then be imported into other projects again.

Note: The movie file (*.mvd) includes all information about the media files used, cuts, effects, and titles, but not about the image and sound material itself. This is always contained in the recorded or imported media files, which remains unchanged during editing with MAGIX Video Pro X3. In order to save a movie in its own folder, e.g. for use on another PC, use the function "Copy film and media to folder (view page 277)".

Shortcut: Ctrl + Alt + L

Export movie

This provides all export formats supported by MAGIX Video Pro X3 that aren't covered by burning. Refer to "Exporting (view page 243)" for more information.

Import media files into project folder

The files selected in the Media Pool will be imported into the project folder (view page 57).

Clean up project folder

Unused media files will be removed from the project file.

Note: This function applies to the entire project.

Record audio / images / video

A selection window will open to choose the desired recording type. This may also be accessed via the "Audio or video recording" button in the transport controls.

Shortcut: R

Import Audio CD track(s)

A CD track may be imported via drag & drop from the Media Pool just like a normal file. If this convenient method fails for some reason, then this menu command may be accessed via the CD manager to insert tracks from audio CDs directly into the arrangement. More about this is available in the section "Import audio CD (view page 176)".

Scan image

Select scanner

The twain interface connects MAGIX Video Pro X3 with almost all current scanners or digital cameras. Here's how to proceed the first time you scan via the twain interface:

1. Install the twain software for the device.
2. Restart your computer.
3. Start MAGIX Video Pro X3.
4. Click on "File -> Twain scanner -> Select source", if the scanner works with 32-bit software.
5. Click the device that you want to use in the dialog. This step will no longer be necessary as long as the same device is used.

Start the scanning process

The scan window of your scan software will appear. Specify the resolution and color depth in this window. Once the scan process is finished, the twain software will normally switch off by itself – the scanned image file will be added to MAGIX Video Pro X3 automatically. If the twain dialog remains open, you will be able to scan multiple images in succession.

Import edit list (EDL)

Import cut lists in EDL format (view page 278) may be opened via this menu.

Shortcut: Ctrl + D

Output to device

This command opens the dialog for outputting the completed video or its soundtrack to analog or digital video recorders/camcorders or various mobile devices such as smartphones, PDAs, video players, or games consoles.

Please read the chapter "Output audio/video (view page 249)".

Shortcut: H

Batch conversion

This menu item accesses the batch processing (view page 241) function. This quickly and efficiently converts multiple files, movies, or projects into various video formats.

Shortcut: S

Burn CD/DVD

Manually compile files

Opens MAGIX Speed burnR to burn videos or other files onto CD/DVD. File selection is done via drag & drop from MAGIX Speed burnR's Explorer.

Shortcut: Ctrl + B

Copy CD/DVD direct

The dialog provides several options for creating a copy:

- Copy: Here you can directly copy a non copy-protected CD or DVD.
- Shrink: Compresses a DVD to the size of a regular single layer DVD+/-R/RW. All files of the original DVD have to be on the hard drive.
- Analog copy: Copies your video onto a disc via analog recording.

Read more about this in the chapter "Record".

Burn an already created (S)VCD/Video DVD

All necessary files, menus, and encoded video files needed to burn a CD/DVD will be temporarily stored on your hard drive. After your disc is burned, these are not automatically deleted. Using "Disc image" multi-copy, you can uses these images to burn as many discs as you would like without having to encode the files again.

In the dialog, choose the image you want. All necessary files are then transferred to the MAGIX Speed burnR burning tool.

For more information on using MAGIX Speed burnR, read the program's help file.

Internet

This is a list of menu entries regarding all of the services that are available directly from within MAGIX Video Pro X3.

MAGIX Online Album/MAGIX Online Print Service/Catooh

For MAGIX Online World please read menu item Online!

Export to magix.info

This command allows you to export your movie to magix.info.

First, export your project in one of the following formats: asf, mov, mpg, mpeg, mp4, wmv, 3gp, or avi. Next, access "File -> Internet -> magix.info ->

Present videos on magix.info" to reach a page where you can upload your video. You may need to register with magix.info.

Online login details

In this dialog, you can save your login information (login and password) for MAGIX Online Album and all other MAGIX Online World as well as for Catooh, making it unnecessary to login each time you access MAGIX Online World.

The saved data are valid for all other MAGIX programs for the corresponding computer user.

MAGIX Community

This is a direct connection between MAGIX and different communities like YouTube™ or Vimeo™.

Upload current movie as video

Uploads the current film to the selected portal or to the selected community. Enter the data for video into the fields provided, so that the search function for this portal can also find this video.

MAGIX Video Pro X3 partially uses the H.264 format for this, which is a component of the MPEG-4 codec. Since Flash supports this format directly and most communities and portals use the format, the film does not need to be re-rendered on the corresponding server. This avoids loss of quality.

When HD material is uploaded, a resolution of 720p is used for the HD format.

Upload all selected media in Media Pool

Uploads the media selected in the Media Pool to the corresponding portal or the selective community.

Backup copy

Files must be saved to be able to be easily retrieved in case of a hard drive crash or some other error.

For detailed information, read the Backup (view page 276) section in the "Video project management" chapter.

Load backup project

This option loads an automatically created slideshow backup. This type of automatic backup gets the file extension MV_ (underscore). This command is only intended for use in emergencies, for example, if you unintentionally saved your change and wish to return to the previous version of the movie.

Keyboard shortcut: Alt + O

Clean-up wizard

The clean-up wizard helps delete projects from the hard drive, including all of the media files used. Use this function to free up disk space for future projects.

Caution: If the files you used in the movie have also been used in other movies (like trailers, opening music, etc.), then you should make backup copies of these files beforehand.

Shortcut: Ctrl + Shift + Y

For detailed information, read the clean-up wizard (view page 279) section in the "Video project management" chapter.

Settings

Movie settings

Opens the movie settings of the currently selected movie.

Keyboard shortcut: E

Program settings

Opens the program settings (view page 267).

Keyboard shortcut: Y

Keyboard shortcuts...

This menu entry opens a dialog for editing keyboard shortcuts (view page 334); this enables you to adjust MAGIX Video Pro X3 however you like.

Shortcut: Ctrl + Shift + U

Preview rendering

This menu opens the dialog for the preview rendering (view page 276) settings

Shortcut: Alt + R

Exit

Closes MAGIX Video Pro X3.

Keyboard shortcut: Alt + F4

Edit Menu

Undo

With this command you can undo the last changes you made. This way, it's no problem if you want to try out critical operations. If you don't like the result, then you can always revert to the previous state by using "Undo".

Clicking on the arrow next to the button opens a list of changes made until now, allowing you to undo several changes made in sequence.

Note: You can adjust the length of the list to your needs in program settings (view page 267). In general: The longer the list, the more RAM is used.

Keyboard shortcut: Ctrl + Z

Redo

This function undoes the previous "Undo" function.

Clicking on the arrow next to the button opens a list of changes made until now, allowing you to undo several changes made in sequence.

Note: You can adjust the length of the list to your needs in program settings (view page 267). In general: The longer the list, the more RAM is used.

Keyboard shortcut: Shift + Y

Cut objects

This function deletes the selected scene (or the selected object in "Timeline" mode) and copies it to the clipboard. You can then use the "Paste" command to copy it into any movie.

Keyboard shortcut: Ctrl + X

Copying objects

This function copies the selected scene (or the selected object in Timeline mode) to the clipboard. You can then use the "Paste" command to place it into any movie.

Keyboard shortcut: Ctrl + C

Paste objects

This command inserts the clipboard material (photo or object) at the current position of the start marker.

Keyboard shortcut: Ctrl + V

Duplicate objects

This command duplicates all selected objects. The copies appear beside the original and can be placed in the correct position using drag & drop.

Shortcut: D

Delete items

This function deletes the selected scene (or the selected object in the Timeline mode).

Keyboard shortcut: Del

Select all objects

All objects in the arrangement will be selected.

Keyboard shortcut: Ctrl + A

Cut

Editing functions are also accessible using the toolbar. The last selected function will appear in the toolbar as a button.

Split scene

This command cuts a scene at the point where the playback marker is positioned. This way, two free-standing objects are created.

Keyboard shortcut: T

Remove scene start

This command cuts a scene at the point where the start marker is positioned, and deletes all material that precedes the start position simultaneously.

Shortcut: Z

Remove scene end

This command cuts a scene at the point where the start marker is positioned, and deletes all material behind the start position simultaneously.

Shortcut: U

Remove scene

If you want to cut a scene out of a movie retroactively, this option automatically moves all objects, titles, and transitions on all tracks forwards so that no gaps result.

Objects on other tracks which project into the area of the selected scene will not be moved automatically; they will remain at the current position.

Shortcut: Ctrl + Del

Split movie

This command divides the movie into two individual movies at the position of the playback marker. The current arranger retains the portion that is located in front of the playback marker.

The remaining part will be erased from the current arranger and turned into a new movie, which can be found in the "Window" menu.

Shortcut: Alt + Y

Musical cut adjustment

If you have edited your background music with the beat detection wizard and a musical tempo was provided, then you can adjust the cuts to change automatically in time with the beat using this command. All of the cuts (even transitions) will be moved to correspond with quarter note positions.

Shortcut: Ctrl + Shift + H

Range

MAGIX Video Pro X3 provides object-based functions as well as "band-oriented" editing functions. These always refer to the whole project from the first to the last track as well as to the area between the start and end marker.

Cut out

The section between the in and out points is cut from the current arrangement and placed on the clipboard. This section can then be reinserted elsewhere.

Keyboard shortcut: Ctrl + Alt + X

Copy

The section between the in and out points is copied from the current arrangement to the clipboard. This section can then be reinserted elsewhere.

Keyboard shortcut: Ctrl + Alt + C

Delete

The section between the in and out points is deleted from the current arrangement and not copied to the clipboard.

Keyboard shortcut: Ctrl + Del

Insert

The contents of the clipboard are inserted at the current arrangement's position of the in point.

Keyboard shortcut: Ctrl + Alt + V

Extract

The section between the in and out points is preserved, and all of the material in front and behind it are deleted. Use this option to isolate a specific part of an arrangement for further individual editing.

Keyboard shortcut: Ctrl + Alt + P

Insert blank space

An empty section the length of the period between the in and out point will be added to the first track. The objects following this will be moved.

Shortcut: C

Render range

The selected range will be rendered for the preview. See "Preview rendering (view page 103)".

Shortcut: Ctrl + R

Discard rendered ranges

All rendered previews will be discarded; the video material will be rendered again via the arrangement in real time and played back.

Discard rendered range beneath the play cursor

The rendered preview below the playback marker will be discarded; the video material will be rendered again via the arrangement again in real time and played back.

Form group

Orders all selected objects into groups. As soon as an object from the group is selected, all other objects in the group will be highlighted as well so that you can work on them collectively.

Keyboard shortcut: Ctrl + L

Ungroup objects

This turns all selected objects into free-standing objects again.

Keyboard shortcut: Ctrl + M

Wizards

Slideshow Maker

Opens the Slideshow Maker (view page 237)

Keyboard shortcut: Ctrl + Shift + M

Soundtrack Maker

This command opens MAGIX Soundtrack Maker (view page 198).

Keyboard shortcut: W

Travel route animation

This menu entry opens the separate Travel route animation (view page 232) program. This enables simple creation of animated travel routes with the help of online maps.

Note: In order to be able to use current map data, maps are fetched by Travel route animation directly from the Internet. This requires an active Internet connection.

Mixdown Audio

This option joins all audio objects in one audio file. The sound material will only occupy one track of the arranger and will hardly affect the RAM, but it will occupy approximately 10 MB (in stereo) on the hard drive. This will give you more control over the arranger and more space for additional objects.

MAGIX Video Pro X3 automatically normalizes the audio file, i.e. the loudest part of the wave audio object is identical with the highest figure of the 16-bit resolution ceiling. This guarantees the same sound quality, even if you repeat the mix down procedure or you combine the mix down file with other wave audio objects again and again.

The mix function is very helpful if you want to go on using the mixdown object. For the final AVI or WAV (or any other multi-media) file, which is designed for burning a CD or for use on other PCs, use the "Export arrangement" submenu options from the file menu instead of the mixdown function.

Tip: Instead of using the mixdown function, you can use the various options of th submenu "Export movie" in the File menu to create a final final *.avi or *.wav (or any other multimedia) file.

Keyboard shortcut: Shift + M

Audio and video mixdown

In addition to the "Combine audio" function (see above), all video objects including effects, fades, and edits are combined in a single MAGIX video file (view page 244). If your computer starts to approach its limits, this enables you to free resources for further editing.

Shortcut: Shift + M

Edit snap point

If the position of objects, object borders, markers, or of the playback marker is changed with the mouse, then these will jump automatically to specific "key positions" as soon as these are approached. This is called "snapping". This enables objects at high zoom resolution to be positioned exactly without gaps resulting, which will not be visible at this resolution. Normally, object borders and markers snap together.

- Per object, one additional snap point may now be placed within an object to mark positions where other objects should snap to. This can be helpful, for example, in case a title should be shown at a specific position of a video object.

- To set a snap point, select an object and place the playback marker at the position where you would like the snap point to be.
- "Set snap point" sets a snap point, and "Delete snap point" removes it again. If the option "Set snap point" is selected at another position, the snap point will be moved.
- "Delete all snap points" deletes all snap points for all objects.

Shortcut: Ctrl + P

Marker

Set project marker

This option places a project marker at the current playback position. More information about project markers is available in the chapter "Markers" under "Set project marker (view page 102)".

Shortcut: Ctrl + Enter

Delete project marker

Deletes the selected project marker (view page 102). Project markers can be deleted and renamed via the context menu.

Set chapter markers

Places a chapter marker at the position of the playback marker. This creates a chapter entry in the disc menu in case the movie is being burned to disc.

You can rename the chapter markers by right clicking and selecting "Rename". The new name will appear in the chapter menu (view page 201).

Shortcut: Shift + enter

Set chapter markers automatically

This option automatically sets chapter markers in the arrangement according to specific rules that will then appear in the film menu of a disc as chapters. This is useful if a disc should be burned immediately after recording.

Note: A maximum of 99 chapters is possible; the minimum length of a chapter is 1 second.

Automatically create chapter marker

- At beginning of movie
- At beginning of object in track: `1`   'Clips'
- At position of the available title object
- Specified interval (minutes):   `5`   results in 1 Chapter
- Specified amount: `6`   fits every chapter: 0m 20s

Naming of chapter markers

- No marker name
- User defined: `Chapter`   + Marker number
- Apply object name

Options

- ■ Delete existing chapter markers
- ■ Only consider the selected range

[OK]   [Cancel]

There is a selection of options available for automatic chapter generation:

At the beginning of the movie: The movie only contains one chapter in this case.

At the start of objects on a track...: Every object in a track creates a chapter; track 1 is preset.

At the position of existing title objects: Subtitles, for instance, as faded-in subheadings, give the position of the chapter markers.

Provide interval (in minutes)/provide quantity: If the chapters are separated without any particular method and are just needed for quicker navigation, chapter markers may also be inserted in pre-defined intervals or as a pre-defined number of chapter markers.

Titling of chapter markers: To title the chapter markers, a user-defined name featuring consecutive numbers or the object name or text from the text objects may be used.

Optionally, existing chapter markers may be deleted and the automatic chapter marker function may be limited to the area between the start and end markers.

Shortcut: Alt + Shift + Enter

Delete chapter markers/delete all chapter markers

Delete one or all chapter markers. This removes chapter entries in the disc menu if the film is burned to disc.

Shortcut: Ctrl + Enter / Alt + Ctrl + Enter

Marker -> Set range start/end

Sets a range start/end marker at the position of the playback marker.

Keyboard shortcut: I/O

Marker -> Jump to range start/end

Sets the playback marker at the position of the range start/end.

Shortcut: Shift + I/O

Range above blank space

The start and end of the range in the film will be set to the respective borders of the empty space that is clicked on.

Shortcut: X

Marker -> Reset selected range

Deletes the range start and the range end.

Move screen view

Using these commands, a viewable portion together with the start marker will be moved in the timeline. You can quickly skip between different markers (skip, chapter, scene, ad-marker) and object edges.

Keyboard shortcut: See "Keyboard shortcuts", "Arranger". (view page 329)

Effects Menu (FX)

Master effects

This menu item accesses the movie's effect settings (view page 142). The settings affected here apply to the entire movie.

Shortcut: Ctrl + Shift + H

Video object effects

Scene recognition

Calls up the automatic scene recognition, which "cuts up" longer videos into scenes for storage in the "Takes" directory.

Keyboard shortcut: Shift + Z

Image stabilization

Opens the image stabilization dialog to correct "wobbly" recordings. Read more about this in the chapter "Image stabilization (view page 140)".

Shortcut: Ctrl + L

Find and remove ads

Opens the dialog for searching and removing advertising (view page 226).

Edit in external editor

Graphics files (BMPs or JPEGs) may be edited retroactively with an external graphics program from the arranger. The selected image file will be loaded automatically and used in MAGIX Video Pro X3 in place of the original material automatically. MAGIX Video Pro X3 includes the high-performance image editing program "MAGIX Photo Designer" for this purpose.

Shortcut: Alt + Shift + D

Save photos with effects

This allows you to save photos used in the movie and add the object effects used in MAGIX Video Pro X3 (e.g. StoryMaker) to the photo.

Create panorama...

Opens the dialog for setting a panorama. Place as many photos in the correct order as you like, and align brightness and color settings to get the best results. You should make sure that the photos harmonize at the transitions.

Video effects

These are the various effects which can be applied to videos and stills. The effects can be set after an object is selected in the respective effects dialog which appears. For more information, see the "Video effects in the Media Pool (view page 119)" chapter.

