
MAGIX
VIDEO PRO X
English
language manual

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This product uses MAGIX patent pending technology.

Preface

Thank you for choosing MAGIX Video Pro X! Your new software offers video editing and postproduction on a professional level, comprehensive format support, powerful performance, high-end audio editing and all options for DVD authoring and export.

The fully developed MAGIX Video Pro X operating concept helps you get top results after only a short familiarization period. This documentation offers you an overview and a quick start at the beginning. The sections at the end provide a detailed and systematic description of the numerous functions.

Have fun with your projects and MAGIX Video Pro X from

Your MAGIX Team

Table of Contents

Copyright **2**

Preface **3**

Support **11**

Before You Start **13**
Package Contents 13
Installation 13
Serial number 13
System requirements 15

Introduction **16**
What is MAGIX Video Pro X? 16
Features 16
What's new? 18
Notes for MAGIX Movie Edit Pro users 19
Projects, movies and objects 20

Quick start **22**
Program start 22
Select, load, and play back videos 23
Import video material from memory card 25
Video editing 27
Publish videos 32

Edit mode **34**
Standard mode 34
Basic mode 35
Switching between standard and basic modes 37

Work screens **38**
Activate main screen 38
Edit screen 38
Toolbars 40
Project Window 49
Media Pool 53
Project temp folder 62
Working with the project temp folder 66
Program and source monitor 68

Customizing the workspace 71
The "Burn" screen 72

Video recording 73
Select the recording method 73
AVCHD/DVCPRO/AVC-Intra 73
HDV camera 77
DV camera 77
Video 83
Audio 86
Single frame 89
Screen 91
Edit after recording 93

Objects 95
Insert object into the project 96
Movie objects 98
Select and group objects 100
Duplicate objects 100
Move Objects 100
Separate sound from videos 100
Object handles 101
Object borders 102
Trim Objects 103
Transitions (fades) 105
Search for gaps 107
Simple cut 108
Two-point edit 108
Three-point editing 109
Four-point editing 111
Move the contents of trimmed objects 112
Zoom preview 112

Markers 113
Playback marker 113
Project markers 113
Snap markers and transients 114
Chapter markers 115
Ranges (in and out points) 116
Scene markers 117

Multicam editing 119

Preparation 119
Source tracks and preview images 120
Multicam edit functions 120
Synchronize video objects using the audio track 122

Title 123
Title editor 123
3D text 124
Other text settings 125
Creating titles using a template 126
Create titles without a template 126
Edit titles retroactively 127
Position titles 127
Fade in date as title 127
Timecode 127

Effects 129
Apply effects to objects 129
Video effects in the Media Pool 131
View and animation 145
360° effects in the media pool 151
Stereo3D in the Media Pool 151
Audio effects in the Media Pool 151
Design elements in the Media Pool 152
Lookup Tables (LUT) 153
My Presets in the Media Pool 153
Extra effects 153
Animate objects, effect curves 156
Create effects masks 163
Attach to picture position in the video 166
Create overlay graphic/animation 167
Image stabilization 168
Image improvements for the entire movie 169
Image improvements for individual objects 171

Stereo3D 172
3D basics 172
Record 3D 173
Prepare 3D editing 174
Set playback mode for 3D 175
Align videos and images for 3D 175

Turn camera movements into 3D videos 177
Export and burn 3D videos 178

Measuring instruments 179
Operation of measuring instruments 179
Description of measuring instruments 180
Settings 185

Audio editing 187
Load and edit audio files 187
Audio effects 187
Mixer 205
5.1 Surround 207
Set multiple sound tracks 212
Scrubbing 214

Edit disc menu 216
Preview and editing 216
Menu 217
Templates 218
Edit disc menu 219
Edit DVD menus with Xara Xtreme Pro or Photoshop 226

Burn a disc 234
Burning wizard 234
The burn dialog 235
Memory 237
Encoder settings 238
Create label and CD cover 239

Export movie 240
Video as AVI 241
Video as DV-AVI 241
Video as MPEG video 241
Video as MAGIX video 241
Video as QuickTime movie 242
Uncompressed movie 242
Video as MotionJPEG AVI 242
Movie as a series of individual frames 242
Windows Media Export 242
Video as MPEG-4 video 243
Export video as HEVC 244

Video as ProRes 244
Audio as MP3 244
Audio as wave 244
Export as transition... 245
Single frame as BMP file 245
Single frame as JPG 245

Settings for and management of video projectors 246
Movie and project settings 246
Program settings 250
Proxy and preview rendering 257
Backup copy 258
Importing & exporting EDL files 260
Clean-up wizard 260

Synchronization with external devices 262
MAGIX Video Pro X as the Master 262
MAGIX Video Pro X as the Slave 262
Synchronizing Samplitude/Sequoia with MAGIX Video Pro X 263

Special functions and wizards 265
Proxy editing 265
Introduction to 16-bit Deep Color processing 266
Preview rendering 267
Load backup project... 269
Automatic scene detection 270
Import a Movie Edit Touch project 271
Musical cut adjustment 271
MAGIX Soundtrack Maker 275
Slideshow Maker 277
Produce panorama pictures 280
Batch conversion 282
Blackmagic Design video cards 284
Use movie templates 285
360° videos 287

Menus 292
Edit Menu 300
Effects Menu 309
Windows Menu 315
Help Menu 318

Context menu (right click) **320**
Video objects 320
Image objects 324
Transitions 326
Audio objects 326
Text objects 328
MAGIX 3D Maker objects 330
Project temp folder 331
Track 332

Problems and solutions **333**
File will not load 333
Choppy or uneven playback 333
Problems and Remedies regarding the Auto Remix Assistant 333
Activation problems 334

Online functions **335**
Integrated browser 335
MAGIX News Center 336
Embed Flash videos into your own web page 337

Keyboard shortcuts **338**
Playback functions 338
Scroll and zoom 339
Monitors 339
Project window view 340
Move view and start marker 340
Mouse Modes 341
Mouse functions with modifier keys 341
Insert modes 342
Context Menu 342
File menu 342
Edit menu 344
Effects menu 345
Window menu 347
Help menu 347
Edit keyboard shortcut 348

Annex: Digital Video and Data Storage **349**
MPEG Compression 349
General notes on AVI videos 349
Overview of the different disc types 350

Activate codecs **353**
Activate MPEG-4 (MainConcept) (fee-based) 353

MPEG-2 encoder settings (Standard) **355**
Video 355
Audio 357
Image settings 357

MPEG-4 encoder settings (standard) **358**
Video 358
AAC audio 360
Image settings 360
Multiplexer 360

HEVC encoder settings **361**
Video 361
Audio 362
Multiplexer 362

MPEG-4 encoder settings **363**
Video codec 363
Audio codec: 371
Multiplexer 372

MPEG glossary **373**
Motion estimation 373
Bit rate 373
Block 374
Chroma format 374
Field 374
Frame 374
GOP 375
I frames 375
Interlace 375
P frames and B frames 377
Prediction 377
Quantization scaling 378

If you still have questions **379**
Tips for Program Help 379

Glossary **380**

Index **394**

Support

Dear MAGIX customer,

Our aim is to provide fast, convenient, 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 at http://pro.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. 150,000 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 at www.magix.info guarantee quick answers, which sometimes come within minutes of a question being posted.
- **Email support for MAGIX products:**
  For each new MAGIX product you will automatically receive 12 months free customer support by email.
- **Premium Email Support:**
  For priority support, or if you want the support team to help with non-MAGIX related hardware problems you can purchase a premium email support ticket. Proceed as follows:
  1. Go to the MAGIX customer support page at http://support.magix.net.
  2. Sign in using your login details.
  3. Click on "Purchase access code" in the navigation bar.
     Each ticket corresponds to a specific problem, it will remain valid until the problem has been solved. A ticket is not limited to a single email.