Video effect templates

This features general templates that can be added to the video objects via drag & drop and several video mix effects that can be quickly and easily applied, e.g. bluescreen.

Movement effects

These are movement effects you can use to animate the frame by using zoom or camera movements. For more information, go to the "Effects and titles" chapter in "Movement effects in Media Pool (view page 129)".

Movement effect templates

These are templates for movement effects. These can be added from the Media Pool into the arrangement by double-clicking or via drag & drop.

Background design

Select a color, a picture, or any video on your hard disk which you would like to serve as the background for the photo displayed. This function is especially useful when photos have black bars around them, or if they are reduced in size.

Reset background

Resets the background design (view page 297) settings to default settings.

Set as background

Uses the selected photo or video as the background.

Load video effects

This command enables a saved effects combination to be loaded for the currently loaded object. If multiple objects are selected, then the effects combination will be applied to each selected object.

Shortcut: Ctrl + -

Save video effects

This command saves the current effects combination for each object separately.

Shortcut: Alt + -

Reset video effects

This option allows you to deactivate all currently used effects entirely if you want to undo the changes.

Shortcut: Ctrl + Alt + -

Copy video effects

Effects settings for an object may be copied to the clipboard to add (view page 298) them to other objects.

Shortcut: -

Insert video effects

Video effects may be inserted into the selected object from other objects. The settings must be copied (view page 298) beforehand into the clipboard.

Shortcut: Shift + -

Apply video effects to all

The current effects settings will be applied to all scenes and photos in your movie.

Apply video effects to all of the following

The current effects settings will be applied to all scenes and photos in your movie which lie behind the selected object.

Audio object effects

Normalize

The function "Normalize" raises the level of an audio object to the maximum possible level without clipping the material. This searches for the largest signal peak in the audio material and raises the level of the object so that this position matches exactly 0 dB (maximum overdrive).

Shortcut: Alt + N

Automatic track damping

Please see Reduce volume (view page 176) in the audio effects chapter.

Shortcut: Alt + L

Set volume

This function, located in both the effects menu and the context menu, controls the sound volume for individual objects, just like the object handles in the arranger.

Audio cleaning

Opens the "Audio Cleaning (More Informationen can be found in the section "Sound optimization" on page 160)" dialog.

Shortcut: Alt + A

Echo/Hall

Please see "Reverb/Echo" in the chapter "Audio effects".

Keyboard shortcut: Shift + H

Timestretch/resample

Read more about this in Timestretch/resample.

Shortcut: Ctrl + Q

Surround

Surround, see Surround, chapter Audio effects

Keyboard shortcut: Ctrl + Shift + N

Load audio effects

This command enables a saved effects combination to be loaded for the currently loaded object. If multiple objects are selected, then the effects combination will be applied to each selected object.

Shortcut: Ctrl + +

Save audio effects

This command saves the current effects combination for each object separately.

Shortcut: Shift + +

Reset audio effects

This option allows you to deactivate all currently used effects entirely if you want to undo the changes.

Shortcut: Ctrl + Alt + +

BPM Wizard

Read the section concerning the Tempo and beat recognition in the chapter "Audio" for more about this.

Shortcut: Alt + Shift + R

Volume curve

The most important effect, the volume, is available here directly. The volume is also available via the Media Pool under "Effects -> Audio effects -> General (view page 134)", where it may also be animated.

Shortcut: Ctrl + Shift + V

Title Effects

Title Editor

T   Opens the Title editor (More Informationen can be found in the section "Title editor" on page 113) for the selected photo, video, or title object.

Keyboard shortcut: Ctrl + T

Load title effects

You can save the current effect combination for each title object separately and apply it to other title objects later.

Shortcut: Alt + T

Save title effects

You can save the current effect combination for each title object separately and apply it to other title objects later.

Shortcut: Ctrl + Shift + T

Design elements

Multi picture-in-picture: These are various effects presets for image stacking.

Collages: These work similarly to normal picture-in-picture effects, but more objects are used. Depending on the collage, arrange the selected objects one after the other and drag the collage onto the first object.

Portrait effects: Select individual effects which are especially suited to vertically formatted photos.

Image objects: These are various image objects like black bars, thought bubbles for cartoons, etc.

Intros/Outros: These are beginning and end scenes for films with various themes.

Visuals: Graphical displays of any played sounds which can be combined with other video material.

Effects library

Using these menu choices, you can control the corresponding directories in the Media Pool.

Synthesizer

Synthesizers can be loaded as individual objects. More information is available in "Synthesizers".

Windows menu

Workspace

Switch between the classic Movie Edit Pro screen with a single monitor or the normal MAGIX Video Pro X3 view. More information can be found in the chapter "Notes for MAGIX Movie Edit Pro users (view page 19)".

Cut Trimmer

Shows or hides the "Cut trimmer" window. This allows you to make fine adjustments to the position of the selected video or image objects and their handles – as well as the transition characteristics (transition type, length). Please read the "Fine adjustment of video ("Trimming")" chapter for more details.

Keyboard shortcut: N

Object trimmer

Shows or hides the trim window. This enables the position of the selected video or image object and its handles to be adjusted more finely. Read the chapter "Adjusting videos precisely" ("Trimming").

Shortcut: Shift + N

Mixer

This option allows you to display or conceal the real-time mixer. You will find further information, especially with regard to the integration of effects plug-ins, in the chapter "Mixer".

Keyboard shortcut: M

Master audio effect rack

Opens or closes the master effects rack; you can also use the "Master FX" button in the mixer window for this.

Keyboard shortcut: B

Mastering Suite

This opens the Mastering Suite (view page 171).

Source monitor

The source monitor provides an opportunity to preview and edit files in the Media Pool, and these can in turn be dragged into the project folder or the arrangement from the source monitor.

For the exact options for cutting in the source monitor, please see the chapter "Section markers in the source monitor (view page 103)".

Program monitor

Hides or shows the program monitor.

Shortcut: Shift + V

Media Pool

With this option you can conceal the Media Pool or make it visible again.

Shortcut: Shift + P

Project

Shows/Hides the arranger

Project folder

Hides or shows the project folder.

Shortcut: Shift + B

Display settings

More about this is available in "Program settings -> "Display presets (view page 273)".

Shortcut: Alt + Shift + V

Show movie overview

With this option, you can display an overview of the entire arrangement on the video screen. It is particularly suitable for long and complex arrangements to prevent you from losing track. You can view the whole movie and you are, despite this, able to access the object you're looking for in a split second – you can zoom in directly on the video monitor or move around the clip displayed in the arranger.

Shortcut: Shift + A

Optimize movie view

The zoom level is set to 100% so that you can see every object and the entire film.

The start and end markers are set to the beginning or end, so that the entire movie can be played.

Shortcut: Ctrl + F

Zoom horizontal

Here you will find a range of functions for altering the visible time axis section.

Zoom vertical

The number of simultaneously visible tracks can be changed here. The more tracks are visible, the smaller they will appear.

Close all movies

Closes all opened movies.

Help Menu

Help

This command is available for almost every feature of the program, and it opens the "Help" file for the corresponding topic. Use this command to get help on any of MAGIX Video Pro X3's functions.

Keyboard shortcut: F1

Content

Use the command "Content" in the "Help" menu to open the start page of the help file. You can read through the help file step-by-step and jump to specific sections via the tree structure on the right hand side.

Context help

By choosing the context help entry from the "Help" menu, or by clicking on the button in the top toolbar, the mouse cursor will turn into an arrow with a question mark.

Then, when you click on any button of the main screen, program help describing the control element in question will open.

Keyboard shortcut: Alt + F1

Online tutorials

Interesting tutorials and useful tips for working with MAGIX Video Pro X3 can be found on the MAGIX website.
An online connection is required.

Display Tool Tips

Tooltips are small information windows that open up automatically if the mouse pointer stops briefly on a button or some other area. They provide information about the function of the button. These information boxes can be switched on or off with this option.

Keyboard shortcut:　　Ctrl + Shift + F1

About MAGIX Video Pro X3

Displays copyright info and version number of MAGIX Video Pro X3.

Register online

This option opens the MAGIX homepage for online registration where you can register yourself as a MAGIX user.

Registration grants you access to the MAGIX support website http://support.magix.net (see support) where various program updates and help programs can be downloaded.

With the registration form supplied (start menu under "MAGIX Video Pro X3 -> Service and support -> Register") you can register via post or fax. Simply print it out, fill it in, and send it off!

Online Update

Connects directly to the online update page where you can get the latest version of your program.

System information

Information on the current date and time appear in this Information window, in addition to the number of files that have just been opened, the total size of the memory in the system and the size of the memory used by the MAGIX Video Pro X3. In short, a list of all available drives and their available memory capacity.

The memory area used by the MAGIX Video Pro X3 should never be larger than the physical RAM in the computer, as otherwise the performance will drop drastically during replay as a result of virtual memory swapping!

Keyboard shortcut: Ctrl + I

Reset Program Settings to Default...

Use this function to reset all program settings you made in MAGIX Video Pro X3 to their original settings.

Context menu (right click)

Context menu can be reached by right clicking on a selected object. It offers functions which are available and can be expected in the given context.

Video objects

Create frame table (new)

Sometimes, rebuilding a frame table can get rid of problems in certain MPEG files. For example, such problems can be present if the navigation (positioning of the playback marker, transport) is bumpy or doesn't function at all.
Normally, when loading MPEG video, a frame table is not created in order to speed up the loading process. If you do create one anyway, MPEG files are normally noticeably faster and easier to edit.

Cut Trimmer

Shows or hides the "Cut trimmer" window. This allows you to make fine adjustments to the position of the selected video or image objects and their handles – as well as the transition characteristics (transition type, length). Please read the "Fine adjustment of video ("Trimming")" chapter for more details.

Keyboard shortcut: N

Object trimmer

Shows or hides the trim window. This enables the position of the selected video or image object and its handles to be adjusted more finely. Read the chapter "Adjusting videos precisely" ("Trimming").

Shortcut: Shift + N

Edit snap point

If the position of objects, object borders, markers, or of the playback marker is changed with the mouse, then these will jump automatically to specific "key positions" as soon as these are approached. This is called "snapping". This enables objects at high zoom resolution to be positioned exactly without gaps resulting, which will not be visible at this resolution. Normally, object borders and markers snap together.

- Per object, one additional snap point may now be placed within an object to mark positions where other objects should snap to. This can be helpful, for example, in case a title should be shown at a specific position of a video object.
- To set a snap point, select an object and place the playback marker at the position where you would like the snap point to be.
- "Set snap point" sets a snap point, and "Delete snap point" removes it again. If the option "Set snap point" is selected at another position, the snap point will be moved.
- "Delete all snap points" deletes all snap points for all objects.
Shortcut: Ctrl + P

Create still frame

MAGIX Video Pro X3 can create a still frame of an object at the position of the start marker.

Motion

Lets you move video objects on the screen. See "Movement" in the "Video effects" chapter.

Section

Places video objects in a particular part of the screen. Please read the "Video effects" chapter for more details.

Attach to picture position in the video

This can be used to attach the current video, image, or (3D) text object to a movement path in another video object. Read more about this in the chapter "Magnetic objects (view page 91)".

Interpolation for interlace material

Choose this option to remove interlace artifacts from your video image. If, for instance, you extract freeze frames from a video, ridge structures appear in sequences which feature movement.

Anti-flicker filter

Choose this option for still pictures with detailed structures and high contrast. This filter reduces line flickering during TV playback.

Border cropping adjustment:

Select this option if the edges are cropped during playback on your television. Values stored in "Movie effects settings (view page 143)" ("Effects" menu) will be applied.

Video effects

The entries for this submenu are directly available in the Media Pool.
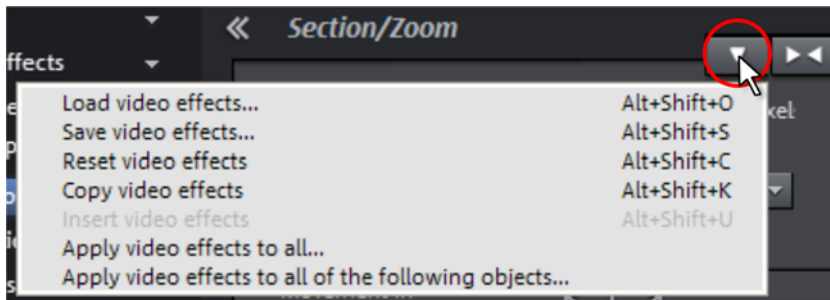
Insert objects into the project folder

Every single object can be added to the project folder and used again later. All of the object's properties will be maintained. This is useful, for example, if the video material should be edited beforehand and then arranged in the next step.

Fade in date as title

MAGIX Video Pro X3 can add a time or date ("time code") to the picture material. To add a time code, right-click the video object and choose the "Fade in date as title" option from the context menu.

If you're using a DV-AVI file (a digital recording from a camcorder, for instance), the recording date will be used from the chosen place. If you're using a different file, the creation date will be used as the time code. The title editor is then opened in order to customize the entry.

In the preview monitor context menu you will also find the "Display play time" option. This will create a time code.

Object properties

This function displays all of the information about the currently selected objects such as file name, position on the hard drive, tempo, etc. The object editor also defines the foreground and background color of every object in the arrangement. Depending on the type of object, the elements displayed will vary.

General Information

The name of the selected object and the fore/background color for the object in unselected status can be changed here. Additional information is also displayed about which file the selected object points to.

Interlace/Deinterlace (only for video objects)

The tab "Interlace/Deinterlace" lets you specify the interlace editing of the video material.

Interlace Properties: Normally, MAGIX Video Pro X3 automatically makes suitable settings for this; however, if the video material is faulty, you may have to make some adjustments yourself. If playback of the exported movie is very jittery or if flickering occurs, or if some effects do not look how they should, you can reverse the source material frames.

Deinterlace Options: Normally, the setting "Automatic interlace processing" does not have to be changed. The frames are processed separately and passed to the encoder when exported. If necessary, MAGIX Video Pro X3 will perform high-quality interlacing. If "No interlace processing" is set, then it is assumed that the source material contains full frames.

For more information on interlacing, please see „Interlace" (view page 368).

Tempo/Pitch (audio objects only)

If there is information about the tempo, then the tempo can be doubled or halved here. The tempo can be detected using Tempo and beat recognition.

Keyboard shortcut: Ctrl + E

Image objects

Edit snap point

If the position of objects, object borders, markers, or of the playback marker is changed with the mouse, then these will jump automatically to specific "key positions" as soon as these are approached. This is called "snapping". This enables objects at high zoom resolution to be positioned exactly without gaps resulting, which will not be visible at this resolution. Normally, object borders and markers snap together.

- Per object, one additional snap point may now be placed within an object to mark positions where other objects should snap to. This can be helpful, for example, in case a title should be shown at a specific position of a video object.
- To set a snap point, select an object and place the playback marker at the position where you would like the snap point to be.
- "Set snap point" sets a snap point, and "Delete snap point" removes it again. If the option "Set snap point" is selected at another position, the snap point will be moved.
- "Delete all snap points" deletes all snap points for all objects.

Shortcut: Ctrl + P

Change photo length

This dialog gives exact values regarding the display duration for the selected photo. You may select multiple photos beforehand to change their display duration at once.

Motion

Lets you move video objects on the screen. See "Movement" in the "Video effects" chapter.

Section

Places video objects in a particular part of the screen. Please read the "Video effects" chapter for more details.

Attach to picture position in the video

This can be used to attach the current video, image, or (3D) text object to a movement path in another video object. Read more about this in the chapter "Magnetic objects (view page 91)".

Cut automatically to fit screen

This function ensures that images don't have black edges (in case they don't fit into the given format).

Anti-flicker filter

Choose this option for still pictures with detailed structures and high contrast. This filter reduces line flickering during TV playback.

Border cropping adjustment:

Select this option if the edges are cropped during playback on your television. Values stored in "Movie effects settings (view page 143)" ("Effects" menu) will be applied.

Export to MAGIX Online Album

Log in to the MAGIX Online Album service and load images and music into the album to share them with your friends and acquaintances in the Internet. The assistant will lead you step-by-step through the uploading process. After the process is finished, you can access your updated MAGIX Online Album.

Export to MAGIX Online Print Service

Use MAGIX Online Print Service to order high-quality photo prints or fantastic printed photo gifts of your valuable digital photos simply with one click.

Video effects

The entries for this submenu are directly available in the Media Pool.

Insert objects into the project folder

Every single object can be added to the project folder and used again later. All of the object's properties will be maintained. This is useful, for example, if the video material should be edited beforehand and then arranged in the next step.

Object properties

This function displays all of the information about the currently selected objects such as file name, position on the hard drive, tempo, etc. The object editor also defines the foreground and background color of every object in the arrangement. Depending on the type of object, the elements displayed will vary.

General Information

The name of the selected object and the fore/background color for the object in unselected status can be changed here. Additional information is also displayed about which file the selected object points to.

Interlace/Deinterlace (only for video objects)

The tab "Interlace/Deinterlace" lets you specify the interlace editing of the video material.

Interlace Properties: Normally, MAGIX Video Pro X3 automatically makes suitable settings for this; however, if the video material is faulty, you may have to make some adjustments yourself. If playback of the exported movie is very jittery or if flickering occurs, or if some effects do not look how they should, you can reverse the source material frames.

Deinterlace Options: Normally, the setting "Automatic interlace processing" does not have to be changed. The frames are processed separately and passed to the encoder when exported. If necessary, MAGIX Video Pro X3 will perform high-quality interlacing. If "No interlace processing" is set, then it is assumed that the source material contains full frames.

For more information on interlacing, please see „Interlace" (view page 368).

Tempo/Pitch (audio objects only)

If there is information about the tempo, then the tempo can be doubled or halved here. The tempo can be detected using Tempo and beat recognition.

Keyboard shortcut: Ctrl + E

Transitions

Cut Trimmer

Shows or hides the "Cut trimmer" window. This allows you to make fine adjustments to the position of the selected video or image objects and their handles – as well as the transition characteristics (transition type, length).

Please read the "Fine adjustment of video ("Trimming")" chapter for more details.

Keyboard shortcut: N

Settings...

A dialog with the settings for the corresponding transition will be displayed. Depending on the transition, different settings are available.

Audio objects

Create wave form

In most cases, the waveform display of an audio file will not be required. However, if you require this, e.g. to navigate while cutting video, a waveform display can be produced manually via this function.

Edit snap point

If the position of objects, object borders, markers, or of the playback marker is changed with the mouse, then these will jump automatically to specific "key positions" as soon as these are approached. This is called "snapping". This enables objects at high zoom resolution to be positioned exactly without gaps resulting, which will not be visible at this resolution. Normally, object borders and markers snap together.

- Per object, one additional snap point may now be placed within an object to mark positions where other objects should snap to. This can be helpful, for example, in case a title should be shown at a specific position of a video object.
- To set a snap point, select an object and place the playback marker at the position where you would like the snap point to be.
- "Set snap point" sets a snap point, and "Delete snap point" removes it again. If the option "Set snap point" is selected at another position, the snap point will be moved.
- "Delete all snap points" deletes all snap points for all objects.

Shortcut: Ctrl + P

BPM Wizard

Read the section concerning the Tempo and beat recognition in the chapter "Audio" for more about this.

Shortcut: Alt + Shift + R

Insert objects into the project folder

Every single object can be added to the project folder and used again later. All of the object's properties will be maintained. This is useful, for example, if the video material should be edited beforehand and then arranged in the next step.

Edit wave files externally

Audio files from the arranger can be post-edited in an external wave editor program. The selected audio file is loaded automatically and, once editing has been completed, is used in the MAGIX Video Pro X3 instead of the original material. For this purpose, MAGIX Video Pro X3 comes with a powerful audio editing tool: MAGIX Music Editor.

Keyboard shortcut: Alt + Z

Volume curve

The most important effect, the volume, is available here directly. The volume is also available via the Media Pool under "Effects -> Audio effects -> General (view page 134)", where it may also be animated.

Shortcut: Ctrl + Shift + V

Audio effects curves

This feature provides direct access to diverse object effects, and these can be automated using a curve. All of the audio effects listed here are found in the Media Pool under "Effects -> Audio effects -> General".

Align other audio objects with this track

Video objects grouped with audio objects may be used to synchronize recordings from different camera perspectives.

For more information, please see the topic "Synchronize video objects using the audio track (view page 111)".

Split stereo objects into mono objects

An audio object in stereo format can be split into two mono objects very easily using this function. The original track will then feature the audio object with the left channel, and an automatically added track will feature the object with the right channel.

This is useful if the channels were switched by accident during recording, i.e. due to incorrect cabling. In this case, simply open the mixer and set the pan setting to the correct position for each channel.

Display track curves

The most recently selected track curve is displayed on the object for editing. Use of a curve causes the parameters set in the mixer to be disregarded.

Note: The track curves of audio objects can be animated in the same way as video effects. Read more about this in the chapter "Animating objects (view page 144)".

Reset track curves

All track curves can be reset with this function. The settings made in the mixer will be applied to the track again.

Caution! Before applying this function, make sure none of the track curves will be need in the future.

Export to MAGIX Online Album

Log in to the MAGIX Online Album service and load images and music into the album to share them with your friends and acquaintances in the Internet. The assistant will lead you step-by-step through the uploading process. After the process is finished, you can access your updated MAGIX Online Album.

Object properties

This function displays all of the information about the currently selected objects such as file name, position on the hard drive, tempo, etc. The object editor also defines the foreground and background color of every object in the arrangement. Depending on the type of object, the elements displayed will vary.

General Information

The name of the selected object and the fore/background color for the object in unselected status can be changed here. Additional information is also displayed about which file the selected object points to.

Interlace/Deinterlace (only for video objects)

The tab "Interlace/Deinterlace" lets you specify the interlace editing of the video material.

Interlace Properties: Normally, MAGIX Video Pro X3 automatically makes suitable settings for this; however, if the video material is faulty, you may have to make some adjustments yourself. If playback of the exported movie

is very jittery or if flickering occurs, or if some effects do not look how they should, you can reverse the source material frames.

Deinterlace Options: Normally, the setting "Automatic interlace processing" does not have to be changed. The frames are processed separately and passed to the encoder when exported. If necessary, MAGIX Video Pro X3 will perform high-quality interlacing. If "No interlace processing" is set, then it is assumed that the source material contains full frames.

For more information on interlacing, please see „Interlace" (view page 368).

Tempo/Pitch (audio objects only)

If there is information about the tempo, then the tempo can be doubled or halved here. The tempo can be detected using Tempo and beat recognition.

Keyboard shortcut: Ctrl + E

Text objects

Title Editor

T   Opens the Title editor (More Informationen can be found in the section "Title editor" on page 113) for the selected photo, video, or title object.

Keyboard shortcut: Ctrl + T

Disable effects

All effects applied to the text will be deactivated.

Edit snap point

If the position of objects, object borders, markers, or of the playback marker is changed with the mouse, then these will jump automatically to specific "key positions" as soon as these are approached. This is called "snapping". This enables objects at high zoom resolution to be positioned exactly without gaps resulting, which will not be visible at this resolution. Normally, object borders and markers snap together.

- Per object, one additional snap point may now be placed within an object to mark positions where other objects should snap to. This can be helpful, for example, in case a title should be shown at a specific position of a video object.
- To set a snap point, select an object and place the playback marker at the position where you would like the snap point to be.

- "Set snap point" sets a snap point, and "Delete snap point" removes it again. If the option "Set snap point" is selected at another position, the snap point will be moved.
- "Delete all snap points" deletes all snap points for all objects.

Shortcut: Ctrl + P

Load title template

A dialog for loading a title template will open.

Save as title template

This allows you to create your own templates using your title creations. The function "Load title template" enables these templates to be used again quickly.

Save as special effect

This function saves the title with all objects that have been grouped (view page 291) with the title object. This enables you to create title templates that contain all required overlay objects.

Convert to 3D title

The title object will now be turned into a MAGIX 3D Maker object, and a limited version of MAGIX 3D Maker will open.

Attach to picture position in the video

This can be used to attach the current video, image, or (3D) text object to a movement path in another video object. Read more about this in the chapter "Magnetic objects (view page 91)".

Border cropping adjustment:

Select this option if the edges are cropped during playback on your television. Values stored in "Movie effects settings (view page 143)" ("Effects" menu) will be applied.

Insert objects into the project folder

Every single object can be added to the project folder and used again later. All of the object's properties will be maintained. This is useful, for example, if the video material should be edited beforehand and then arranged in the next step.

Object properties

This function displays all of the information about the currently selected objects such as file name, position on the hard drive, tempo, etc. The object editor also defines the foreground and background color of every object in the arrangement. Depending on the type of object, the elements displayed will vary.

General Information

The name of the selected object and the fore/background color for the object in unselected status can be changed here. Additional information is also displayed about which file the selected object points to.

Interlace/Deinterlace (only for video objects)

The tab "Interlace/Deinterlace" lets you specify the interlace editing of the video material.

Interlace Properties: Normally, MAGIX Video Pro X3 automatically makes suitable settings for this; however, if the video material is faulty, you may have to make some adjustments yourself. If playback of the exported movie is very jittery or if flickering occurs, or if some effects do not look how they should, you can reverse the source material frames.

Deinterlace Options: Normally, the setting "Automatic interlace processing" does not have to be changed. The frames are processed separately and passed to the encoder when exported. If necessary, MAGIX Video Pro X3 will perform high-quality interlacing. If "No interlace processing" is set, then it is assumed that the source material contains full frames.

For more information on interlacing, please see „Interlace" (view page 368).

Tempo/Pitch (audio objects only)

If there is information about the tempo, then the tempo can be doubled or halved here. The tempo can be detected using Tempo and beat recognition.

Keyboard shortcut: Ctrl + E

MAGIX 3D Maker objects

Edit settings...

A limited MAGIX 3D Maker version is opened to edit the selected object.

Edit snap point

If the position of objects, object borders, markers, or of the playback marker is changed with the mouse, then these will jump automatically to specific "key positions" as soon as these are approached. This is called "snapping". This enables objects at high zoom resolution to be positioned exactly without gaps resulting, which will not be visible at this resolution. Normally, object borders and markers snap together.

- Per object, one additional snap point may now be placed within an object to mark positions where other objects should snap to. This can be helpful, for example, in case a title should be shown at a specific position of a video object.
- To set a snap point, select an object and place the playback marker at the position where you would like the snap point to be.
- "Set snap point" sets a snap point, and "Delete snap point" removes it again. If the option "Set snap point" is selected at another position, the snap point will be moved.
- "Delete all snap points" deletes all snap points for all objects.

Shortcut: Ctrl + P

Create still frame

MAGIX Video Pro X3 can create a still frame of an object at the position of the start marker.

Motion

Lets you move video objects on the screen. See "Movement" in the "Video effects" chapter.

Section

Places video objects in a particular part of the screen. Please read the "Video effects" chapter for more details.

Attach to picture position in the video

This can be used to attach the current video, image, or (3D) text object to a movement path in another video object. Read more about this in the chapter "Magnetic objects (view page 91)".

Video effects

The entries for this submenu are directly available in the Media Pool.

Insert objects into the project folder

Every single object can be added to the project folder and used again later. All of the object's properties will be maintained. This is useful, for example, if the video material should be edited beforehand and then arranged in the next step.

Object properties

This function displays all of the information about the currently selected objects such as file name, position on the hard drive, tempo, etc. The object editor also defines the foreground and background color of every object in the arrangement. Depending on the type of object, the elements displayed will vary.

General Information

The name of the selected object and the fore/background color for the object in unselected status can be changed here. Additional information is also displayed about which file the selected object points to.

Interlace/Deinterlace (only for video objects)

The tab "Interlace/Deinterlace" lets you specify the interlace editing of the video material.

Interlace Properties: Normally, MAGIX Video Pro X3 automatically makes suitable settings for this; however, if the video material is faulty, you may have to make some adjustments yourself. If playback of the exported movie is very jittery or if flickering occurs, or if some effects do not look how they should, you can reverse the source material frames.

Deinterlace Options: Normally, the setting "Automatic interlace processing" does not have to be changed. The frames are processed separately and passed to the encoder when exported. If necessary, MAGIX Video Pro X3

will perform high-quality interlacing. If "No interlace processing" is set, then it is assumed that the source material contains full frames.

For more information on interlacing, please see „Interlace" (view page 368).

Tempo/Pitch (audio objects only)

If there is information about the tempo, then the tempo can be doubled or halved here. The tempo can be detected using Tempo and beat recognition.

Keyboard shortcut: Ctrl + E

Project folder

Rename

This command allows you to rename an object in the project folder. The name is also used as a file name if you save the object as a take (*.tk2).

Save

This command enables an entry in the project folder (object or object group) to be saved as a take file (*.tk2). More about this is available in the chapter "Objects" under the section "Saving objects separately (view page 91)".

Delete

Removes the object from the project folder. The associated source file (photo, video, audio, etc.) will not be deleted.

Properties

Displays the properties of the object (view page 308) in the project folder.

Insert movie

Inserts the selected object into the movie.

Open in video monitor.

Displays the selected object in the source monitor.

Track

This menu opens by right clicking on an empty range in the track.

Paste objects

Inserts the contents of the clipboard at the click position.

Range above blank space

The start and end of the range in the film will be set to the respective borders of the empty space that is clicked on.

Shortcut: X

Display track curves

This option hides or shows track curves for the corresponding track. Track curves are only available fro the volume and panorama of an audio track. These result if these are automated via the mixer. Read more about this in the chapter "Audio tracks (view page 184)".

Shortcut: Alt + -

Reset track curves

The volume and balance track curves are reset; the automation for the corresponding mixer settings (view page 184) is removed.

Problems and solutions

File will not load

If files cannot be loaded, this means that the format is either not supported by MAGIX Video Pro X3, or the corresponding codec must be activated first. Read the section "Import formats (view page 15)" for more information.

In case of AVI files, it is possible that the necessary codec in not installed. For more, please refer to "General tips for AVI videos (view page 339)" in the appendix "Digital video and storage devices".

Choppy or uneven playback

Don't panic if the picture on your screen is choppy or uneven. The finished product will look perfect and play smoothly. Don't forget that MAGIX Video Pro X3 calculates all effects in real time. This lets you see for yourself what sort of influence each of the effects will have on your video footage. Some effects make even today's high-performance PCs work quite hard, and often, a steady, continuous video stream is simply not possible on your PC. The final product, free from previous choppiness, is only available after

rendering it to DVD or exporting it. For that reason, you should first edit the movie in its raw version without effects. The preview generally delivers a steady picture, allowing you to work quickly and quietly. Towards the end, you can add effects to your movies to give them a special touch of Hollywood!

Problems and Remedies regarding the Auto Remix Assistant

Problem: The playback stutters, the metronome is suspended, the computer is overloaded... (on older computers.)

Remedy: We recommend changing to wave drivers ("P" key, "Playback parameter" dialog) instead of DirectSound.

Problem: The metronome does not work and there are no lines on the the wave-shaped display.

Probable cause: The material does not contain beats or the song contains a passage without beats.

Remedy: The song should be limited in such a way that only rhythmic passages are contained.

Possible 2nd reason: Inaccurate tapping or a false BPM value has been entered.

Remedy: Try the tempo correction buttons or tap until the "locked" condition is attained.

Problem: The metronome sounds inaccurately or is jerky, the lines in the wave-shaped display are irregular and thinly drawn.

Activation problems

Problem: The entered code is incorrect (telephone activation)

Make sure your entry is correct; in most cases a typo is to blame.
If the code is entered correctly, dial the number of our Call Center. Our support staff will help you personally.

The MAGIX website won't open

Check your Internet connection; you may have to use manual dial-up.

The form for ordering via post/fax won't open

- Check that an adequate text editing program is installed and activated (for example, MS Word).

I still haven't received an email with the activation code

- Check that your inbox isn't full.
- Have a look in your spam folder.

You can always send questions via email to our support whenever you like. Please have the following information at hand so that we can assist you as quickly and as specifically as possible.

- Complete product name
- Exact version number (to be found in the about box in the "About" menu item of the "Help" menu)
- Encoder/Decoder name
- Your user code (accessible via the "Activate via post/fax" dialog)

Problem: I have installed MAGIX Video Pro X3 on a new computer, installed a new hard drive in my old computer (sound card, memory...), or installed it multiple times on the same computer. My activation code is no longer accepted!

If the program cannot be activated again after it has been activated multiple times, please contact the MAGIX customer service (view page 10).

Online functions

Integrated browser

The integrated browser offers many useful functions that help you collect material for using in your project. All kinds of media can be collected – images, videos, sound or simply text can be all integrated using the built-in browser with great results.

Tip: You must have an Internet connection to use the full range of options offered by the integrated browser.

Open browser
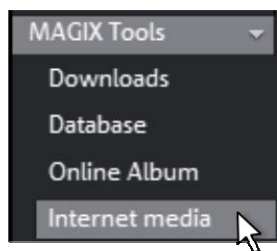
The integrated browser is opened by clicking on the "Internet media" button in the Media Pool (see Media).

Navigation in the browser

One page back: Switches to the previous page.

One page forward: Switches back to the page before the "One page back" button was pressed.

Stop: Stops loading the selected page.

Reload: The current page will be reloaded.

Home: Returns to the home page.

In the address header, next to the navigation buttons, you can simply enter an Internet address like http://www.magix.com. Press the enter button and the corresponding page will be loaded.

Loading Internet media

The buttons described here are used to collect and load media directly from the Internet into the current film. The corresponding functions can be found in the context menu of the browser.

Save selected text: The selected text will be saved. It can then be edited using the title editor (view page 113).

Start screen capture: Opens the capture dialog for starting screen capture.

Download selected images: The selected images will be saved to your computer.

Import screen capture of the opened Internet page: The loaded Internet page will be saved as an image file.

Start audio recording: A dialog for audio recording opens.

Hint: For recording from the Internet, it is important that the sound card is selected as the sound source.

Accept media after download

This option makes sure that the downloaded media are loaded into the current movie right away.

Define the path for saving Internet media.

To define the path for saving Internet media, simply click on the folder symbol and navigate to the desired folder. Confirm your selection with OK.

MAGIX News Center

The MAGIX News Center features links to current online tutorials and tips & tricks on the software application examples. The "News" is indicated by color according to content:

- Green indicates practical tips & tricks for the software
- Yellow reports the availability of new patches and updates
- Red for special offers, contests and questionnaires

If no new messages are present, the button will appear gray. When the MAGIX News Center is clicked, all of the available information will be displayed. Click the messages to reach the corresponding website.

Embed Flash videos into your own web page

To do this, you will need a basic knowledge of HTML pages and all technical requirements for uploading your files to your web page.

Tip: If you do not have HTML skills, we recommend using MAGIX Online Album. Without any previous knowledge, you can present videos, photos and music on your own web page – all completely for free. Videos from MAGIX Online Album can also be embedded in other websites as well.

Please note that a Flash video cannot be directly embedded into an HTML page like a picture in JPEG format. For a Flash video, you will need a Flash player embedded in the website to play back your video.

MAGIX offers you a download package with some Flash player goodies. It can be downloaded here http://support.magix.net/dl/flvplayer.php.

The package contains the following files:

- standalone_omk.swf - the Flash player
- demo.html - a sample website, which demonstrated how the player can be used
- demo.flv - a demo video, which will be played by the Flash player on the demo website

To reach your target quickly, simply adjust the demo website to your own requirements and replace the demo video with your own. At the end, upload all three files to your website.