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. The serial number can be found on the sleeve of the installation disc or on an insert card included in the package.

- **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 make sure you 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: 45 699 18763

Sweden: 46 852 500713

Finland: 35 89 42419023

Norway: 47 210 35843

North America

9 am to 4 pm EST Mon-Fri

Phone: 1-305-722-5810

Before You Start

Package Contents

Installation & multimedia content DVD

The MAGIX Video Pro X installation manager is included on the installation DVD.

Printed and PDF manuals

The printed manual contains an overview of the most important functions of MAGIX Video Pro X.

If you have further questions, please read the complete documentation and a shortcut pdf located in the program folder of MAGIX Video Pro X. To read it, you will require the free Foxit Reader program.

Installation

Step 1: Insert the program disc into the drive. The installation program starts up automatically in Windows. If the disc doesn't run automatically,

- open the Windows Explorer and click the letter of the CD/DVD drive.
- Now double-click on "Start.exe" to start the installer.

Step 2: To begin the installation of MAGIX Video Pro X, click on "MAGIX Video Pro X". The MAGIX Video Pro X installation program will appear.

Simply follow the instructions on screen to complete the installation process, and then click "Continue". All files are copied onto the hard drive.

Step 3: Once the installation is complete, confirm by pressing "Finish". You can start the program at any time using the Windows "Start" menu

Serial number

A serial number is included with 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 does a serial number do?

A serial number clearly assigns your copy of MAGIX Video Pro X to you and only you. This makes improved and specific customer service possible. Serial numbers also help to protect against software piracy which ensures that we can continually provide our customers with an optimal price/performance ratio.

Where is the serial number located?

The serial number is on the insert card in the program box.

If you have purchased the download version, you will receive a confirmation email with the serial number immediately after your purchase.

When is the serial number needed?

The serial number will be required when you start or register MAGIX Video Pro X for the first time.

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

Unlocking MAGIX Video Pro X

After MAGIX Video Pro X 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 X must be activated.

Deactivate program...

Using the serial number on another computer

If you want to use the serial number on another computer or after reinstalling your operating system, you must deactivate (view page 319) the program on your current PC.

This "releases" the serial number from the current computer so that it can be used on another.

Note: You can also deactivate the program in the MAGIX Service Center, but it is much more convenient to do this with the integrated feature in MAGIX Video Pro X.

System requirements

For Microsoft Windows XP | Vista | 7 | 8

Minimum configuration:

- Processor: Intel Core Duo with 1.83 GHz, AMD Dual-Core with 2.0 GHz
- RAM: 1GB
- Graphics card: Onboard graphics card with a screen resolution of at least 1024 x 768
- Sound card: Internal sound card
- Hard drive space: 1 GB (for minimum installation)
- Optical drive: DVD drive

Minimum requirements for HD/3D editing:

- Processor: Intel Core 2 Quad-core processor with 2.83 GHz (Intel Core i7 recommended), AMD Quad-core processor with 2.8 GHz
- RAM: 4 GB
- Graphics card: Dedicated graphics card with 512 MB VRAM or more
- Sound card: Multi-channel sound card recommended for Surround sound editing
- Hard drive space: 4 GB
- Optical drive: Blu-ray burner to create Blu-ray Discs

Introduction

What is MAGIX Video Pro X?

MAGIX Video Pro X is a professional video editing program for Windows PC systems. All standard video formats can be directly imported onto the track without the need for converting to a proprietary format. The editing options include realtime effect editing, efficient three-point and four-point editing, intelligent mouse modes for intuitive editing processes and a Multicam Mode with automatic synchronization on up to nine tracks.

Perfect synchronization of image and audio in realtime is made possible thanks to technology based on the high-end audio engine in Samplitude. With effective batch rendering you can export your finished projects in broadcast quality formats, burn them to DVD, AVCHD and Blu-ray disc or upload them directly to video hosting sites and mobile devices.

Features

Recording

MAGIX Video Pro X features the following recording options:

- **AVCHD/DVCPRO/AVC-Intra/Video-DSLRs/XDCAM/NXCAM** (and other drives)*
- **HDV camera**: HDV camcorder
- **DV camera**: Mini DV camcorder or DV video recorder
- **Video:** Analog TV, video input, VCR, webcam
- **Audio:** Microphone, cassette recorder, MiniDisc player, record player
- **Screen**: PC monitor.
- **Single frame:** Single and series images from webcams, video recorders, video cameras, or TV cards

*Import of AVC-Intra and DVCPRO possible after fee-based activation

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 and export formats

Supported import formats:

Video: AVC-Intra*, AVI, DNxHD, DV-AVI, DVCPRO*, HEVC, MJPEG, MKV, MPEG-1, MPEG-2, MPEG-4, MOV, MVC, MXF, PRORES, WMV

Audio: AAC, MIDI, MP3, OGG, WAV, WMA

Photo: BMP, GIF, JPEG, PNG, TIF, TGA

Supported export formats:

Video: AVI, DV-AVI, HEVC, MJPEG, MPEG-1, MPEG-2, MPEG-4, MOV, PRORES, WMV

Audio: MP3*, WAV

Photo: BMP, JPEG

* **Notice:** This program requires an Internet connection for many of its functions. MP3 export requires installation of Windows Media Player Version 10 or higher. DVCPRO, AVC-Intra and HEVC encoding require fee-based activation.

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.
- **Project folder:** This folder is used for storing your material. It serves as the preselection area for the media in your current project. Here you can store video, audio or title files - and even edited versions or sections of movies - and use them later in various places in your project.
- **Image optimization:** Color improvement (RGB, saturation), sharpness (focus and blurring), brightness regulator (brightness, contrast), anti-flicker filter.
- **Sound optimization**: The equalizer can be used to adjust the frequency spectrum, e. g. reducing highs, boosting lows etc. The compressor limits the dynamic of the signal. The Stereo FX processor controls the position of the sound within the stereo panorama. The Denoiser and Dehisser are professional noise reduction tools.
- **Video effects:** For example, artistic filters, distortion, video mix (Chroma Key), movement effects (e. g. camera/zoom or rotation), cropping, picture-in-picture collages, video effect plug-in support.
- **Automatic scene recognition**
- **Multicam editing** (view page 119) on up to nine tracks. Different camera recordings can be played back in sync and edited together as a single version.
- **Slideshow Maker** turns drab photo collages into spectacular multimedia shows automatically.
- **MAGIX Soundtrack Maker** creates background music automatically.

Burnable disc formats

You will find the following burning options in the "Burn" area:

- DVD
- Blu-Ray disc
- AVCHD disc (on DVD and Blu-ray Discs)

In the "File" menu you can make and burn backup copies.

Multimedia editable disc menus

Included are many disc menu templates which offer selection options for movies and chapters on the screen. Many of these are also available in 16:9 format. They can be included during burning and give the disc a professional appearance.

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

What's new?