If you need more information about the website's HTML code, we recommend that you read an explanation of HTML documentation to better understand the structure and functions of HTML.

If you understand HTML code, you will find another explanation of various parameters using which you can influence the appearance and function of the Flash player.

url   The path to the video which is to be played back.

preview   The path to an image in JPEG format. It is displayed as a
                preview in stopped state before the video is played back.

sound	The sound contained in the video will be played back if this parameter is "true".
loop	The video will be automatically played back from the start after reaching the end if this parameter is "true".
tooltip	Changing the position of the position cursor will display a tooltip with position information if this parameter is "true".
swfborder	A limiting line will be drawn around the player if this parameter is true.
autoplay	The video will be played back automatically when the page or the player are loaded.

Keyboard shortcuts

Playback functions

Start/stop	Space bar
Increase playback speed in stages	"L"
	"Shift + L"
Stop playback	"K"
Reduce playback speed in stages until	"J"
negative direction	"Shift + J"
Accelerate playback speed in positive	"Shift + left arrow"
direction	
Accelerate playback speed in negative	"Shift + right arrow"
direction	
Stop (playback marker is stopped at the	"K"
current position)	
Restart beginning at playback marker	"Back"
Playback marker back to the beginning	"Home"
Playback marker to end	"End"
1 frame back	"Left arrow"
1 frame forward	"Right arrow"
5 frames back	"Ctrl + left arrow"
5 frames forward	"Ctrl + right arrow"
Set project marker	"Ctrl + enter"
Play from range start to range end	"#"
Playback at current frame	"+"

Monitors

Program monitor	
Other resolution	"Alt + G"
Adjust video monitor to movie settings	"Ctrl + G"
Adjust video monitor to selected video	"Ctrl + Shift + G"
Show/hide playing time	"Alt + I"
Time background transparent	"Ctrl + Alt + I"
Anaglyph view	"Ctrl + ."
View partially interlaced	"Alt + ."
Standard (2D)	"."
Side-by-side display	"Shift + ."
Source monitor	
Comparison image: selected object	"Alt + Shift + ,"
without effects	
Comparison image: selected object	"Alt + ,"

Comparison image: in front of selected object	","
Comparison image: behind selected object	"Ctrl + Shift + ,"
Comparison image: select object	"Ctrl + ,"
Remove comparison image	"Shift + ,"

Arranger view

Zoom in	Ctrl + up cursor key
Zoom out	Ctrl + down cursor key
Full screen playback	Alt + Enter
Movie overview	Shift + A
Optimize view	Shift + B
Zoom 1 frame / 5 frames	Ctrl + 1/2
Zoom 1s / 5s / 1min/ 10min	Ctrl + 3/4/5/6
Zoom between red area markers	Ctrl + 7
Entire movie	Ctrl + 8

Move view

To next object edge	"Alt + W"
To previous object edge	"Alt + Q"
To movie start	Home
To movie end	"End"
To beginning of range	"Ctrl + Home"
To end of range	"Ctrl + End"
Page right/left	"Page down/up"
Grid unit right/left	"Ctrl + page down/up
To project markers 1-10	"Ctrl + 1/2/3/4/5/6/7/8/9/0"
To next/ previous project marker	"Ctrl + Shift + page down/up"
To next/ previous scene marker	"Shift + page down/up"
To next/ previous chapter marker	"Alt + page down/up"
To next/previous ad marker	"Ctrl + Shift + W" "Alt + Shift + W"
Go to previous/next marker	"Q/W"
Search for gaps...	"Ctrl + Shift + C"
Go to next empty range	">"
Go to previous empty range	"Shift + >"

| To next/previously selected object | "Shift + W" |
| | "Shift + Q" |

Mouse modes

Mouse mode for individual objects	"6"
All tracks mouse mode	"7"
Single track mouse mode	"8"
"Curve" mode	"9"
Object stretch mode	"0"
Preview audio objects	"Alt + 6"
Context help	"Alt + F1"

File menu

New project	"Ctrl + N"
Open project	"Ctrl + O"
Save project	"Ctrl + S"
Save project as...	"Shift + S"
Project folder -> Clean up project folder	"Alt + Shift + X"
Record audio/images/video...	"R"
Import edit list (EDL)...	"Ctrl + D"
Export to device...	"H"
Batch conversion...	"S"
Burn Cd/DVD -> Manually compile files...	"Ctrl + B"
Clean-up wizard	"Ctrl + Shift + Y"
Export to device	"H"
Load backup project	"Ctrl + Shift + O"
Exit	"Alt + F4"

Manage movies

New	Ctrl + Alt + N
Remove from project	Ctrl + F4
Export	Ctrl + Alt + L

Export movie

Export as AVI	"Ctrl + Alt + A"
Export as DV AVI	"Ctrl + Alt+ D"
Export movie as an MPEG	"Ctrl + Alt + P"
Video as MAGIX video	"Ctrl + Alt + M"
Video as QuickTime movie	"Ctrl + Alt + Q"
Uncompressed movie	"Ctrl + Alt + U"

Video as MotionJPEG-AVI	"Ctrl + Alt + O"
Movie as a series of individual frames	"Ctrl + Alt + E"
Windows Media Export	"Ctrl + Alt + V"
Video as MPEG 4 video	"Ctrl + Alt + G"
Audio as wave	"Ctrl + Alt + W"
Export as transition	"Ctrl + Alt + T"
Single frame as BMP file	"Ctrl + Alt + B"
Single frame as JPEG	"Ctrl + Alt + J"
Animated GIF	"Ctrl + Alt + F"
Export movie information as EDL	"Alt + D"

Backup copy

Copy project and media into folder	"Alt + S"
Copy movie and media into folder	"Shift + R"

Settings

Movie	E
Program	Y
Keyboard shortcuts	Ctrl + Shift + U
Preview rendering	Alt + R

Edit menu

Undo	"Ctrl + Z"
Redo	"Ctrl + Y"
Cut objects	"Ctrl + X"
Copy objects	"Ctrl + C"
Paste objects	"Ctrl + V"
Duplicate objects	"D"
Delete items	"Del"
Select all objects	"Ctrl + A"

Cut	
Split scene	"T"
Remove scene start	"Z"
Remove scene end	"U"
Remove scene	"Ctrl + Del"
Split movie	"Alt + Y"

Musical cut adjustment	"Ctrl + Shift + M"

Edit range	
Cut section	"Shift + Del; Alt + X"
Copy section	"Alt + C"
Delete section	"Alt + Del"

Insert section	"Alt + V"
Extract section	"Shift + X"
Insert empty space into selected range	"C"
Preview rendering for range between start and end marker	"Ctrl + R"
Build group	"G"
Ungroup	"Shift + G"

Wizards	
Slideshow Maker	Ctrl + M
Soundtrack Maker	Ctrl+ +S

Mix audio	Shift + D
Audio and video mixdown	Shift + M
Set snap point	Ctrl+P
Markers	
Set project marker 1 - 10	"Shift + 1/2/3/4/5/6/7/8/9/0"
Set/rename project markers	"Ctrl + enter"
Set chapter markers	"Shift + Enter"
Set chapter markers automatically	"Alt + Shift + Enter"
Delete chapter markers	"Ctrl + Shift + Enter"
Delete all chapter markers	"Ctrl + Alt + Enter"
Set range start	"I"
Set range end	"O"
Jump to range start	"Shift + I"
Jump to range end	"Shift + O"
Select range above blank space	"X"

Move view	see "Move view (view page 329)"

Effects menu

Movie effects settings	"Ctrl + Shift + H"

Video object effects

Scene recognition	"Shift + Z"
Image stabilization	"Ctrl + L"
Edit with MAGIX Xtreme Photo Designer	"Alt + Shift + D"

Video effects

Brightness/contrast	"Alt + Shift + H"
Color	"Alt + Shift + F"
Color correction	"Alt + Shift + C"
Sharpness	"Ctrl + Alt + S"
Video effects plug-ins	"Ctrl + Shift + P"

Video mix effects	"Ctrl + Alt + X"

Movement effects

Position/size	"Alt + Shift + I"
Section	"Alt + Shift + P"
Camera/zoom	"Ctrl + Alt + Z"
Rotation/mirror	"Alt + Shift + R"

Video effects

Load video effects	"Ctrl + -"
Save video effects	"Alt + -"
Reset video effects	"Ctrl + Alt + -"
Copy video effects	"-"
Insert video effects	"Shift + -"

Audio object effects

Normalize	"Alt + N"
Volume reduction	"Alt + L"
Audio cleaning	"Alt + A"
Echo/reverb	"Shift + H"
Timestretch/resample	"Ctrl + Q"
Load audio effects	"Ctrl + +"
Save audio effects	"Shift + +"
Reset audio effects	"Ctrl + Alt + +"
BPM wizard	"Alt + Shift + K"
Edit wave files externally	"Alt + Z"
Volume curve	"Ctrl + Shift + V"

Title effects

Title editor	"Ctrl + T"
Load title effects	"Alt + T"
Save title effects	"Ctrl + Shift + T"

Effects libraries

Audio and video effects	"Ctrl + Shift + E"
Transition effects	"Ctrl + Shift + B"
Title effects	"Alt + Shift + L"

Windows menu

Edit trimmer	"N"
Object trimmer	"Shift + N"
Mixer	"M"

Master audio effects rack	"B"
Program monitor	"Shift + V"
Media Pool	"Shift + P"
Project folder	"Shift + B"
Activate next window	"Tab"
Reset window arrangement	"F9"
Display settings	"Alt + Shift + V"
Film overview	"Shift + A"
Optimize movie view	"Ctrl + F"
Zoom horizontally/vertically	see "Arranger view (view page 329)"

Help menu

Help	"F1"
Context help	"Alt + F1"
Display tooltips	"Ctrl + Shift + F1"
About Xtreme	"Alt + Shift + F1"

Edit keyboard shortcut

In this dialog you can specify keyboard shortcuts for all menu function of MAGIX Video Pro X3. This allows you to adapt existing shortcuts to your requirements or to add new ones.

The settings are automatically saved in a file upon closing the program, i.e. they will be available the next time the program is used.

The display of the entire menu tree is the key function of MAGIX Video Pro X3.

Add keyboard shortcut

To add a keyboard shortcut, proceed as follows:

- Look for the required menu point and select it with a simple mouse click. Under "Current menu point" the currently selected menu point will be displayed.
- Then, click on the "New keyboard shortcut" field.
- Type in the keyboard shortcut. You can also use combinations of any key with "Shift", "Alt", and "Ctrl".
- Then click on "Assign shortcut". If the shortcut should already have been assigned a corresponding warning will be displayed.

Note! Please do not use the space bar, "Esc", or "Insert" key ("0" in the number block), since the functions of these keys are permanently assigned in MAGIX Video Pro X3 and can not be changed.

Keyboard shortcut list

Reset: Activates all preset shortcuts again.

Load: Previously saved shortcuts are loaded and activated again.

Tip: MAGIX Video Pro X3 offers additional presets for those switching over from other programs. This significantly simplifies getting used to MAGIX Video Pro X3!

Note: The current settings will be overwritten during loading! Save your current keyboard shortcuts in advance if you would like to keep them.

Save: The current keyboard shortcuts can be saved after naming the file appropriately.

List: This button opens a window where a complete list of current keyboard shortcuts appears. The included "Copy" button can be used to copy this list to the Windows clipboard and then edit and print it using a text editor.

Activate codecs

If required you may activate the encoder/decoder for various file formats. The corresponding activation dialogs will appear automatically when the codec is used for the first time, for instance, when burning a DVD.

Why does it have to be "activated"?
To import (decode) or export (encode) certain video and audio formats, you will require a specific codec. MAGIX Video Pro X3 will ask you if you want to activate the codec as soon as you need it. The integration of decoders and encoders from third parties into programs usually costs money. These codecs are integrated via additional, voluntary activation in MAGIX programs which, according to usage and degree of prevalence, can be free or fee-based for special high-quality codecs. This way, MAGIX can continue to be able to provide you with optimum value for money for your software.

Free activation (MPEG-2, MPEG-4, Dolby Digital 2.0 & 5.1)

To be able to use MPEG-2, MPEG-4, the Dolby Digital stereo import, and Dolby Digital 5.1, you will have to activate the codec for free.

Activation can be done online via telephone or via post/fax. The quickest and easiest way to order an activation code is via the Internet.

Order activation code online

Click on "Order online..." (Field 1). MAGIX Video Pro X3 will automatically contact the MAGIX server and load the corresponding codec.

Note: Activation of the codec checks the registration data as required. Activation of the codec only functions if your version of the program has already been registered in your name. If you haven't registered MAGIX Video Pro X3, then you can do this at any time.

If your computer has no Internet access, you have the following options for activation:

Order activation code in MAGIX Service Center
Use this option to conduct activation from a different computer which has Internet access.

Order activation code via post/fax
After clicking on "Order via post/fax" (field 2), your user code will appear. This automatically assigns your personal activation code to your PC. Click on "Continue to order form" to transfer your user code automatically to the post/fax form. Now send the completed form as a print out to the address/fax no. mentioned. Your activation code will be sent to you in just a few days via post or fax. It can also be sent by mail if an email address is stated.

Enter activation code
After receiving your personal activation code use the export or burn function to reopen the activation dialog for the corresponding file format. Type or copy the activation code into the input field in the dialog and click on "Activate...".

Fee-based DVCPRO activation

To use the DVCPRO professional video format in MAGIX Video Pro X3, it must first be activated first. This involves a fee-based activation process.

Order activation code online
Click on "Order online..." (Field 1). The web browser will open for you to register MAGIX Video Pro X3 first (if you have not already done so). You will then be forwarded to a website where you can request the corresponding activation.

If your computer has no Internet access, then you have the following options for activation:

Order activation code in MAGIX Service Center

Use this option to conduct activation from a different computer which has Internet access.

Order activation code via post/fax
After clicking on "Order via post/fax" (field 2) your user code will appear. This automatically assigns your personal activation code to your PC. Click on "Continue to order form" to transfer your user code automatically to the post/fax form. Now send the completed form as a printout to the address/fax no. mentioned. Once payment has been processed successfully, your activation code will be sent to you in the post/via fax in just a few days. Optionally, it can also be sent by email if an email address is stated.

Enter activation code
After receiving your personal activation code use the export or burn function to reopen the activation dialog for the corresponding file format. Type or copy the activation code into the input field in the dialog and click on "Activate...".

Annex: Digital Video and Data Storage

Video Editing on the PC

Digital video processing with the PC is comparable to audio processing. The analog medium that is video must first be digitized before it can be processed by the computer.

Digital video processing functions quite similar to recording via a sound card. The signal flow is measured in very short, regular intervals, and the values resulting from it can then be processed by the computer. The accuracy of each individual measurement results in the resolution, and the frequency of the measurements results in the frame rate. The more precise and frequent the signal is measured, the higher the quality of the digitized video, but also the higher demands on the capture performance and the required storage space. The Windows standard format for video files is AVI (audio and video Interleaved).

Digitizing video adopts either the camera or the graphics card, a TV card (e.g. Miro PCTV), or a video card (e.g. Fast AV Master). However, video handling makes much higher demands upon the hardware if good image quality is required. In order to be able to reasonably process video files on today's PCs, they must be compressed. Digital audio, on the other hand only uses compression for saving storage space.

MPEG Compression

MPEG means "Moving Picture Experts Group" and defines a workgroup which cooperates with the International Standards Organization (ISO) as well as the international Electro Technical Commission (ETC) to develop standards for video and audio coding.

Generally, the graphic data rate of the digital video standard is 167 megabits per second, which, when not compressed, requires a far higher storage capacity than a DVD can offer. A one-sided DVD 5 with 4.7 GB storage capacity is enough for 4 Minutes. For this reason, the available pictorial material must be effectively compressed – a function which is achieved with the MPEG procedure.

This procedure is based on the simple fact that up to 96% of digital video data consists of repetition and can be compressed without visible degradation of the pictorial quality.

Each MPEG compression is, however, a data reduction and as such connected with information loss. If the video consists of very extensive

details, or if the content changes very fast, then the picture may blur (dependent on the strength of the compression and the quality of the encoder).

Errors can also result from so-called compression artifacts such as small color defects or images that are too dark.

At average compression rates under 3 megabits per second it is probable that you will notice reduced quality. At rates around 6 megabit per second the degradation in quality becomes almost invisible.

General notes on AVI videos

The AVI format (Audio Video Interleaved) isn't actually a proper video format! Rather, it is a so-called "container", where the conventions for transferring audio and video files to the program are only loosely defined. The codec (coder/decoder) actually defines what storage format is used. A codec compresses audio/video data into its own unique format which can only be read by the codec itself and is decoded when the film is played.

In concrete terms, a computer-generated AVI file can only be loaded by and played on a different computer if the same codec is installed on it.

Many codecs (e.g. Intel Indeo$^®$ video) have now become standard components of the Windows™ installation. Others like the popular DivX codec are not standard. If you are generating an AVI file for future play on another computer using one of these codecs, you should first install this codec on the other PC. The best method available is to copy the codec installer to your export directory and burn it every time you create a video disc (slideshow disc) for play on computers.

You may encounter some problems when using older video editing cards with codecs which only function with the card's hardware. Such AVIs can only be used on the computer which was used to create them. Try to avoid using this kind of codec.

Overview of the different disc types

MAGIX Video Pro X3 supports numerous disc types, and these depend on whether you want to burn a movie or slideshow and which disc type you are using (CD, DVD, or Blu-ray Disc^{TM}), or the type of playback device or quality required.

The table below will explain which disc types are best for different cases, the differences in quality, and how much storage space each format requires.

More detailed information, consult the chapters concerning the individual disc types.

Disc type	Storage media	Menu	Quality	Length (optimal quality)
DVD	DVD	Yes	***	98 min.
WMV HD	CD/DVD	Yes	*****	107 min./DVD 15 min./CD
Blu-ray Disc^{TM} (view page 342)	Blu-ray Disc^{TM}	Yes	*****	110 min.
AVCHD (view page 342)	DVD/Blu-ray Disc^{TM}	Yes	*****	30 min./DVD 160 min./Blu-ray Disc^{TM}
Multi Disc	CD/DVD	Yes	****	45 min./DVD 7 min./CD
MiniDVD (view page 341)	CD	Yes	***	approx. 20 minutes
JPEG DISC	CD/DVD	No	*****	This depends on the original images and the DVD player*

* The set duration for some DVD players may be determined by this table. The amount of image material that can be put onto a CD or DVD depends on the sizes of the picture files.

You may also use the menu templates from the category "TV Showtime DVD" for the disc types MiniDVD and DVD. Each picture of a slideshow is displayed fullscreen on its own menu page (without having to playback the slideshow).

Digital Versatile Disc (DVD)

Quality

Featuring a resolution of 720 x 576 (PAL) and encoded with MPEG-2, 25 frames per second provides very good results.

Writable data storage formats

The recordable DVD market is currently split into three types: "DVD-RAM", "DVD+RW", and "DVD-RW".

DVD-R/+R: This medium may only be written to once. The DVD-R may be specified with file structures for DVD video, DVD audio, or DVD-ROM.

DVD +RW: +RW drives allow re-writable DVDs to be created which may be read by almost any commercial DVD-ROM or DVD player. The companies involved are mainly Philips, Sony, HEWLETT PACKARD (as well as Ricoh, Yamaha and Mitsubishi).

DVD-RW: This is a write/erase DVD technology promoted by Pioneer and Sharp. This format was developed by the Pioneer company and should be compatible with existing DVD players.

DVD-RAM: DVD-RAM technology is based on either Phase Change, MOs, or hard disks, etc. and is now almost 100% incompatible with all available players.

Due to the small storage capacity and incompatibility with DVD players, setting on this standard is not recommended.

Note: MAGIX Video Pro X3 supports DVD±R and DVD±RW, but not DVD-RAM.

Blank discs: Single-sided recordable blank discs featuring a capacity of 4.7 GB and a duration of approx. 2 hours.

Copy Protection

Macrovision (APS): The movie industry claims that even DVD-ROM drives and decoders or diagram cards with composite outputs or s-video outputs must support the Macrovision analog copy protection (APS). Only some older DVD players do not possess APS.

APS adds additional signals to a DVD's stored graphical data. The data is almost unchanged. These supplementary signals disturb the synchronization and the automatic recording regulation of most video recorders to prevent recording of the video. They are not noticeable on the television or the monitor, however.

Content Scrambling System (CSS): CSS prevents saving and duplication of DVD video tracks to hard disk. The VOB streams of DVDs without CSS can otherwise (like other video files) be loaded via the Import Video button

There are further types of copy protection besides APS and CSS which ensure that retail DVDs cannot be copied without distortion

miniDVD

The miniDVD is nothing more than the DVD data format burned onto a CD-ROM. Thus the MPEG-2 encoder and all other specifications of the DVD data format are used, and only the data carriers are different. Because the

CD-ROM can only save about a sixth of the quantity of data a DVD can hold, the capacity of a miniDVD is accordingly limited to approx. 20 minutes of movie.

MiniDVDs are particularly suitable for playing on the computer. For stand-alone devices they must be tested on an individual basis as to whether the device can handle the DVD format on a CD-ROM.

AVCHD disc

Use this format to create a high-resolution video. You can burn Blu-ray (BD-R/RE) blanks as well as conventional DVD±R/RWs. In contrast to Blu-ray Discs (view page 342), MPEG-4/AVC codec (view page 346) is applied as the video format, which requires less memory at a comparable image quality.

Compatibility

AVCHD disc on Blu-ray blank: Since this is a BD-conformant format, the disc created can be played back in any conventional Blu-ray player. Playback problems can almost always be traced to incompatibilities between Blu-ray blanks and Blu-ray players. In this case, consult the instructions for your Blu-ray player or ask the manufacturer which blanks are compatible with the device.

AVCHD disc on DVD blank: The DVDs created with AVCHD video are not supported by all Blu-ray players. The behavior of the devices is quite different. Normal DVD players cannot replay AVCHD discs, since the AVC format is not supported.

Blu-ray Disc™

Since early 2008, Blu-ray Discs are viewed as successors to DVDs and offer especially high storage capacity of up to 27 GB in a single layer (double-layer up to 54 GB) with very few write errors.

The term Blu-ray Disc comes from the blue color of the laser. Because a color cannot be registered as a trademark, the letter "e" was removed from the word "blue".

The high storage capacity of the Blu-ray Disc suits high definition videos and slideshows in high quality perfectly, since these are characterized by large file sizes (depending on material approximately 40 MB/sec) and very high memory use. The MPEG-2 codec is used to create video.

Companies that were involved in developing Blu-ray technology have united themselves into the Blu-ray Disc Association (BDA).

Blu-ray Discs come in three varieties:

- Only readable BD ROM (comparable to DVD video),
- rewritable BD-RE (comparable to DVD±RW or DVD-RAM),
- and as a disc that can be written to only once BD-R (comparable to DVD±R).

Super Video CD (SVCD)

The Super Video CD (SVCD) is a technological advancement of the video CD. SVCDs are also like VCD-specified CD-ROMs which can be played using either a Super Video CD player (connected to the television), or directly with the CD-ROM drive of a computer. Many DVD players can also play SVCDs. MPEG-2 and the increase of the data transfer rate makes it hard to tell videos from videos in DVD quality apart.

Resolution: SVCDs use the better MPEG-2 encoder in a standardized resolution of 480 x 576 (PAL). The MPEG-2 format offers a maximum resolution of up to 720 x 576 points and improved compression methods characterized by excellent image definition and homogenity.

Hard disk capacity: An average 90-minute movie must be spread across 3 CDs. On one SVCD you can get about 30 minutes of good-quality movie.

Encoder setting: Compared to the VCD with 1.3, the data transfer rate is doubled to 2.6 Mbit/s.

MPEG-2 format introduces the so-called variable bit rate (VBR). In contrast to the constant bit rate (CBR) of the MPEG-1 encoders, this encoder has the option of using more bits for movement-intensive sections, as well as saving bits if picture content remains the same.

Video CD (VCD)

Video CDs are specific CD-ROMs for storing videos in certain forms. Compression takes place using the MPEG-1 codec. VCDs can be played on either a video CD player attached to a television or directly via the computer's CD-ROM drive. Most DVD players can play VCDs.

Resolution: VCDs can play movies with a maximum resolution of 352 x 288 pixels (PAL) or 352 x 240 (NTSC) at 25 pictures per second. The resolution of a VHS cassette offers for instance 300 x 360 pixels. More important than the resolution is the use of a good MPEG-1 encoder. Since video images constantly change, errors cannot always be perceived by the viewer.

Hard disk capacity: A VCD can store about 70 minutes of video. A typical motion picture must therefore be stored on two VCDs. In order to get as much video data on a normal CD as possible, one must forego correction information on VCD/SVCD formats within the individual sectors (sub-

ranges) of a CD. You can therefore fit 720 MB of video data on a 650 MB blank CD. Due to improved burning and scanning technology it is now possible to burn up to 985 MB video data on a 99min blank CD.

Encoder settings: Normally the video CD data is played at a data rate of 1150 kBits video and 224 kBits audio. By increasing the video bit rate to 3000kBits you can get the same resolution and an better-quality audio bit rate. Movement artifacts disappear almost completely at approx. 2000 kBits with the picture appearing a little less sharp. This pre-supposes, however, that the player can also play back such a bit rate. The fact that many DVD players can handle an increased data rate is due to well written player software.

Experiment with higher data rates: If you do not need the full running time of the VCD, then you can experiment with space to improve the quality of the video!

JPEG disc

The "JPEG disc" is a special case for slideshows. No video file is created to be burned, but rather every photo in the disc project is exported individually with effects and burned to CD or DVD. Many modern DVD players can play JPEG files directly.

If a project contains several slideshows, a subfolder will be created for each one, and the corresponding images will be placed into each one. This means that there are no menus, no sound, no animated effects or transitions – although it does offer the best possible quality available for playback on TV. This means that there are no menus, sounds, animated effects or transitions, it does, however, offer the best possible quality available for TV playback.

Slideshow disc

All slideshow image and audio files will be burned onto CD or DVD, together with any effect settings and the MAGIX Media Manager CDR player program. A MAGIX Media Manager CD is designed especially for photo projects (slideshows).

The original photos are burned onto CD; Ideal for backing up valuable recordings. During playback on your PC, the highest possible picture quality is made possible. The following photo effects can be played by Media Manager.

- Brightness, contrast, gamma
- Cropping and rotation
- Title text (without text effects)

If your project uses more effects, they won't be visible on the Media Manager CD. A VCD or DVD is more suitable for such projects.

The MAGIX Media Manager CDR ensures that the CD-ROM can be played back on any Windows PC regardless of the software installed. The disc will automatically begin playing the slideshow after the CD-ROM has been inserted into the drive, provided the auto-play feature is enabled on your PC. To enable the auto-play feature on your PC, select the "Auto Insert Notification" option for your CD-ROM drive from the Windows Control Panel.

If deactivated, you can also start your CD-ROM slideshow manually:

1.   Place your home-burned CD-ROM into your CD-ROM drive.
2.   Open Explorer and click on the drive letter of the CD-ROM drive (usually D:\).
3.   Double-click "MediaManager.exe" to start the MAGIX Media Manager CDR.
4.   In the Explorer window of MAGIX Media Manager CDR, open the slideshow playlist file ending with *.PLR and start the slideshow.

Additional information can be found in the help feature of MAGIX Media Manager CDR (F1 key).

WMV HD (Windows Media High Definition Disc)

WMV WMV HD (Windows Media High Definition Disc) is a type of disc optimized for playback of slideshows on PC. The movies are converted into high-resolution Windows Media 9 format and a menu is added, like with DVDs. You must have Windows Media Player 9 or higher installed on your PC.

Video encoding will be preset for HDTV resolution (1280 x 720, also known as "720p"). To select different resolutions, click on the button "Encoder settings" and in "Presets" choose the following:

- Standard PAL (720x576) or NTSC (720 x 480)
- Standard PC resolutions (1024 x 768 or 1280 x 1024)
- HDTV 720p (1280x720) or 1080i (1920x1080)

Multi Disc

A multidisc is a combination of different disc formats on one DVD. It consists of 3 parts and offers the following advantages:

- Maximum quality when played on a PC with WMV HD (Windows Media High Definition Disc)
- Fully compatible with DVD players due to a DVD part (Digital Versatile Disc) (view page 340)

- Greatest possible safety as a data backup of the project is added (burn option (view page 219)).

Backup disc

Use this option to compile all movies in the current disc project, including all connected media and burn them to disc.

Even larger projects can be burned straight to disc. The project, if necessary, will be split up and burned automatically to multiple discs. A restore program which is burned to the first disc of such a backup, guarantees easy re-recording of the backup.

MPEG-4 encoder settings

Behind MPEG-4, you'll find a highly complex "academic" standard that operates and is supported variably according to make.

Tip: First, check if there is a suitable preset in the export dialog for your purposes. Before changes are made in "Advanced settings", the effects and interplay of the different parameters should be familiar.

The "Advanced settings" are divided into "Video", "Audio", and "Multiplexer".

Under "Video", there is a choice between "MPEG-4 (view page 347)" (H.263) and "AVC/H.264 (view page 351)". Depending on the purpose of application of the material to be exported, both of these encoder settings can be selected for compressing the video material. It is important in this case to know how the material will be played back.

Under "Audio", there is a choice between "AMR (view page 357)" and "AC (view page 357)". The AMR format is more suitable for mobile devices that don't necessarily require high playback quality. ACC is more flexible, on the other hand, but it is supported by fewer mobiel devices.

For material that is not exactly specific, encoder qualities recommend AVC image and AAC sound, since these encoders are equally suitable for all source material.

The option "Export as website" also creates an HTML page in an integrated Flash player that can play back the video created. Read the topic "Embed Flash videos into your own web site (view page 326)".

MPEG-4

The MPEG-4 (H.263) codec is especially useful for video material with little or only slower movements.

Generic

MPEG-4 preset

Different presets located within the encoder.

(A)SP@L0-L5: (Advanced) Simple Profile in Level 0-5

(Q)CIF (Common Intermediate Format): CIF is a video format produced as soon as 1990 with the video compression format H.261. At that time, the format was used for video telephone conferences.
The "Q" in QCIF stands for "Quarter", and since resolution is halved in terms of height and width compared to CIF, the entire size is only a quarter of CIF.
QCIF was popular with mobile telephone manufacturers, since the resolution of 176 x 144 pixels was sensible for the first affordable SmartPhones (144 x 176).

(Half)D1: D1 corresponds with MPEG-2 DVD. HalfD1 has exactly half of the entire number of pixels, meaning that the pixel number of the height and weight is 2/3 of D1.

720p: Video stream with a resolution of 1280 x 720p (progressive).

Apple iPod: Apple iPod-compatible stream.

Sony PSP: Sony PSP-compatibler stream.

Profile/Level

So that profile and level are conformant with the other settings, pay attention to the minimum and maximum values in the following tables.

Note! In case the settings are not included in this information, problems playing back the encoded videos can lead to problems.

Table 1: The levels of the MPEG-4 simple profile (SP)					
Level	Typical visual session size	Max. number of objects	Maximum number objects per type	Max. unique quant. tables	Max. VMV buffer size (MB)

L0	QCIF	1	1 x simple	1	198
L1	QCIF	4	4 x simple	1	198
L2	CIF	4	4 x simple	1	792
L3	CIF	4	4 x simple	1	792

Continuation of table 1						
Level	Max. VCV buffer size (MB)	VCV decoder rate (MB/s)	Max. total VBV buffer size (units of 16384 bits)	Max. VOL VBV buffer size (units of 16384 bits)	Max. video packet length (bits)	Max. bitrate (kbit/s)
L0	99	1485	10	10	2048	64
L1	99	1485	10	10	2048	64
L2	396	5940	40	40	4096	128
L3	396	11880	40	40	8192	384

Table 2: The levels of the MPEG-4 advanced simple profile (ASP)							
Level	Typical visual session size	Max. number of objects	Max. number per type	Max. unique quant. tables	Max. VMV buffer size (MB)	Max. VCV buffer size (MB)	VCV decoder rate (MB/s)
L0	176x144	1	1x AS or simple	1	297	99	2970
L1	176x144	4	4x AS or simple	1	297	99	2970
L2	352x288	4	4x AS or simple	1	1188	396	5940
L3	352x288	4	4x AS or simple	1	1188	396	11880
L4	352x576	4	4x AS or simple	1	2376	792	23760
L5	720x576	4	4x AS or simple	1	4860	1620	48600

Continuation of table 2					
Level	Max. percentage of intra MBs with AC prediction in VCV buffer	Max total VBV buffer size (units of 16384 bits)	Max. VOL VBV buffer size (units of 16384 bits)	Max. video packet length (bits)	Max. bitrate (kbit/s)
L0	100	10	10	2048	128
L1	100	10	10	2048	128
L2	100	40	40	4096	384
L3	100	40	40	4096	768
L4	50	80	80	8192	3000
L5	25	112	112	16384	8000

Picture type

"Picture type" specifies which parts of a frame should be used as the basis for the encoding:

- Frame: A frame is a single image from a video sequence, also called a full image.
- Field: A half-image, two of which combine to produce a frame. Read more about this explanation regarding "Interlace (view page 368)".

Field order

Note: This parameter is only available if the setting "Field" is selected for "Picture type".

In case of interlaced streams, the half-image sequence is set. Read more about this explanation regarding "Interlace (view page 368)".

Pulldown

Note: This parameter is only available if the setting "Frame" or "MBAFF" (only for AVC/H.264)" is selected for "Picture type".

In normal cases, an image playback rate of 24 (or 23.976) frames per second is use; the NTSC system however requires 30 (or 29.97) frames/s, and there is a special algorithm for converting the video's frame rate. For compilations or test purposes, switch this option to "No". In normal cases, the setting can be set to "Auto".

Slice count

A frame can be divided into multiple slices for encoding. Specify the maximum number of slices are permitted. If set to "0", then the number will be determined automatically.

Bit rate control

The bit rate indicates how much data per second is saved in the video (playback speed). This makes the bit rate the deciding parameter for the video to be encoded.

Mode

- Constant bit rate: The constant bit rate should only be used if the device used to play the video supports constant bit rates.
- Variable bit rate: The bit rate varies. For faster movements in the video, the bit rate increases, and for still images or slow pans, a lower bit rate is sufficient for creating the video in constant quality.
- Constant quality: Similar to the "Variable bit rate" mode, the bit rate varies according to the video material. The quality depends on the selected profile and can be changed.
- Constant quantizer: In this mode, a fixed colour quantization is used for the macro blocks. Under Advanced settings, a value between 1 and 32 can be set independent of the respective frame (I-Frame (view page 368), P-Frame, or B-Frame (view page 369)). The higher the value, the stronger the quantization: small values produce qualitatively high-quality images and the data rate increases, and larger values produce a reduction in data, but the quality suffers.

Bit rate (Bits/s)

- In "Constant bit rate" mode: Exactly those values entered are applied to be able to calculate the size of the video precisely.
- In "Variable bit rate" mode: The values entered here are applied to the video as an average as a guideline. The size of the video to be exported can only be approximated.