- **Dithering** for playback of Deep Color video material on monitors without higher bit depths.
- **Integrated 360° video stitching**. Videos from 360° cameras can be loaded into MAGIX Video Pro X without previous processing and can be transformed into a real 360° video there.
- **Export of 360° videos:** New project templates for 360° videos and a 360° display mode for the video monitor make 360° video creation possible. Normal videos and photos can also be placed in three-dimensional 360° space.
- **New video effects**: Lab adjustment, lights, broadcast colors, mask generator, punch forms, lens reflection, noise, blue mask and Gaussian blur
- **Deep Color support** during Import/Export in HEVC and ProRes.
- Indication of **colorspace norms** during export. Guarantees correct display of processed videos on calibrated projectors and monitors.
- The dialog **Object properties** (view page 323) have been reworked, now you can also load camera-specific lookup tables there.

Notes for MAGIX Movie Edit Pro users

If you are used to working with MAGIX Movie Edit Pro, you can change the window appearance to MAGIX Video deluxe "classic" view by going to "Window"> "Window appearance" > "Minimal".

For all those who haven't used MAGIX Movie Edit Pro before, we recommend the "Standard" window appearance. You have the most options available in this mode.

Below you will find a rough overview of the differences between MAGIX Video Pro X and MAGIX Movie Edit Pro.

Video monitors

- In the "Minimal" display mode the program only has one preview monitor which is used for both program and source monitor similar to the one in MAGIX Movie Edit Pro. When the project is stopped, files in the Media Pool can be selected and played back using the transport console. To play back the project again you can simply click on the project window.
- The "Standard" display mode in MAGIX Video Pro X offers two preview monitors. One is the program monitor for previewing the project in the project window and one is the source monitor for previewing files in the Media Pool. Both monitors have their own transport consoles so you can separately control the preview of the Media Pool and playback of the project. For more information about the preview monitors please refer to the section in the „Workspaces“ (view page 68) chapter.

Keyboard layout

The preset keyboard shortcuts are different and can be displayed in both modes via "File -> Settings -> Keyboard shortcuts". MAGIX Video Pro X 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 shortcut" (view page 338) and in the shortcut pdf located in the program folder of MAGIX Video Pro X.

Load files

- In MAGIX Video Pro X, files are dragged and dropped to the desired position in the project window or loaded using the commands in the Insert menu. For more about this, please read the section "Insert modes (view page 43)" in the chapter "Workspaces".
- In Video Pro X, files can also be loaded form the Media Pool by double-clicking them. This inserts the video or image file on the first track at the position of the playback marker. If another object is already present at that position, the new object will be inserted after it on the first track. Titles appear on tracks 3 and 4 and additional audio files are located on track 5.

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 X, 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 X 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 63)" in the chapter "Workspaces".

Projects, movies and objects

In MAGIX Video Pro X you will be working with "projects", "movies" and "objects". In order to work quickly and intuitively, it is important to know the differences between these three hierarchically-ordered terms.

Project A "Project" includes everything that you want to include on a disc. Normally this means one or more movies and a menu structure for selecting movies for playback. Projects can be saved as "MVP" files on your hard drive and can be loaded later to do further editing to the movies.

Movie A "Movie" can be one single video clip or a combination of clips and photos. It can also include music, titles, transitions and much more.

Each movie can be exported individually as a video. The "project" can be considered a type of drawer into which you can put multiple movies that will be edited together and burned to the same disc.

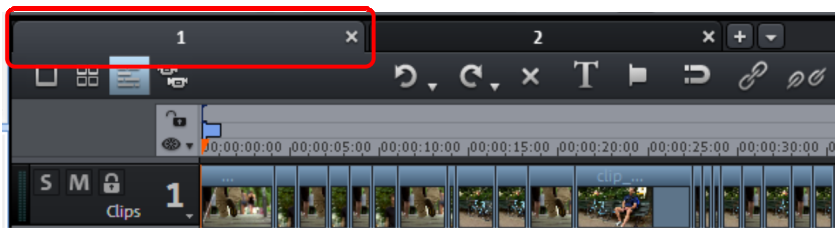
Objects "Objects" are the individual units of the movie. There are different types of objects (view page 95): videos, photos, titles, transitions, decorative elements, audio (sound).

Summary: „Projects“ contain „Movies“ and „Movies“ contain „Objects“.

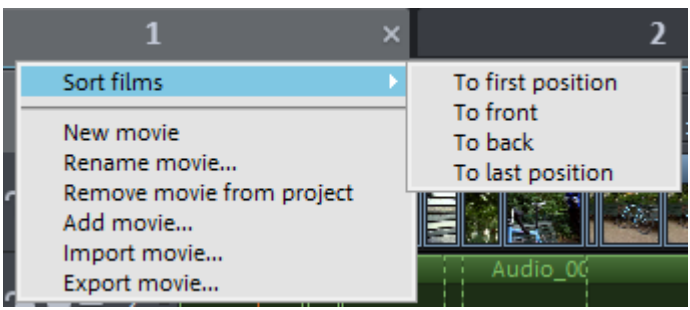
Project management

The "Edit" area can be used for editing films and also for managing your projects, i. e. here you can sort the order of the movies, add new movies, remove existing movies from the project or rename the movies.

Each film in a current project can be controlled through its own tab above the tracks.



To rename, sort, load or delete movies, the easiest way is to right-click on one of the tabs. You can then select the action you want from the context menu that appears.



Quick start

This chapter explains the basic functions of MAGIX Video Pro X with a step-by-step introduction. A systematic description of all program functions can be found in the following chapters.

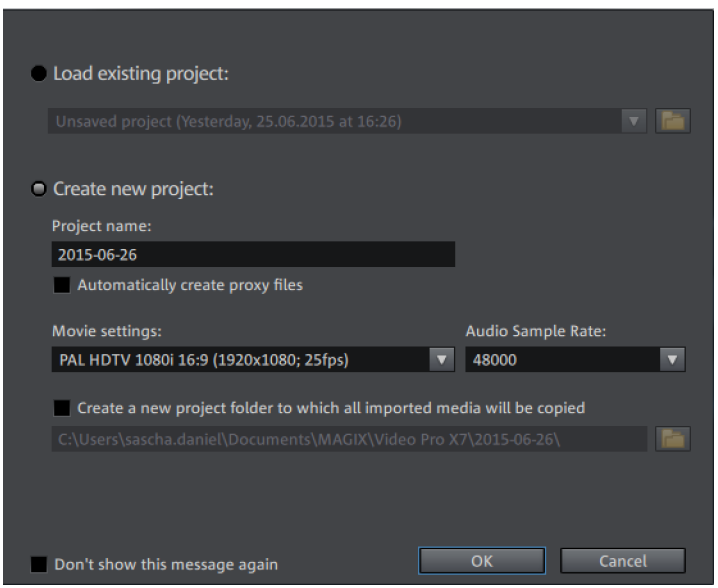
Tip: Use the online tutorial videos that can be accessed in the "Help" menu. This feature requires an Internet connection.

The program keyboard shortcuts (view page 338) for commonly used processes and functions are also very helpful.

Program start

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

This dialog allows you to either "Load an existing project" or "Create a new project". You can also "Create a new project folder". All files belonging to this movie will be saved there.