Max. rate

This is the maximum bit rate that should be present in the video stream, i.e. maximum number of bits that may be transferred to the decoder.

Note: This option is only available in "Variable bit rate" mode.

VBV buf. size

VBV is the abbreviation for "Video rate buffer verifier definition" and the size of the buffer (storage area) that is applied to the encoding.

The larger the buffer is, the better the results will be, but the processing will also take much longer. The smaller the buffer is, the more parallel processing can take place at the same time in RAM.

Pixel aspect ratio

Specifies the page ratio of the individual image points (pixels).

Meaning: Different television norms and the standard pixel ratio. Select a setting and the results are displayed as "X" and "Y".

X/Y: The actual pixel ratio. If under "Meaning" the setting "Custom" is selected, then a custom ratio can be set.

GOP structure

Max key interval

Determines the maximum GOP (view page 367) length. High values mean improved compression. Lower values create stronger security protection and enable improved access to individual frames for processing the video.

B-frames count

The number of B-Frames (view page 369). Several applications, e.g. video conferences, require a setting of "0" for this, i.e. no B-Frames, in order to enable the shortest possible reaction times for transfer.

Scene change detection

If this option is activated the scenes will be detected during encoding, thus allowing you to insert an I frame (view page 368) after a scene change.

Input info

Information about the incoming video stream is displayed here during live recordings.

Statistics

Information about the encoder activity is displayed here during live recordings.

AVC / H.264

The H.264/AVC codec is suitable for all types of material; however, it requires relatively higher CPU power for later decoding.

In the advanced encoder settings of the AVC encoder the "Generic" options in "Main Settings" are mainly interesting.

The AVC preset and video format can be adjusted here. For instance, if DVD quality is desired you should select "DVD". The video format should be selected specific to the country so that the material can be played on the devices most commonly available in these countries. For instance, you should select PAL for Germany, SECAM for France and NTSC for the US.

Generic

AVC preset

This is where the actual video stream that will be exported is selected.

- Baseline: According to ISO/ICE 11172-1/2 standard
- CIF: Corresponds with MPEG-1 VideoCD
- Main: Corresponds with ISO/ICE 13818-1/2 standard
- SVCD: Corresponds with MPEG-2 Super VideoCD
- D1: Corresponds with MPEG-2 DVD
- High: HIGH profile 1920x1080i
- DVD: DVD video
- HD DVD: HD DVD video
- Blu-ray: Blu-ray Disc
- Blu-ray HD: Blu-ray Disc in high definition
- Sony PSP: Sony PSP-compatible format
- HD 1280 x 720p: High profile with a resolution 1280x720p (progressive)
- HD 1440 x 1080i: High profile with a resolution of 1440 x 1080i (interlaced)
- Apple iPod: Apple iPod-compatible stream.

Video format

Specifies where the video to be exported should be. The encoder optimizes video material for the selected mode of playback.

- Auto: The format from the MAGIX Video Pro X3 project.
PAL: Phase Alternating Line, or PAL, is a process for color transmission for analog TV that is primarily used in Europe, but also in Australia, South America, and many African and Asian countries.

- The image repetition rate for PAL is 25 Hz.
NTSC: NTSC stands for "National Television Systems Committee". This is a US institution that defined the first color carrier system for TV which is now used in most of America and some East Asian countries.

- The image repetition rate for NTSC is 29.97 Hz.
- SECAM: SECAM is a TV norm in France and eastern Europe for transferring analog color video signal.
- MAC: The MAC process (Multiplexed Analogue Components) involves TV norms developed for satellite TV. They have also been developed for an HDTV standard (HD-MAC).
- Unspecified: This setting does not make any special optimization.

Tip: The best results are achieved with the setting "Auto", since this automatically uses the project settings as a basis by MAGIX Video Pro X3.

Profiles

Defines which profile is applied in the AVC/H.264 stream.

- Baseline profile: The basis of applications with limited computing performance, especially for video conferences or videos on mobile telephones.
- Main profile: This profile was originally intended for the broadcast industry and for backup purposes. The process has however retreated somewhat from use, since "High Profile" has been developed for these purposes.
- High profile: This profile is used for broadcast and backup applications, and it is also used sometimes in the HDTV industry (High Definition Television). For example, this profile for HD-DVD and Blu-ray Discs.

Level

H.264 defines different levels. The higher the level, the larger the video's bit rate. In this table, you can see the maximum permitted values for the respective level in relation to the selected profile.

Level	Max. macro blocks per seconds	Max. image size in macro blocks	Max. video bit rate (VCL) for baseline and main profile	Max. video bit rate (VCL) for high profile	Examples (Resolution / image rate in Hz)
1	1485	99	64	80	128 x 96/30.9
1.1	3000	396	192	240	176 x 144/30.3
1.2	6000	396	384	480	320 x 240/10
1.3	11880	396	768	960	320 x 240/36
2	11880	396	2 Mbit/s	2.5 Mbit/s	320 x 240/36
2.1	19800	792	4 Mbit/s	5 Mbit/s	352 x 480/30
2.2	20250	1620	4 Mbit/s	5 Mbit/s	352 x 576/25.6
3	40500	1620	10 Mbit/s	12.5 Mbit/s	720 x 480/30
3.1	108000	3600	14 Mbit/s	17.5 Mbit/s	1280 x 720/30
3.2	216000	5120	20 Mbit/s	25 Mbit/s	1280 x 1024/42.2
4	245760	8192	20 Mbit/s	25 Mbit/s	1920 x 1080/30.1 2048 x 1024/30
4.1	245760	8192	50 Mbit/s	62.5 Mbit/s	1920 x 1080/30.1 2048 x 1024/30
4.2	522240	8704	50 Mbit/s	62.5 Mbit/s	1920 x 1080/64 2048 x 1024/60
5	589824	22080	135 Mbit/s	168.75 Mbit/s	1920*1080/72.3 2048 x 1080/67.8 2560 x 1920/30.7

| 5.1 | 983040 | 36864 | 240 Mbit/s | 300 Mbit/s | 1920 x 1080/120.5 4096 x 2048/30 |

The setting "Level auto" specifies the encoder levels automatically, among other things for the resolution of the video format specified under "AVC preset" and the set profile bit rate. If a level is manually set in this case, then other parameter values may not exceed the permitted maximum values.

Picture type

"Picture type" specifies which parts of a frame should be used as the basis for the encoding:

- Frame: A frame is a single image from a video sequence, also called a full image.
- Field: A half-image, two of which combine to produce a frame. Read more about this explanation regarding "Interlace (view page 368)".
- MBAFF (macro block adaptive frame field): A macro block consists of 16 x 16 pixels. The encoder creates a "frame field" on this basis for encoding.

Field order

Note: This parameter is only available if the setting "Field" is selected for "Picture type".

In case of interlaced streams, the half-image sequence is set. Read more about this explanation regarding "Interlace (view page 368)".

Pulldown

Note: This parameter is only available if the setting "Frame" or "MBAFF" (only for AVC/H.264)" is selected for "Picture type".

In normal cases, an image playback rate of 24 (or 23.976) frames per second is use; the NTSC system however requires 30 (or 29.97) frames/s, and there is a special algorithm for converting the video's frame rate. For compilations or test purposes, switch this option to "No". In normal cases, the setting can be set to "Auto".

Slice count

A frame can be divided into multiple slices for encoding. Specify the maximum number of slices are permitted. If set to "0", then the number will be determined automatically.

Bit rate control

The bit rate indicates how much data per second is saved in the video (playback speed). This makes the bit rate the deciding parameter for the video to be encoded.

Mode

- Constant bit rate: The constant bit rate should only be used if the device used to play the video supports constant bit rates.
- Constant quantizer:
- Variable bit rate: The bit rate varies. For faster movements in the video, the bit rate increases, and for still images or slow pans, a lower bit rate is sufficient for creating the video in constant quality.

Pass

- Single pass: The encoder process takes place without prior analysis. This requires the least amount of time, however quality suffers.
- Multi-pass analysis: The first encoding is carried out at the same time as the analysis for the second encoding is calculated.
- Multi-pass encode: The first encoding is carried out at the same time as the analysis for the second encoding is calculated and updated. This produces the best results, but the process requires the most time.

Bit rate (Bits/s)

- In "Constant bit rate" mode: Exactly those values entered are applied to be able to calculate the size of the video precisely.
- In "Variable bit rate" mode: The values entered here are applied to the video as an average as a guideline. The size of the video to be exported can only be approximated.

HSS rate

This is the maximum bit rate that should be present in the video stream, i.e. maximum number of bits that may be transferred to the decoder.

Note: This option is only available in "Variable bit rate" mode.

CPB size

This sets the size of the "coded picture buffer" in bits. This is the buffer where the encoding is carried out. The larger the buffer is, the better the results will be, but the processing will also take much longer.

Aspect ratio

In the film industry, this is an indictation of the ratio between width and height of a rectangle, monitor, or screen.

There are 3 different sizes available:

- Picture Aspect Ratio (also Display Aspect Ratio, DAR): This indicates the desired aspect ratio of the video to be exported. Here are some examples of typical aspect ratios: at home 4:3, 16:9 (typical for TV sets) or 16:10 (widescreen-flatscreens, widescreen notebooks), 3:2 for 35mm films and photos. In cinemas you mostly find 1.85:1.
- Pixel Aspect Ratio (PAR, pixel aspect ratio: Indicates the aspect ratio of individual pixels. The majority of computer monitors have quadratic pixels (PAR=1:1), for analog television monitors (PAL at 4:3) 128:117.
- Sample Aspect Ratio (SAR, also Storage Aspect Ratio): Aspect ratio of the saved resolution (number of pixels), e.g. 720:576 at PAL. It also calculates picture aspect ratio and pixel aspect ratio: SAR = DAR / PAR.

Note: In the standard case, the "Aspect ratio" remains set the way it is. You should only change the settings if the resulting video is exported distorted or stretched or if you need to correct the video because it is in the wrong aspect ratio.

GOP structure

Max GOP length

Determines the maximum GOP (view page 367) length. High values mean improved compression. Lower values create stronger security protection and enable improved access to individual frames for processing the video.

Max b-frames count

The maximum number of b-frames (view page 369). Several cases of application, e.g. video conferences require "no b-frames" in order to achieve the shortest possible reaction times during transfer.

Scene change detection

If this option is activated the scenes will be detected during encoding, thus allowing you to insert an I frame (view page 368) after a scene change.

Input info

Information about the incoming video stream is displayed here during live recordings.

Statistics

Information about the encoder activity is displayed here during live recordings.

AMR

AMR involves a parametric codec with different data rates between 4.75 and 12.2 kbit/s. The 12.2-kbit/s settings throughly corresponds with the GSM-EFR codec in terms of algorithm and audio quality.

This audio format is used by mobile telephones for transferring the conversation and is optimized for encoding conversation (voices). Low bit rates provide compensation for mobile phones in case of transfer errors, i.e. bad reception. Depending on the signal strength, the compression increases or decreases to enable the best possible quality for a conversation. The AMR sound, on the other hand, encodes a fixed sample rate of 8,000 Hz compared to AAC sound.

The advanced AMR audio menu includes the following settings options:

The bit rate can be set between 4.75 and 12.2kbit/s. The higher the bit rate, the greater the file size and the higher level of audio quality. The standard settings provide a bit rate of 7.4 kbit/s. The highest bit rate for this format is more suited for transferring conversations.

AAC

The AAC audio was developed by MPEG, the Moving Picture Experts Group (Dolby, Fraunhofer Institut für Integrierte Schaltungen in Erlangen, AT&T, Nokia, Sony) as an audio data compression process, that was specified as a further development of MPEG-2 Multichannel in the MPEG-2 standard.

It's also a further development of MPEG-2 audio. This format is equally suitable for encoding general audio information and not especially optimized for certain types of audio material. As with video material, the audio format should be considered for playback later.

AAC audio can be encoded with a sample rate of 8,000, 16,000, 24,000, 32,000 or 48,000 Hz and in mono and stereo sound, respectively. By default, the sound is set to 48,000 Hz stereo. The higher the sample rate is, the larger the resulting file and higher the audio quality.

The advanced AAC audio menu includes the following settings options:

- The bit rate can be set between 6 and 512 kbit/s. 160 kbits/s is active by default. The higher the value is, the larger the resulting file and higher the audio quality. After a certain limit, additional improvements to audio quality will not be perceived. Bit rates under 64 kb/s are not recommended.
- As an MPEG version, set MPEG-4 or the older, proven MPEG-2 format.

- For the File Header Type, choose either RAW or ADTS. The "Header" indicates an explanatory head for the beginning of the file segment, which in fact takes up extra space, but is required for decoding under circumstances.
  - RAW indicates material which does not include a file header in audio format. The audio material is therefore transferred directly without any special additional information (raw).
    This requires that decoding routines are able to process the material without the explanatory file header. Especially in case "exotic" sample rates are set, this can lead to problems during RAW encoding.
  - ADTS indicates a file header type which contains information for encoded audio material. In case of doubt, select this file header type, since fewer problems can be expected in this case.

Object type: This provides selection between "Main" and "Low complexity".

- Low complexity: Data is present in a form that hinders different decoding algorithms (noise replacement), but enables others (temporal adjustment noise formation).
- Main: This sets other focuses in the encoding, and other decoder algorithms can be used.

Note: For example, Apple iPod requires "low complexity encoding". However, you don't need to worry if you select the right preset for Apple iPod in the export dialog.

Multiplexer

The multiplexer is a component of the encoder which combines audio and video streams.

Output format

MPEG-4 file: This is an MPEG standard (ISO/IEC-14496) with the original goal of supporting devices with less computing performance. Currently, MPEG-4 has reached a wide bandwidth of application, from HD video to support for mobile telephones.

JPEG2000 file: DCI (Digital Cinema Initiative) has been replaced by the JPEG2000 format for encoding movies. The current distribution and presentation of films has been taken over by digital projectors that play back high-resolution Mj2 streams in outstanding image and sound quality.

3GPP file: A standard supported by plenty GSM and UMTS mobile telephones. 3GPP is very similar to the MPEG-4 standard, but also supports formats that are not permitted by MPEG-4.

ISMA compatible

The "Internet Streaming Media Alliance" combines video codec standards (e.g. MPEG) and continuous transfer within computer networks (e.g. RTP Real-time Transport Protocol) to ensure that videos available online can be correctly transferred and played back.

Note: This option can only be activated, if under "Format" the entry "MPEG-4 file" has been selected.

For Sony PSP

Switch on this option if the video should be played back with the Sony PSP.

Note: This option can only be activated, if under "Format" the entry "MPEG-4 file" has been selected.

For iPod

Switch on this option, if the video should be played back with the Apple iPod.

Note: This option can only be activated, if under "Format" the entry "MPEG-4 file" has been selected.

Live mode (get times from samples)

This option is only important for live transfers and is therefore not required in MAGIX Video Pro X3.

Appendix: MPEG Encoder Settings

General settings

MPEG type: Set the output type of the created MPEG file. You can adjust the encoder settings freely (to export your video in the corresponding format, for instance) for further use in other programs or on your own website.

If you open the encoder from a burn dialog, or intend to use the exported material for VCDs, SVCDs or DVDs, then select the corresponding option. This will adjust the settings of the encoder according to the standards required for the corresponding discs to be played in a compatible player.

Video format: Automatically specifies the video format, aspect ratio, and frame rate (see video settings (view page 361)). You can choose between PAL or NTSC.

Interlace mode: The movie is encoded interlaced (i.e. in two half-screens, so-called fields). This is essential for later playback on TV screens. If you want to view the exported movie on your PC only and like a "cinemascope" view, you can also encode by frame (progressively). Some video projectors also support playback of progressively encoded image material. See Interlace (view page 368).

Bit rate: The bit rate determines the memory requirement by the completed video. The amount of data available can be used differently for different display modes. 20 MB can be 4 seconds of DVD video, or 5 minutes of Internet streaming at the thumbnail size. The quality of an MPEG video is measured by the width of the created data stream, i.e. the bit rate. This is the amount of transmitted data per time unit and is indicated in kBit/s or bit per second.

Quality: Determines the quality of the encoding process, or the quality of the movement (view page 365) to be more precise. The higher the quality, the better the finished video will look, but encoding will take considerably longer. The preset value "10" is a good compromise between speed and quality.

Smart Rendering: Smart Rendering can considerably reduce the encoding/processing strain of MPEG files. The production of MPEG files re-encodes only those parts of the movie that were changed in the program (e.g. by video cleaning or effects). Please note: The MPEG files contained in the movie must have the same format, i.e. the bit rates (variable or constant), audio formats, image resolutions, and video formats must match.

Quick, GOP-precise copying: This special Smart Rendering mode enables MPEG material to be transferred without having to encode it for the target medium, thereby greatly increasing the encoding speed. The video material cannot appear to have been altered in any way; only hard cuts (without fades) are permitted. These won't be executed precisely to the frame, but will rather take place at the next GOP borders. For this reason, cuts should be set somewhat more generously.

To burn DVDs in original 5.1 Surround Sound (Dolby Digital Audio) without having to re-encode, this option has to be activated.

Allows you to rip the necessary settings from an existing MPEG file. This can be useful if you want to merge MPEG files together without re-rendering via Smart Rendering.

Video settings

Frame rate: PAL requires 25 frames/sec, NTSC 29.97 frames/sec. Please note: encoding NTSC material as PAL or vice versa may be possible; however, it will result in jittery images.

Aspect ratio: Lets you set the image side or pixel ratio. With MPEG 2 the image format is displayed as image ratio; correspondingly there is 1:1 (square screen, not recommended), 4:3 (regular video) an 2.21:1 (cinemascope). This applies irrespectively of the selected video format.