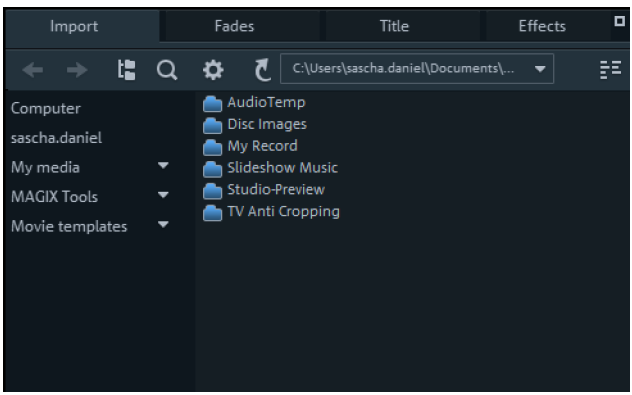


We're still at the very beginning, so let's stick with keeping an overview of everything. Click "OK" to end the dialog and continue.

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 functions.

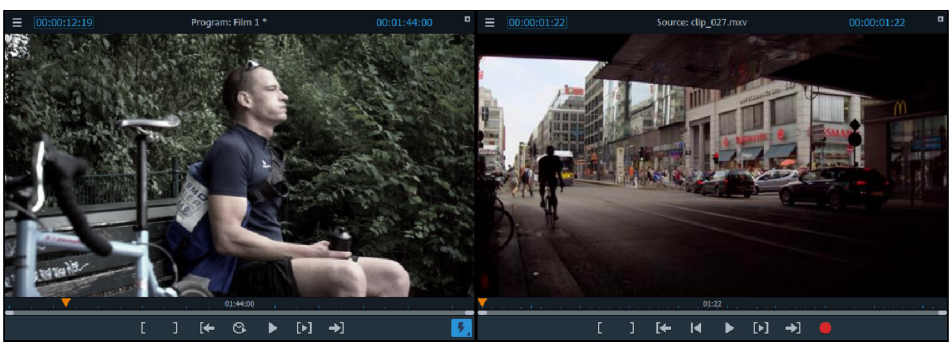
- The Media Pool appears at the top right; four tabs provide access to all important elements that are required for video projects. The first tab displays all usable files (besides movies, also photos, images, audio files, and even RTF text files for captions) in the current folder.



- Navigation works just like in other file managers: folders can be opened with a double-click. Arrow buttons allow you to go one level up or down. You can also display a folder tree featuring the folder hierarchy and then use the search function (view page 56) to locate files according to different criteria.



- All files opened 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 project window. The right source monitor displays a preview of files in the Media Pool.

- To enable playback of 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.
- This method enables you to select and play back different video files. Drag the selected file (hold down the mouse button) from the Media Pool down into the project window. An object appears at the location on the track where you release the mouse button to represent this video file.
- Each object in the project window can be moved with the mouse either horizontally on a track or vertically between tracks. Drag the video object on the first track all the way to the left to the beginning of the track.



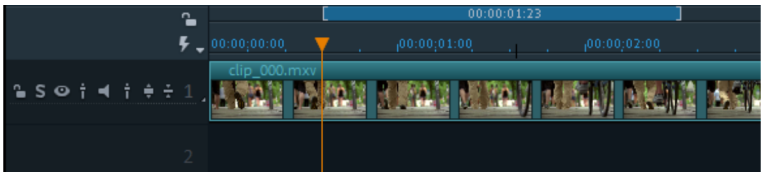
Note: If the video also has an audio track, it will be displayed in the same track. You can learn how to separate image and sound in the "Objects" (view page 100) chapter.

- Now the first file is in the project window where it can be cut, edited and exported. Now you can load additional files and videos and combine audio files on the tracks.
- To play back the project, click the play button on the transport console under the program monitor to the left.

Tip: An even easier way to control playback is by pressing the space bar on your keyboard.

- During playback a vertical line will move across the project window. This is the playback marker that displays the current position. It can be set directly with a mouse click in order to jump to certain positions.
- You can also define playback ranges, e.g. to freeze a certain position independent of the playback marker. Clicking in the range bar above the first track lets you define an in-point, i.e. the starting point of the playback range. If you right-click further on, the end marker will appear to indicate the end 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 can be moved 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 "Range playback" 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?

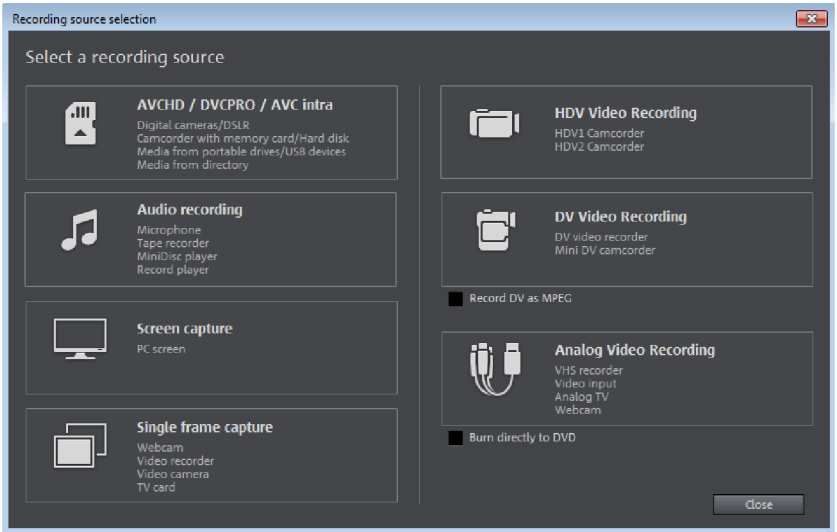
- If you want to continue with your own video footage, select the "New project" option from the "File" menu and read the following chapters about video import.
- If you want to continue working with the test file, simply skip the following import tutorial and begin reading the "Video editing (view page 27)" section.

Import video material from memory card

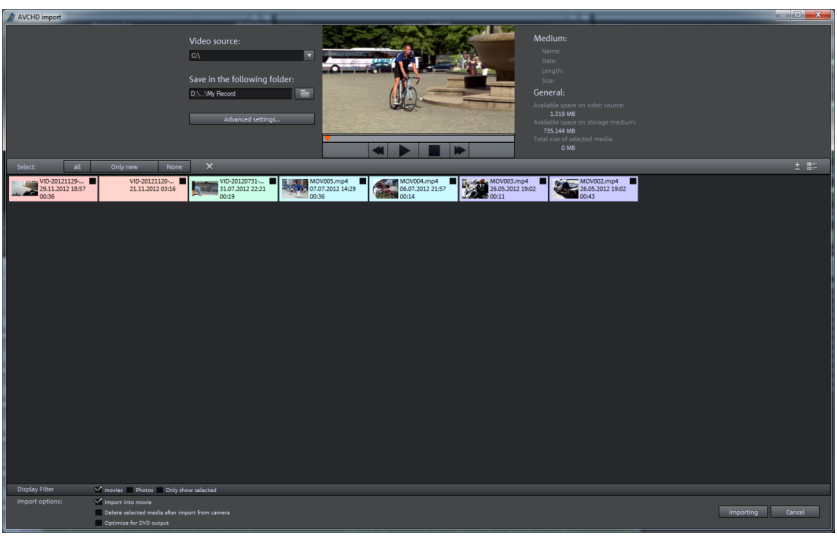
- Connect your storage device (camera, USB stick, SD card or other) to the PC. You may have to first turn your camera on.
- Click on the red button below the source monitor to open the record dialog.



- In the record dialog, click on "AVCHD/DVCPRO/AVC-Intra".



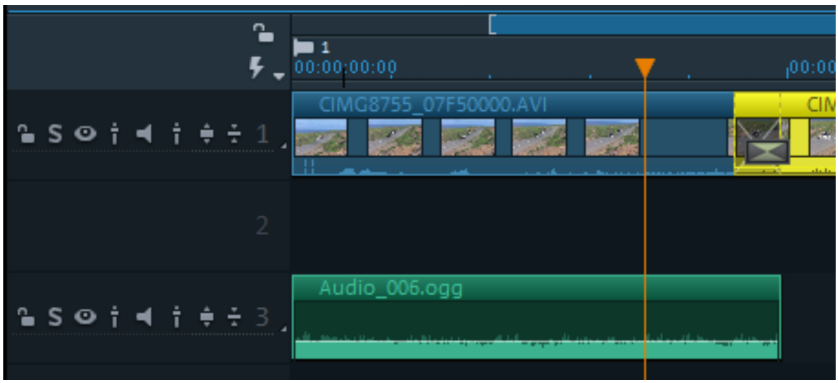
- The AVCHD import assistant will then open. Select your connected storage devices as "video source". A file list will appear.



- In the file list, select all the recordings that you've imported from the device.
- You can preview all your recordings using the preview monitor in the middle of the dialog in order to decide if they are suitable for your movie.
- After selecting all videos, in "Import options" you can select whether the recordings should be directly placed into your movie project or simply copied to your computer's hard drive (you can select the location in the next dialog). You can also automatically delete your recordings after import.

Video editing

Timeline mode



All editing is performed in the project window. In "Timeline Mode" your movies and scenes are displayed proportionally to their size, i.e. the longer the movie, the longer the object on the track.

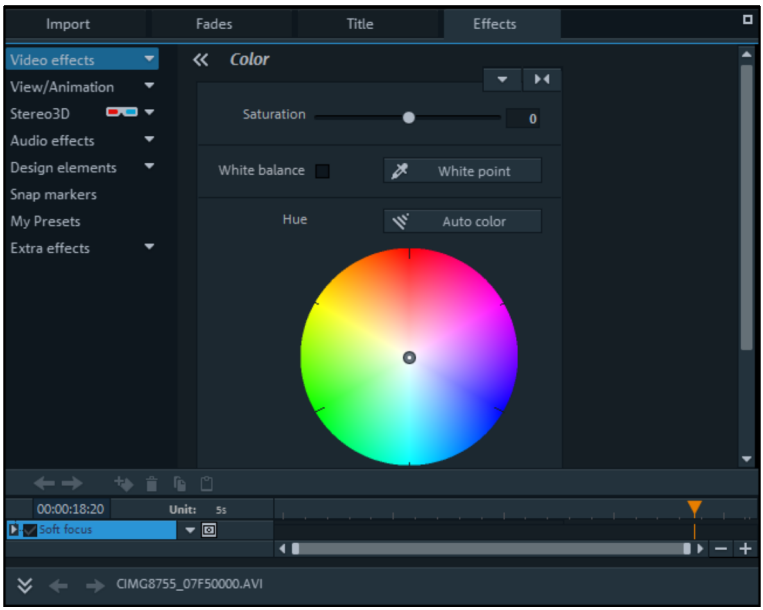
Handles: All objects can be shortened by moving the mouse to one of the lower corners of the object until it turns into a stretch icon. You can now can shorten the object until it is the length you want. At the top corners of every object you will find two fade handles that can be adjusted to fade an 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.



Note: Video objects with an audio track are automatically displayed on one track. These objects have six handles instead of five. You can read more about this in the chapter "Objects".

Object selection: For advanced effects editing, the objects must be selected first. Individual objects can be selected with the mouse. Objects will change color to show that they have been selected. Multiple objects can be selected by holding down the "Shift" key. If you click next to an object, you can drag out a rectangle with the mouse button pressed down. All objects contained in this rectangle will be selected.

Effects editing: Selected objects can be edited with the effects in the Media Pool.



The settings for each effect can be adjusted directly in the Media Pool. Most effects can be controlled using keyframe animation and effect curves. The intensity of the effect is controlled either dynamically with single points (keyframes) or drawn as a curve (effect curve). All the buttons for keyframe and effect curve animation corresponding to the selected effect can be found in the lower area of the Media Pool.

Note: A keyframe must first be selected before an effect curve can be activated.

Context menu: The context menu also offers a series of editing options for objects. This dialog can be opened by right-clicking on an object. It offers advanced object editing options, e. g. various trimming editors which enable an exact cut with different transition parameters. For video objects there is a different context menu than the one 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.

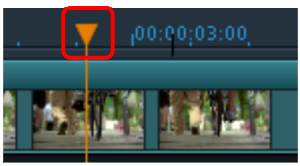
Cut videos in the project window

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

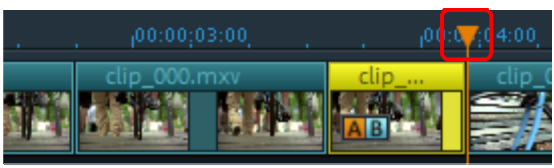
- Play back your video by clicking the play button on the program monitor's transport control (or simply press the space bar on the keyboard).
- If during playback you have reached a scene that you would like to cut out, click the playback button in the transport control a second time. The playback marker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

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

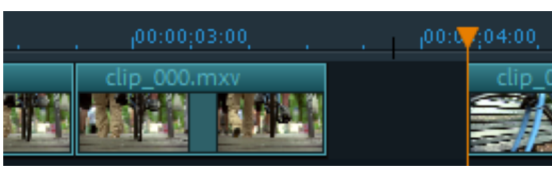
- Set the playback marker exactly at the start of the unusable material. The zoom function is recommended to get a better view of longer videos (the +/- buttons in the bottom right corner of the project window).



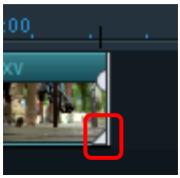
- Press "T" on the keyboard. This will split the current scene into two sections at the position of the playback marker.
- Repeat these steps for the end of the unusable scene. Find the end of the unusable scene, place the play marker as close as possible to the end point, and then press the "T" key on the keyboard again.



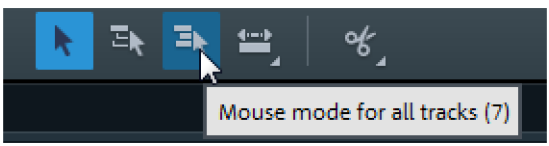
- Now you have "isolated" the unusable scene and can delete it from the video by pressing "Del" on the keyboard. Before this, the scene must be selected by clicking it with the mouse.



- If you didn't work accurately during cutting, then 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 where the removed material was. How do you remove gaps from the movie? It's easy: Simply drag the later scenes up to the earlier scenes until they "dock" with each other. Remember to drag all objects that are further behind, otherwise the gap will just be passed on down the line. To drag later objects, use the "All Tracks" mouse mode. This automatically takes the objects on all tracks found later on the timeline along with the object being moved.