With MPEG 1 the pixel format is specified instead. There is 1:1, CIR601 (corresponds to regular video) for 625 lines = PAL and 525 lines = NTSC and the same in 16:9. When selecting the output format Video CD the pixel format is automatically adjusted to the selected video format. Use with caution, even if you only want to export MPEG 1.

The option Auto is set as default. Here you can adjust the Movie settings (view page 291) accordingly.

Resolution: Width and height of the video corresponds with the settings in the export dialog.

GOP structure: Here you can change the settings of the GOP (view page 367) sequence, i.e. the number of P frames per I frame within a GOP. Please note that the total length of the GOP must not exceed 15 frames, which corresponds to the default setting (1 I frame + 4 P frames + 5*2 B frames = 15 frames).

However, you can reduce the length of the GOP sequence (while compromising the image quality at the same bit rate). This speeds up the encoding process considerably as the motion estimation while encoding P

and B frames requires high CPU performance. The speed of decoding, i.e. playback, is also increased.

If I frame is set to 1, each frame is an I frame. If the value is set larger, the setting describes the total length of the GOP.

Auto GOP: Closed GOPs do not contain relations to frames from subsequent GOPs. MPEGs where all GOPs are closed, make MPEG editing easier as the I frames only can be edited alone if the GOP is closed. Auto GOP closes GOPs at scene changes, whereby two different and complex procedures ("fast" and "VSCD") are used.

Bit rate mode

In "constant bit rate" mode a bit rate that constantly remains the same is used. This option should be used for Video CDs, as it is only requried here. With a constant bit rate the full power of MPEG compression can not be used properly as bandwidth for non-moving scenes is lost.

"Variable bit rate" mode attempts to adjust the available storage space to the requirements of the video you want to encode. The actual bit rate fluctuates around a mean value. During calm sections of the video it may drop to a minimum value, if there are movements in the scene it may rise to the maximum value. There are two different regulation processes (mode 1 and mode 128).

Advanced video settings

MPEG profile and level: The MPEG-2 standard defines so-called "profiles" and "levels". For creating SVCDs and DVDs you can use "Main profile and Main level". The high profile adds additional properties to the data stream like the option to display an image at a reduced resolution for restricted transmission quality (SNR-scalable profile), or locally scaled, for instance an HDTV data stream on a standard TV set. The 4:2:2 profile is used if the image data is to be encoded for alternative chroma scanning. However, these profiles are supported by very few encoders, and mainly only for professional use.

These levels define the restrictions to the image resolution and the maximum data rate. Low level can only reach a reduced resolution (352x2888 = CIF); high level, or High 1440, enables encoding in HDTV format.

Estimate movement: These parameters are controlled via the quality controller (see General Settings).

Other

Noise sensitivity: This factor defines how sensitive the encoder will react to noise in the source material. If the source material only contains a little noise (digital recordings, computer animations, or material already de-noised by video cleaning), then you don't have to change the default value 4, or you can even reduce to increase the quality further. However, if you want to encode noisy material, then too low of a factor will considerably increase the encoding time at the cost of quality. For an unedited analog video you can increase the factor to 8-14.

Noise reduction (click on noise sensitivity): A noise filter is used with adjustable settings from 1-31.

Advanced parameters

Additional expert settings are available in the tree to the right of the window. These should only be changed by experienced users. They have been optimized for general applications to such an extent that changes are only necessary in exceptional cases.

Audio settings

Audio Type: You can use MPEG -1/-2, PCM (WAV), or Dolby® Digital. You can also select "No audio" in the export dialog.

Sample rate: You can set a sample rate of 32, 44.1 or 48 kHz for the audio track. VCDs and SVCDs require 44.1 kHz, DVDs require 48 kHz. To reduce the size of audio data it is recommended to lower the bit rate instead of the sample rate.

Mode: You can use mono, stereo, joint stereo, or dual channel. If audio type "Dolby® Digital" is used, then "5.1 Surround" mode may also be selected.

- Dual channel enables encoding of two mono tracks (e.g. different language sound tracks) that can be switched during playback.
- Joint stereo is an optimized stereo encoder which takes advantage of the fact that the signal of both stereo channels is largely identical. Use joint stereo if you can only use small audio bit rates, but still require a stereo signal.
- 5.1 Surround is available only for surround projects for burning DVDs. During this process, all 6 surround channels in the audio stream are encoded.

Note! For Surround projects "Dolby® Digital" should be selected under "Audio type", and "5.1 Surround" under "Mode".

Bit rate: Here you can set the audio signal bit rate. The higher the bit rate, the better the playback quality. VCD requires 224 kBit/s, and for SVCDs and DVDs select a value between 384 kBit/s and 448 kBit/s.

Dolby® Digital Details

Hint: These functions are available only in the "5.1 Surround" mode.

Dialog normalization: Set the dB level of spoken dialog. This value will be used to adjust the total volume of DVD movies and different programs that can be received by the DVB. To do this, you must first measure the volume of spoken dialogs in your movies. The values 1-31 correspond to volume levels of -1 to -31 dB.

Hint: Use the mixer's peakmeter to set the volume level. This process produces only approximate results, because the exact measurement requires a mean value and this cannot be easily measured with MAGIX Video Pro X3.

The displayed value serves also as a reference value for "Dynamic Range Control". Some areas are softer so that speech can be made louder, and louder areas will be made softer to avoid overmodulations.

Background: Action-filled movies have larger volume differences between spoken dialogs and loud scenes (during explosions, for example). Because of this dialogs are softer than in quieter films which can be modulated higher.

Surround mix level / Center mix level: These settings lead to an additional damping of the surround channels and the central channel. Usually both settings are set to -3 dB.

LFE channel: Switch off the LFE channel (Low Frequency Effect), e.g. if you want to eliminate undesirable rumbling sounds in the low frequency range. Normally, you should leave this option activated.

LFE filter: The LFE filter is a low pass filter, which lets through only the lowest frequencies. If you are dubbing a project in Samplitude/Sequoia, and have applied the LFE filter, you can switch off this function here, since this filtering has already been accomplished.

MPEG glossary

Motion estimation

Motion estimation is a further element for reducing data used in MPEG encoding.

Motion estimation also occurs in the B and P frames. The image difference that still exist after prediction (view page 369) are examined. Complex algorithms are used to search for an original occurrence of the macro block in the reference frame of each macro block of the P or B frame (these are units of 2x2 blocks specially combined for this purpose), which have been moved either by movement or by camera pan. They can then be left out in the P and B frame. Only the information by how far and to where the macro block has been moved is saved instead. This vector is called the motion detector.

In the General encoder settings (view page 360), you can specify the quality of the final MPEG video. This factor also influences the time required for encoding. The longer it takes, the better the quality.

Bit rate

MPEG is a format used for storage and transferring. With older formats (e.g. AVI) you could predict that 20 seconds of movie would result in 20 MB of data. The file size is this a direct measurement of quality.

This is different for MPEG: The amount of data available can be used differently for different display modes. 20 MB can be 4 seconds of DVD Video or 5 minutes Internet streaming in thumbnail format. The quality of an MPEG video is measured by the width of the created data stream, the bit rate. This is the amount of the transmitted data per time unit; it is stated in kBit/s or bit per second.

Bits, not bytes are used, since the data word width has to address the transmission restrictions.

The file size can be calculated from the average bit rate, if its length is known:

F = (BRV + BRA) * t

F=File size	BRV= Video bit rate	BRA= Audio bit rate	t=Length in s

Block

For almost all image file editing techniques the image is subdivided into 8 x 8 pixel blocks (image points). This should be noted if you would like to used user-defined image resolutions (width/height), and they should always be a multiple of 8.

Chroma format

The color value of each image point consists of the color values for the primary colors red, green, and blue (RGB), and for traditional and technical reasons it is transformed into one brightness value (Y = 0.299*R = 0.587*G + 0.114*B) and two color difference values (U = R - Y, V = G -Y).

The Y value alone produces the black and white picture. These signal components allow brightness and color information to be handled separately. The first data reduction occurs when single rows comprising a picture are read. Because the human eye has a lower color resolution than a brightness resolution, the color components are recorded only for every other point of a row (4:2:2) for each four pixels grouped (4:1:0), i.e. color signal under-reading.

4:2:2 This corresponds to the established TV standard. One piece of color information is transmitted per row for two pixels which corresponds to a 2/3 compression of the output data.

4:1:0 This is the color coding used for DVDs and most other consumer video applications. For each 4 pixels grouped together on two rows, one unit of color information is saved. This corresponds to a output data compression of 1/2.

Field

A half-image, i.e. two halves which combine to produce a frame (see de-interlacing (view page 368)).

Frame

A frame is a single image from a video sequence which also called a full image. PAL video, for example, contains 25 frames per second, NTSC 29.97 frames.

Video recordings, with the exception of computer animations and still frames, don't contain full images. Instead, they have double numbers of half-images (fields) which are transmitted in an interlaced state. However, we still refer to frames, since many predecessors of MPEG compression are based on such frames. Video editing literature usually refers to frames.

GOP

Group of Pictures: The sequence of I frames and the P and B frames that belong to them.

e.g. I B B P B B P B B I ...

(This GOP has a length of 9, with 2 P frames and 2 B frames)

I frames contain the entire image information of a frame, while P and B have part of the information. So-called prediction (view page 369) and movement approximation are methods used for reduction.

The combination P B B is called a subgroup.

I frames must appear in regular intervals in the data stream for image and sound to be synchronized. Between the I frames only a limited count of P and B frames is allowed. This explains a few things: Since P and B frames contain only differential information, these differences will be larger with time, since more and more changes takes place from frame to frame. A large count does not make much sense, since GOP has a maximum length of 15 (4P, 2B) in PAL and 18 (5P, 2B) in NTSC. (More than 2 B frames between P frames is not allowed).

In a closed GOP, B frames of the last subgroup may contain only backward predictions or references to the preceding P frame, but no references to the following I frame, since it belongs to the next GOP.

I frames

Intra-frames: In these pictures, the entire image information of a frame is saved and only information from this frame is used ("intra-frame encoded"). In contrast to the I frame, P and B frames save only the differences between the current frame, and preceding and/or following frame are also found in MPEG video (P frame = "predicted frame", B frame = "bidirectional frame", see Prediction (view page 369)).

Interlace

For historical reasons, pictures in a movie are always recorded and transmitted in the form of two fields; first the lines with even numbers and then those with odd numbers. These fields are alternatively displayed with double the frame rate. The (lazy) eye of the viewer or the processing of the TV tube puts the two frames together to form one.

The output image   First field   Second field

You normally don't have to worry about field processing. The video material goes through the entire processing chain as fields and is exported again as fields or burned onto DVD or shown on TV when played back on a DVD as a full picture. Only in certain rare conditions is it necessary to go deeper into this process. Two problems can occur:

1. Interlace artifacts

To be displayed on a computer monitor (during recording, in your TV/VCR, and in the arranger during editing), the two fields must be combined to form a full screen.

These two fields are not the same, since two fields are created during the recording between which a 1/50 of a second gap is evident. Moving objects can therefore produce artifacts on vertical edges.

Typical interlacing errors

You can use so-called de-interlacing to avoid this type of artifact. De-interlacing places a picture in between the two fields (interpolated). If you want to create stationary pictures from movies, then you should definitely use a de-interlace filter.

In the system settings ("File" menu -> Program settings) you can set the preview monitor display to use hardware de-interlacing during video recordings for the video recorder and for display in the arranger.

2. Incorrect field rate

If you move around the series of fields in a movie data stream, then you will see strong jitter and flicker effects. Picture objects move in a backward movement – two steps forwards, one back – since a delayed field is shown before the previous one. This can happen in the processing chain if you export video material improperly with the wrong field order and then import it into different material. We use MXV or MPEG "Top field first" format for all analog recordings ("odd" in other programs).

DV-AVI on the other hand is saved with "Bottom Field First".

You can correct the field series for each video object in its object settings. See: "Menu -> Effects -> Object properties"

P frames and B frames

P frames save only the difference between the current picture and the preceding I frame. The "P" comes from the term "prediction" which describes this process.

B frames save the differences between the current picture and the I or P frame preceding and following. This includes the information that was the same before and remained the same after the current frame. Both directions are analyzed (indicates the "B" in the name, i.e. "bidirectional-predicted"). You can read more under prediction (view page 369).

Prediction

Prediction is a method of data reduction used by the MPEG format. The image elements already known from the previous or following frames are removed from the data stream.

How does it work?

The encoder has a precisely defined GOP, for example IBBPBBPBB. This sequence is transmitted together with the encoder, which always knows exactly which kind of frame comes next. I, P, and B frames are differentiated.

Hint: When we talk about pictures, we mean frames of the video output, and I, P an dB frames are the frames of the encoded video. Just as in movement approximation, blocks (8x8 pixels) are united into macroblocks (16x16 pixels) during prediction.

The first frame is always the I frame. It is completely encoded from the first picture. Afterwards, the 4th picture is analyzed for the creation of the first P frame. (As already said, the encoder, and later the decoder, will know that two B frames belong between them.) This image will also be completely encoded, and afterwards all macroblocks that haven't changed in comparison to the I frame will be deleted. They will be replaced by corresponding references for the decoder that tell it "you already know what should be shown here, and you can get it from the last I frame".

Now, the 2nd will be completely encoded, and all macroblocks identical to the first I frame and the following P frame will be removed. References to previous frames are called backward predictions, and references to following frames are called forward predictions. The third picture will be edited in exactly the same fashion.

The fourth picture we have already explained, and now we need the next P frame, or picture number 7. Pictures 5 and 6 are B frames again, which are compared to P frames to both sides of them (picture 4 and 7); these are followed by the last two B frames. These have a special place, since in closed GOPs, they may contain only backward predictions, and no references to the next I frame, because it belongs to the next GOP.

Something else: Since the decoder is no prophet, the P frames are always transmitted before the B frames! The GOP explained above will be encoded and transmitted in the order it is written.

Original GOP	I_0 B_{01} B_{02} P_{01} B_{11} B_{12} P_{02} B_{21} $B_{22 I1}$	
Data stream	I_0 P_{01} B_{01} B_{02} P_{02} B_{11} B_{12} B_{21} $B_{22 I1}$ …	for closed GOPs
	I_0 P_{01} B_{01} B_{02} P_{02} B_{11} B_{12} I_1 $B_{21 B22}$ P_{11}…	For open GOPs

Due to this nested structure, it is easy to see that during direct editing of MPEG material, complicated computations have to take place! These are made easier using a frame table. A frame table contains a list, where the information of every frame in the data stream is found, identifying the type of frame it is.

Using Movement prediction (view page 365) P and B frames are likewise reduced.

Quantization scaling

The single pictures in MPEG are saved using a compression method comparable to JPEG with bitmaps and associated with quality loss. For this single images are divided into 8 x 8 blocks (view page 366).

Each one of these blocks is then transformed into an 8 x 8 matrix (a table with rows and columns) using a DCT (discreet cosinus transformation) mathematical method. Each of these values is produced using all 64 individual pixels of the block, but the values in the matrix are ordered in such a way that the image information is ordered according to its importance.

This matrix will then be multiplied by another matrix, i.e. the quantization matrix. Exactly how and why this matrix must be created is the biggest secret of encoder programmers, since this determines the quality of the whole encoding process. What is known is that the result should contain as many zeros as possible! These zeros correspond to the "unimportant" image elements mentioned and will not be transmitted in the data stream.

Depending on the encoder parameters regarding the target bit rate, fewer or more values of the matrix will be declared unimportant by dividing the quantization matrix by the quantization scaling factor. Since only whole numbers are used, a division can produce a zero is the remainder is discarded.

This factor is also a direct measure of the sought image quality of the MPEG data stream, since the "Q" in "Q" factor stands for quantization and quality.

Glossary

Symbols & Numeric

720p

This is the "small" HD resolution, which is sized at 1280 pixels x 720 pixels. The "p" stands for "progressive", i.e. full images are always displayed.

A

Aliasing

Aliasing, or alias effects, are mistakes that appear during digital scanning of sounds, videos or images when the sample frequency (in audio editing) or resolution (in video editing) used are too low.

ATN:

This is the abbreviation for "Absolute Track Number", which is the actual tome code (time stamp) of DV and HDV recordings recorded using the helical scan method.

Audio

This is then referred to as "audio" when the sound signal is saved directly as such on the PC. The actual sound is recorded or played back here.

AudioID

Audio ID is a process used to determine the title and artist name base on musical properties. An Internet connection is required to access the AudioID database.

AVCHD

Stands for "Advanced Video Codec Definition". It is an HD format for video cameras which has been developed by Panasonic and SONY. In comparison to the HDV format, a meaningful quality improvement can be seen here.

For the video recording MPEG 4 AVC/H.264, and for audio recording Dolby$^{®}$ Digital or Linear PCM are used. The maximum bit rate is 25 Megabits/sec.

AVI

The AVI format (Audio Video Interleaved) isn't actually a proper video format! Rather, it is a so-called "container" for which the conventions for transferring audio and video files to the program are only loosely defined. More in this topic can be found in General notes on AVI videos. (view page 339)

B

Backup disc

Copying of files to a different file storage medium to secure these files is called backing up, or creating a backup.

Browser

A browser (also known as web browser, or Internet browser) is a computer program that displays websites. The best-known browsers are Internet Explorer, Firefox, Safari, and Opera.

Button

Refers to an element of the graphic user interface of a program. The button initiates an action in the program via left mouse click.

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Refers to an element of the graphic user interface of a program. The button initiates an action in the program via left mouse click.

C

Cache

Simply stated, this is a temporary folder where frequently accessed files are saved so that they can be quickly launched while you are working.

CC

CC stands for "Connectivity Co-ordination" and describes how the change of a domain name from one provider to another occurs (domain transfer).

Clip level

Signifies the volume level at which the recorded signal is overmodulated, or "clipped".