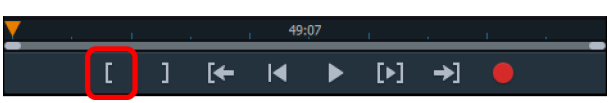
Note: If your project has an audio track in addition to the image track , it is usually necessary to cut audio and video tracks in synchronization. After import from the camera, video and audio tracks are automatically combined in one object, i.e. all cutting and moving actions have an effect on video and sound tracks simultaneously. If you have added a separate soundtrack which has not yet been grouped with the image sequence, you should group them before starting to edit. To do this, select the video object and the audio object with "Ctrl" + click, and in the "Edit" menu select the "Group" option (or click the Group Tool).

All of the cutting functions are non-destructive (as are all of the editing functions in MAGIX Video Pro X). This means that all original material will remain unchanged on your hard drive.

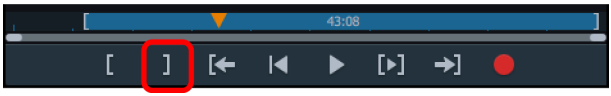
Importing individual scenes from longer movies

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:

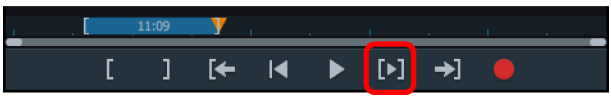
- Double click the desired file in the Media Pool. Double-click the file to load it in the source monitor and play it back using the transport controls.
- Find the range which you would like to import. Position the playback marker above the transport control at the start position of the range and click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



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



- The currently selected range appears highlighted in blue in the range display. You can playback this range separately with the "Range playback" 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 movie. This process is completely intuitive: Simply select single scenes by clicking on them and move them to the desired position using drag & drop. You can also create scene groups which can be moved together: "Ctrl" + mouse click selects more than one scene, "Shift" + mouse click selects all of the scenes that lie in between.

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

- The mouse modes for "All tracks" or "One track" (view page 47) do not just move the selected scene, but all objects that are located behind the object in the same track ("one track") or all tracks ("all tracks").
- The commands "Group (view page 303)" and "Ungroup (view page 303)" enable you to combine 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 to make more use of the project temp folder. You can use this folder as a clipboard to store objects and use them in other parts of your project. You can either move all of the objects directly from the project window into the project temp 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 temp folder. To do this, press the Ctrl key while clicking and dragging. You can also drag files or sections of files directly from the Media Pool into the project temp folder.

Note: Be aware that the project temp folder is only available for the corresponding project. 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.

Publish videos

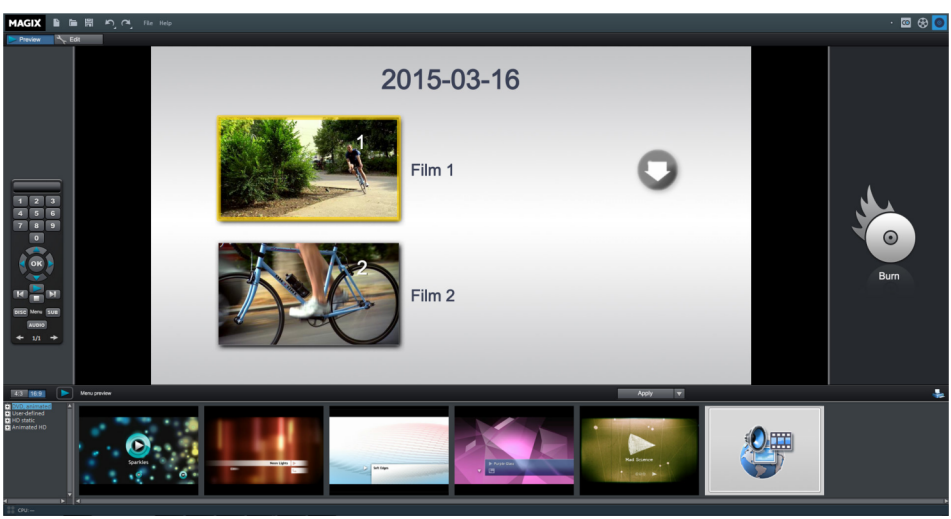
Burn DVDs and Blu-ray discs with interactive menus

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 "Edit" > "Markers" > "Set chapter marker" (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, all of the material in the project window is combined into a single file that can be saved to any folder on the hard drive. The available export formats are listed in the menu "File -> Export movie".

To upload a video to the Internet go to "File" > "Online" to access direct connections to MAGIX Online Album and the media hosting sites YouTube and Vimeo.

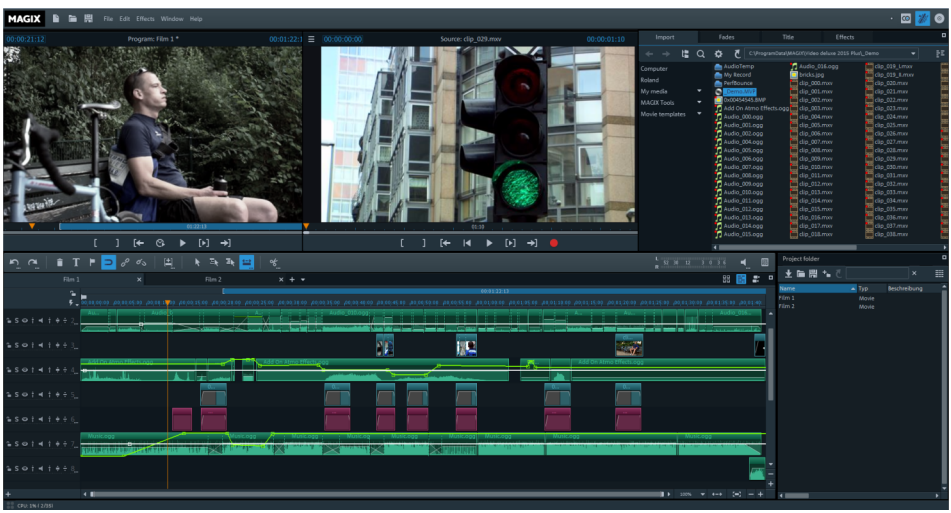
Edit mode

In the standard mode, MAGIX Video Pro X offers plenty of menus, toolbars and controls, which can confuse beginners.

For simple video editing tasks, such as a rough cut or format conversion, the full range of function in MAGIX Video Pro X isn't necessary. For this reason, the MAGIX Video Pro X interface can be switched to a simplified, or basic mode. In this mode control elements, menus and toolbars are reduced to the basic necessities.

Standard mode

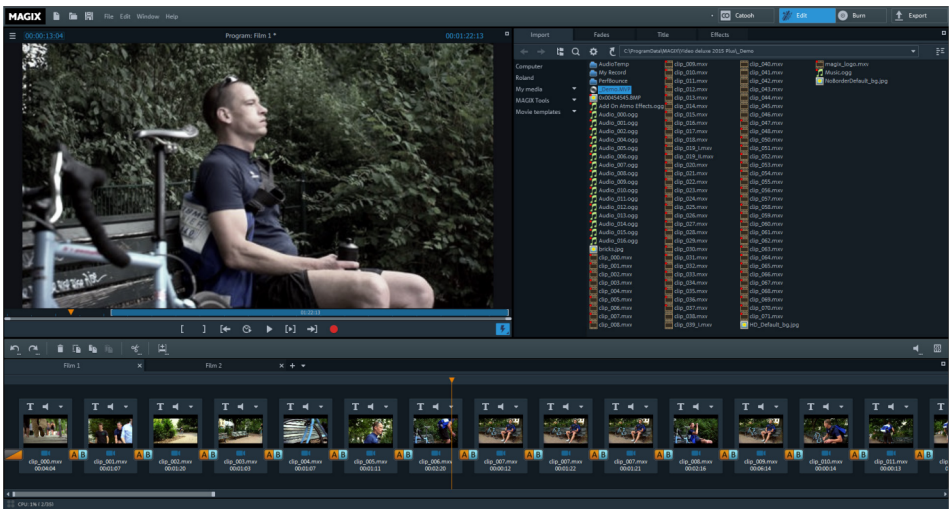
The standard mode offers all MAGIX Video Pro X functions for advanced project editing.