Clipboard

The clipboard is used to temporarily store objects during execution of commands like "copy" and "cut".

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The clipboard is used to temporarily store objects during execution of commands like "copy" and "cut".

compatible

Different devices are compatible with each other if they operate together without any errors occurring.

Context menu

Context menu can be reached by right clicking on a selected object. It offers functions which are available and can be expected in the given context.

Copyright

Protection of intellectual and creative property against unauthorized copying.

Copyright

Protection of intellectual and creative property against unauthorized copying.

CPU

Central processing unit: The name for the main processor of the computer (CPU). Modern computers have even two or more processors, or one processor with several cores.

Crossfade

Transitions, crossfades. Can be used to fade between objects.

D

Dialog

A dialog opens in a new window and lets the user interact with the program. This means that the dialog can present information to the user and/or expects to receive input from the user.

A dialog can contain various user elements which can be manipulated by a simple mouse click. Keyboard entries are also possible.

Disc project

A "Disc project" includes everything that you want to put on your CD and DVD.

This normally contains one or more movies and includes a menu structure/menu design which allows you to choose a movie later on the CD or DVD.

Disc types

The disc types determines the format and medium (CD, DVD, Blu-ray disc, etc.) to which the current project will be burned.

DNS

The abbreviation DNS stands for Domain Name Service and refers to a provider of Internet services that registers domain names for customers.

Domain

A domain is the website's Internet address. It consists of the name of the Internet protocol (usually http://), the computer or network name (such as www), the second-level domain (such as magix), and the top level domain (like .com, .net).

Altogether we have: protocol://networkname.second-level-domain.top-level-domain (such as "http://www.magix.com").

Domains are allocated by a country's so-called NIC (Network Information Center). In Germany the DENIC is responsible for the release of domains.

Domain transfer

See CC. If you already have a domain, you can move it from your previous provider to another provider.

Downmix

A method developed for audio technology to turn a Surround Sound recording into a version with fewer channels. Most often (as is the case with MAGIX Video Pro X3) this will be a stereo version.

Drag & drop

Enables files and objects to be moved freely between various applications (or within an application) by dragging the object and letting it drop using the mouse cursor.

F

Fader

Used for visual input of values. Similar to volume control on a mixing board, you can control various parameters by sliding the fader. A very common example for this is the zoom slider that lets you see a picture in more detail.

Field

A half-image, two of which combine to produce a frame (see interlace).

Flip menu

Drop down menus create menus consisting of lists of selectable choices. They look very similar to text input fields, but have a button with a downward-pointing symbol on the right-hand side.

Frame

A frame is a single image from a video sequence which also called a full image.

A PAL video contains 25 frames per second; NTSC contains 29.97 frames.

H

Handles

Handles are the five little rectangles at the edges of selected objects. All curve points can be moved by holding down the left mouse button.

Length handles: Bottom right and bottom left. You can use them to change the length of an object.

Fade handles: Top right and top left. These can be used to softly fade an object in or out.

Volume/Brightness handle: Above-center. You can use it to adjust the volume or the brightness.

Hard disk

Storage medium with the largest storage capacity where the operating system(s), programs, and files are saved. A hard disk can be built into the computer, but there are also external hard disks which can be used with different computers via a USB connection (portable drives or external hard disk).

Hard disk drive

Storage medium with the largest storage capacity where the operating system(s), programs, and files are saved. A hard disk can be built into the computer, but there are also external hard disks which can be used with different computers via a USB connection (portable drives or external hard disk).

Hardware

The all-encompassing name for all internal components of a computer. For example hard disk, graphics card, mainboard, etc. External peripheral devices are also considered hardware, i.e. printer, scanner, monitor, etc. The synchronization of single hardware components is coordinated by the software.

HDD

Storage medium with the largest storage capacity where the operating system(s), programs, and files are saved. A hard disk can be built into the computer, but there are also external hard disks which can be used with different computers via a USB connection (portable drives or external hard disk).

HDTV

This acronym stands for "High Definition Television.

HTTP

Stands for Hyper Text Transfer Protocol and is used for transferring websites onto the Internet (from web server to the browser). For this reason, the abbreviation http:// always comes before the Internet address. This is automatically inserted and does not have to be entered when entering the Internet address.

Hyperlink

Hyperlinks (or in short "links") are references to other websites/online documents (or other computer networks). They build the base of the World Wide Web (WWW) as it is only via these hyperlinks that networking or interlinking between the billions of website out there is actually possible.

I

ID3 tags

ID3 tags contain title information that can be added to a music title. This includes the title, artist, album, as well as the genre, year of release, and other criteria that can help searching through a database. The database is created using this information.

Info: Title information will only be saved for MP3s in the so-called ID3 tags (Identify an MP3), but other formats offer similar possibilities, like "Vorbis comment" for the OGG Vorbis format, for example.

Image

An image is a representation of a CD, DVD, hard drive, or another storage medium that is saved as a file.

The difference from a copy or backup is that an image contains information about the structure of the original storage medium, and not just individual files. This enables 01:01 copies of complete storage media to be created.

Caution! Copyright laws forbid copying of commercial CDs/DVDs, and for this reason, this process can be prohibited by copy protection.

IMAP

Stands for Internet Mail Access Protocol and is an advanced procedure used for receiving emails.

Interlace

Describes the creation of a full image from 2 half-images (fields).

In this process, even and odd lines are alternately assigned to one of the two fields.

The human eye perceives both of the projected half-images as a single full image, so that despite the slow image repetition rate (25 Hz for PAL, 29.97 for NTSC) a subjectively fluid image is seen.

Intro

"Intro" means the introduction or opening credits of a movie.

J

jpx

A format developed by MAGIX which is used for photo editing. It enables free experimentation with effects without altering the original file. The effects settings are also displayed when the photos are opened using a different MAGIX program.

M

Menu

Menus contain practically all function of a program. They can be opened using a simple mouse click on the corresponding menu. Keyboard shortcuts, if available, are also found at the end of menu entries.

The graphical surface of a CD/DVD will also be represented as a menu.

Menu bar

Almost every program has a menu bar. It can normally be found underneath the title line of the program. A simple mouse click opens a corresponding menu.

MIDI

MIDI files do not contain the actual sounds like audio files, but only the note control information which can be interpreted during playback by the synthesizer chip on the sound card or an external synthesizer.

MMC

MMC stands for MIDI Machine Control and is part of the MIDI protocol. Transport control and position data is conveyed using MMC.

Motherboard

This is the centerpiece of hardware components of a computer. All other hardware components like CPU, RAM, hard disk, additional drives, graphics cards, as well as other cards for specialized uses are connected to the motherboard.

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MOV

MOV is a video and audio format developed by Apple, which has since become widely used with Windows. QuickTime supports lots of compression technology, which make it possible to optimize audio and video and even graphics for the Internet and multimedia/video applications. Conventional (hardware) DVD players are not able to play this format.

Movie

In MAGIX Video Pro X3, an arrangement of various objects (videos, photos, text, sound, etc.) is called a movie. A movie file has an "mvm" extension.

MP3

MP3 (actually MPEG-1 layer 3) is currently the most important standard for compressing audio files.

MPEG

MPEG is short for "Moving Picture Experts Group" and refers to a committee concerned with the standardization of video and audio data compression as well as container formats.

MS audio

A process developed by Microsoft for compressing audio files with properties similar to those of MP3.

MTC

MTC stands for MIDI Time Code and it transmits the exact playback position via MIDI. In this way, programs and devices can be synchronized with each other.

MXV

This is the MAGIX video format for quicker processing with MAGIX products. It offers very low loss of quality, but it cannot be played via conventional DVD players.

N

Noise Sample

Sample of a noise that is to be removed

NTSC (USA, Japan)

NTSC stands for "National Television Systems Committee". This is a US institution that defined the first color carrier system for TV which is now used in most of America and some East Asian countries.

The image repetition rate for NTSC is 29.97 Hz.

Numeric keypad

Also known as the numpad, or the number block.

O

Offset

With an offset of 60:00:00 (1 hour) you can, for example synchronize a tape whose time code that starts at 1 hour, MAGIX Video Pro X3 however, still starts the tape beginning at 0.

OGG VORBIS

This is a new, royalty-free format with similar properties to MP3.

P

PAL (Europe)

Phase Alternating Line, or PAL, is a process for color transmission for analog TV that is primarily used in Europe, but also in Australia, South America, and many African and Asian countries.

The image repetition rate for PAL is 25 Hz.

Play marker

The play marker is a red vertical line which moves from left to right during playback. It indicates the current play position.

Playlist

Arrange your songs in playlists from various sources in different formats and in whatever way you like, sometimes updated daily.

Important: Playlists are only links to songs on your hard drive or in your CD drive.

When you add a song to your playlist whose real source is a CD in your computer's drive, the song will no longer be playable when the CD is removed from the drive.

Similarly, when you move a folder on your hard drive, the playlist will no longer be able to play the song, since the link is no longer valid.

For the latter, however, there is a simple solution: If you know where the song has been saved, then you can redefine the path. A corresponding dialog window is provided for this purpose. You can reset the path by navigating through the Explorer folders. The playlist is now correct once again.

Plug-in

Plug-ins are additional programs that expand the functionality of the main program. They are inserted into the main program.

POP3

Stands for Post Office Protocol (version 3) and is used in standard email programs for receiving email (for example, Outlook Express). POP3 enables email to be collected by the provider's email server and loaded into your email program.

Project

A "Disc project" includes everything that you want to put on your CD and DVD.

This normally contains one or more movies and includes a menu structure/menu design which allows you to choose a movie later on the CD or DVD.

Provider

A provider or ISP (Internet Service Provider) offers Internet services like webhosting or domains (DNS). In relation to the MAGIX Website Service, MAGIX is the provider.

R

RAM (Random Access Memory)

This is a hardware component of a computer. RAM is needed to temporarily save files. This type of storage is erased when the computer is shut down or reset. The larger this storage is, the faster you can work with programs to change and save files.

Ratio:

The aspect ratio is the ratio between the height and width of a rectangle. In practice these are photos, screens or projection screens. This method can also be used to describe the aspect ratio of pixels.

Here are some examples of typical aspect ratios: at home 4:3, 16:9 (typical for TV sets), or 16:10 (widescreen flat screens, widescreen notebooks), 3:2 for 35 mm films and photos. In cinemas you mostly find 1.85:1

Red Book

Specific standards have been established for the different CD types in order to unify their data structure and to make them compatible with the different CD drives. Their names refer to the color of the books where these standards were written.

The term "Red Book" is common language for the Compact Disc Audio Standard. The requirements listed here have to be observed for industrial CP production. Audio CD players only read CDs created according to the Red Book format. It is therefore necessary to first convert PC files into this format before writing them onto an audio disc compatible with any audio CD player.

Restore

Restoration of files originating from a backup will be called "Restoring".

RM

RealMedia includes all of the media formats from software developer RealNetworks. RealMedia especially refers to the "RealVideo" video format and the "RealAudio" sound format. The quality of RealVideo files is comparably good at high compression rates, but does have some loss of quality. These formats cannot be played back by (hardware) DVD players.

S

Scene

Freely definable section of a video in MAGIX Video Pro X3.

In general, a scene is a segment of a film that is a product of various settings and conveys a certain action.

Screenshot

A screenshot is an image composed of all visible screen elements (messages, open dialogs, etc.) at a certain time. By pressing the "Print screen" key on the keyboard, this image is saved into the clipboard. Next, open a program which can edit images and select "Insert" (shortcut "Ctrl+V") in a new document to add the screenshot for editing and saving.

Note: Press "Alt + Print screen" on the keyboard to capture the active window only.

Slider

Used for visual input of values. Similar to volume control on a mixing board, you can control various parameters by sliding the fader. A very common example for this is the zoom slider that lets you see a picture in more detail.

SMTP

Stands for Simple Mail Transfer Protocol and enables the exchange of emails across computer networks.

Software

The name for all non-physical functional components of a computer. This primarily includes computer programs and files that are meant to be used by computer programs.

Storyboard mode

The Storyboard mode is the default edit screen view. This view offers an easy, streamlined interface to simplify the editing process. The alternative Timeline mode offers a more detailed interface for more extensive editing and scene arrangements, the scene overview mode offers a complete

overview of all scenes on a small scale. You can toggle between the three view modes using the Tab key.

Submenu

Besides normal entries, a menu can contain submenus that offer additional functions. This makes menus more comprehensive.

Super Video CD (SVCD)

The Super Video CD (SVCD) is a technological advancement of the video CD. SVCDs are also like VCD-specified CD-ROMs which can be played using either a Super Video CD player (connected to the television), or directly with the CD-ROM drive of a computer. Many DVD players can also play SVCDs. MPEG-2 and the increase of the data transfer rate makes it hard to tell videos from videos in DVD quality apart.

Resolution: SVCDs use the better MPEG-2 encoder in a standardized resolution of 480 x 576 (PAL). The MPEG-2 format offers a maximum resolution of up to 720 x 576 points and improved compression methods characterized by excellent image definition and homogenity.

Hard disk capacity: An average 90-minute movie must be spread across 3 CDs. On one SVCD you can get about 30 minutes of good-quality movie.

Encoder setting: Compared to the VCD with 1.3, the data transfer rate is doubled to 2.6 Mbit/s.

MPEG-2 format introduces the so-called variable bit rate (VBR). In contrast to the constant bit rate (CBR) of the MPEG-1 encoders, this encoder has the option of using more bits for movement-intensive sections, as well as saving bits if picture content remains the same.

T

Toolbar

Here you will find small buttons that provide a function when clicked. For example, you can cut out a selected object by clicking on the scissors.

Toolbar

All basic functions of the corresponding program can be found here. The corresponding functions can be called up via mouse click.

Top-level domain

Top-level domains (TLD) are always those separated by a dot at the end of an Internet address (for example, "http://www.magix.com" < here, .com is the top-level domain). Among these are also country top-level domains,

such as .co.uk, .us, .de as well as so-called generic top-level domains like .net, .org, .biz, and so on.

Traffic

Traffic (data transmission) occurs within your MAGIX Website Service as soon as data is transferred across the Internet: for example, when uploading or downloading files to your website or when someone else opens your website.

U

Universal Plug & Play; UPnP

Universal Plug 'n' Play (UPnP) is a network protocol which enables data exchange between different devices (PCs, hi-fi systems, video cameras, PDAs, and webservers). UPnP allows various devices to participate in network-wide communication, i.e. the initialization of functions and other device functions. Long-winded configuring or installing of drivers is not required as the devices can handle their own functions and data sources by themselves. Find out more at www.upnp.org.

Hint: To work with UPnP you have to activate it first. This can be found under "Options" ("Y" -> UPnP).

URL

URL stands for Uniform Resource Locator and describes where a source can be found online (for example, a website). The address or the path to the storage location of a file on your computer is known as a URL. Often the term URL is used as a term for the domain. The URL for the MAGIX website is: http://www.magix.co.uk

V

VirtualDub plug-in

Plug-ins are additional programs that expand the functionality of the main program. They are inserted into the main program.

VirtualDub plug-ins are also referred to "VirtualDub filters" and have the "VDF" file extension. You can use them to apply additional video effects to video objects.

VST and DirectX plug-ins

Plug-ins are additional programs that expand the functionality of the main program. They are inserted into the main program.

Two standards exist for audio editing: VST (Steinberg) and DirectX (Microsoft). VST has asserted itself stronger in the current market.

W

WAV

Wave (*.WAV) is a standard uncompressed audio format.

Wave

Wave (*.WAV) is a standard uncompressed audio format.

Wave file

Wave (*.WAV) is a standard uncompressed audio format.

Webhosting

This means that an Internet Service Provider makes domains and webspace available to its customers. With the MAGIX Website Service, MAGIX provides webhosting to its customers.

Webmail

Webmail enables the customer to view and receive the contents of their email inbox without having to install email software on their computer. Customers of the MAGIX Website Service can use MAGIX Webmail for this.

Webmaster

A webmaster is responsible for the administration and maintenance of a website. Often, the webmaster is also the owner of the website as well as the domain that belongs to it. Once you have registered a domain in the MAGIX Website Service, an email account will automatically be set up, for example: "mailto:webmaster@domainname.co.uk".

Webserver

Webserver refers to the computer on which your host saves your website's pages and which makes your pages accessible on the Internet 24-hours a day.

WMA

A process developed by Microsoft for compressing audio files with properties similar to those of MP3.

WMV

Windows Media Video (WMV) is a trademark video codec from Microsoft. If you have Windows installed on your PC, then playing WMV files shouldn't be a problem. Only a few (hardware) DVD players are able to play this format. Read more about this in your DVD player's manual.

This video format is very good for web videos as it allows relatively high compression rates.

World Wide Web (WWW)

WWW stands for "World Wide Web" and is the most used service of the Internet. On the WWW, web browsers (for example, Internet Explorer) are used to display information via websites. The process is colloquially called "Surfing the Internet".

If You Still Have Questions

Tips for program help

The "Help" file features hints on how to use the program and additional information. Many important terms are indicated in the text in italics and an explanation to them is reached by clicking on them.

Context help: Press the "F1" key at any point in the opened program and the help file will open with the matching topic (context help).

Search function: Use the search function to find out information about specific words. Enter either the individual word or use logical operators (OR, AND, NEAR) to refine your search if you have several search words.

- "OR" (between two words): All topics which contain both words or one of the words will be listed.
- "AND" (between two words): Only those topics will be listed which contain both words.
- "NEAR" (between two words): Only those topics will be listed which contain both words. A maximum of six other words may be added between the search terms.
- "NOT" (before a word): Topics which contain this word will not be listed.

Print: Use the help program's print function to make a printout of individual topics or entire sections. The print button is located at the top of the help window in the toolbar.

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