- Program and source monitor
- Complete Media Pool with "Fades", "Title" and "Effects" tabs.
- The project window which can be activated as scene overview, timeline mode and multicam mode.
- Complete menus and toolbars
- Project temp folder

Basic mode

In basic mode all control elements, menus and toolbars are reduced to a minimum.



- The window layout shows the program monitor, Media Pool and the project.
- The project window is replaced by a single track Storyboard (view page 35). Here, imported movie material can be cut and arranged into individual scenes. Controls and menu commands for effects and audio editing are hidden.
- Only standard fades and simple titles in preset fonts are possible.
- The Media Pool can be used solely for file import. The fades, titles and effects tabs are hidden.
- Next to the buttons used for switching between the main screens **Edit** and **Burn** (view page 234), there is an additional button **Export** (view page 36). Along with the export dialog, the finished movie can be saved in various formats and uploaded to Internet platforms.
- The **Burn** screen does not include the control elements for menu template editing.

Storyboard in basic mode

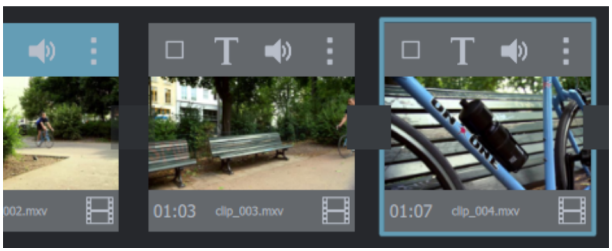
In the "Edit" screen basic mode, the project window has been replaced with a **Storyboard**. Pictures and video footage (including the audio track) are displayed as scenes in the Storyboard. The scenes are all displayed the same way, irrespective of how long they really are in the movie.

Note: With this kind of display, the playback marker moves in the movie at different speeds during playback. Correspondingly, it moves slower in longer scenes.

You can load a video or image file by dragging it into the Storyboard from the Media Pool using the mouse. To generate a preview of the video, drag the file into the program monitor. The transport console no longer applies to the Storyboard, but plays the video from the Media Pool.

A loaded file is made up of a single long "scene", which can be split into several smaller scenes. You can do so manually using the Cut button (view page 48) in the lower toolbar or via Automatic scene detection (view page 270) (Shortcut Shift + Z).

You can then re-arrange the scenes using drag & drop and delete unwanted scenes.



The following buttons are found on every scene:



Add titles and text: Click on the "T" button to add a title. Enter your text straight into the program monitor. You can also change the size of the title. The title is added at the beginning of the scene and is displayed for 5 seconds.



Set volume: The volume in the soundtrack of each scene can be set with the loudspeaker button.



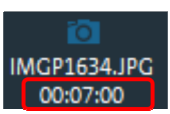
Effects menu: This button provides access to a menu with copy/paste functions, some special functions ("Scene recognition", Audio/video offset for videos, "Cut automatically to fit screen" and "Change photo length" for pictures) and Object properties.



Transitions/Fades: Click on the large button between the scenes and select a scene transition (or "Fade"). You can choose between a "Crossfade" and a "Thru black" that each last one second. Selecting "Cut (no fade)" removes the fade.



Rotate image (only with image files): If an image or photo is on its side or upside down, click on this button. The photo will rotate 90 degrees.

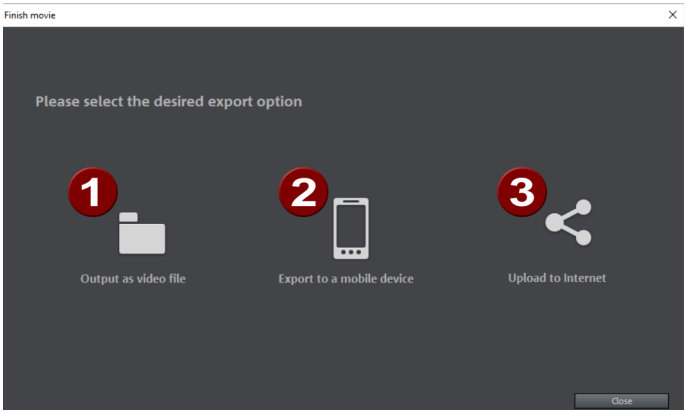


Display duration: The display duration for each scene is shown here in [Minutes]:[Seconds]:[Frames]. With image files, you can click the time display and adjust the display duration in the dialog that appears. This duration can be applied to all photos in the movie.

Export in basic mode



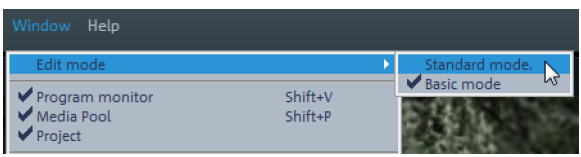
Clicking on the "Export" button opens a selection menu with the most important export functions. Here the finished movie can be saved in various formats, exported to devices and uploaded to Internet platforms.



1. Output as video file
2. Export to mobile device
3. Upload to Internet

Switching between standard and basic modes

To switch MAGIX Video Pro X into basic mode, select "Window" > "Edit mode" > "Basic mode".



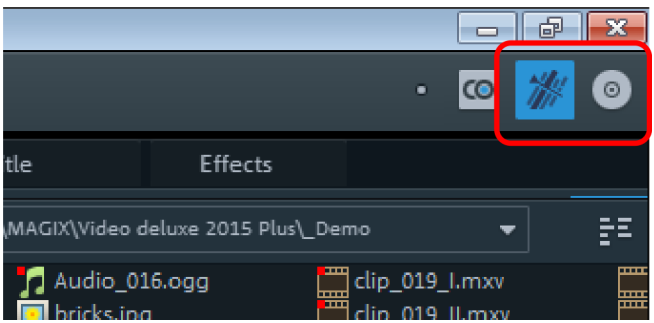
Note: If you switched into basic mode by accident and your MAGIX Video Pro X project contains cut and edited audio and video material on multiple tracks, this arrangement will not be changed. However, it is not recommended to work in basic mode because the effects on other tracks during editing in Storyboard aren't predictable. For this reason, in this case you should switch back into standard mode.

Tip: If you switch from basic mode back into standard mode, by going to "Window" > "Resent window arrangement" you can restore the previous arrangement of MAGIX Video Pro X.

Work screens

This chapter will provide an overview of the the screens that available in MAGIX Video Pro X.

Activate main screen

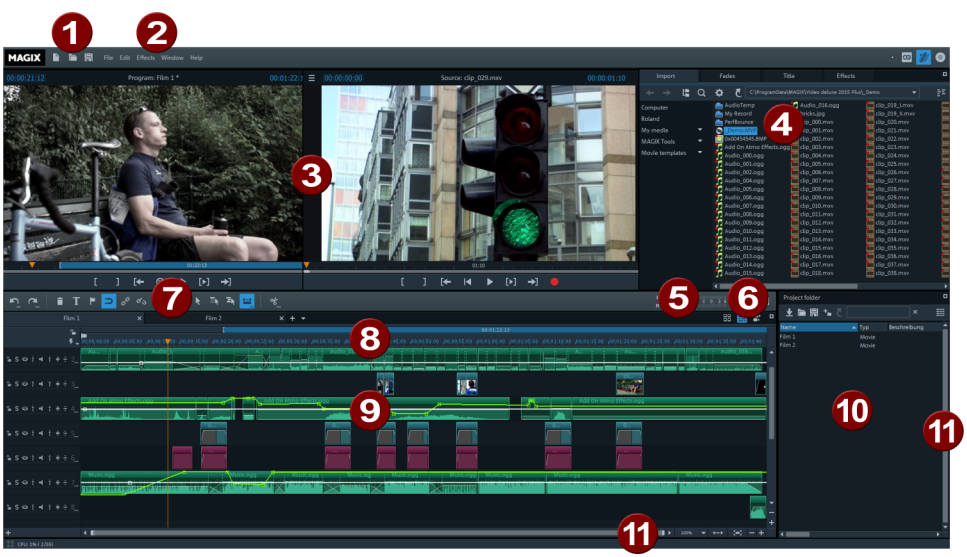


MAGIX Video Pro X contains two views where all work is executed:

- 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 40):** These are the buttons for quick access to the standard commands.

2 **Menu bar**: This contains important MAGIX Video Pro X functions.

3 **Program monitor andSource monitor (view page 68):** The video and image objects are displayed here. Both video monitors have their own transport console.

4 **Media Pool:** In the four tabs you can access the folders on your hard drive, various transitions, titles and effects.

5 **Peak meter:** The peak meter displays the current volume of the audio track in the stereo master.

6 **Buttons for scene overview, timeline and multicam mode:** Here you can switch to Overview (view page 49, view page 97) mode. This displays all objects on the first track and enables fast sorting of scenes. Or activate Multicam mode (view page 119).

7 **Lower Toolbar:** In Timeline Mode you can switch the various mouse modes here.

8 **Timeline:** You can specify the range that will be played here. It is equipped with a time scale.

9 **Project window (view page 49):** All of the files in the Media Pool and the project temp folder can be added to a track using drag & drop.

10 **Project temp folder (view page 63):** Here you can store all of the files needed for the project.

11 **Scroll bars:** The lower scroll bars can be dragged apart and pushed together for zooming with the mouse. The right scroll bar zooms into the tracks vertically. Click on the edge of the scroll bars while holding the mouse button to change the visible part in the project window.

Note: Various elements of the interface are only available in the "Standard" setting ("Window" > "Edit mode").

Toolbars

Upper tool bar



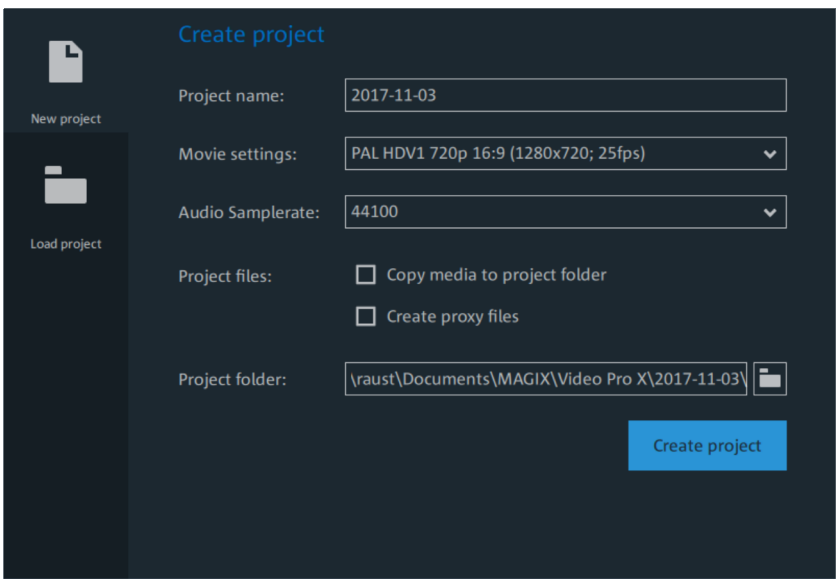
The upper tool bar can be found in the monitor to the top left. It has the following functions:

New project



Creates a new MAGIX Video Pro X project. The Start dialog will appear.

Here you can make important presets for the project. You can change these settings at any time by going to "File" > "Settings" > "Movie".



New project tab

Project name: Here you can assign a name to your new project.

Movie settings: Here you can set the movie's target format (display norm, resolution, frame rate). This setting has no effect on the internal processing quality and can be changed at any time by going to "File > Settings > Movie".

Audio Sample Rate: Here you can set the audio track's audio sample rate.

Project files:

Copy media to project folder: Creates a project folder and saves a copy of all the files associated with the movie to it. The copies are then used for editing. This option is meant to keep things centralized when files from various media devices (e.g. hard drives, USB flash drives, SD cards) are being used in the same project. The internal hard drive is the best option for working on projects in MAGIX Video Pro X because it allows faster access to files compared to external storage devices. If files stored on external devices are used, it can lead to delays and stutters during project editing.

Create proxy file: The original material is already converted to a suitable target format during import, which can save a lot of time when editing and exporting. For more information, see Proxy editing (view page 265).

Project folder: Here you can set the path for the project folder where all project files should be saved.

Load existing project tab

Here you can select and load a previously saved project.

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 X 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 yet specified a name for your project, a dialog will open wherein MAGIX Video Pro X 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 X 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 folder".

Shortcut: Ctrl + S

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 lower toolbar is located just above the first track. It offers the following options:

Undo



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 you don't like the result, you can always revert to the previous state 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. A general rule: The longer the list, the more RAM is used.

Redo



This function undoes the previous "Undo" function.

Clicking on the arrow next to the button opens a list of revoked changes made until now, allowing you to restore several "undo steps".

Delete items



This command deletes the selected objects.

Shortcut: Del

Title Editor



Opens the Title editor (More information can be found in the section "Title editor" on page 123) 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" in the context menu. The new name will also appear in the chapter menu (view page 217).

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



All selected objects are assigned to a group which may then be selected and edited jointly by clicking the mouse.

Shortcut: G

Ungroup objects



This command splits an object group into separate objects.

Shortcut: Shift + G

Insert modes



MAGIX Video Pro X has various modes for inserting new objects from the Media Pool. It can be toggled by right clicking on the icon.

Before inserting new files, the insert mode should be checked or set. There are multiple possibilities for using the modes, which are better described under Insert objects in the project" (view page 96).

Automatic application



This inserts the currently selected object from the Media Pool or the project temp folder and/or the selected area in the source monitor in the project. 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.

Keyboard shortcut (is applied directly): 1

Single-track ripple



This adds the currently selected object from the Media Pool or project temp folder and/or from the selected area of the source monitor to the position where the playback marker is located while moving the objects located behind it on the track.

- In contrast to automatic insertion, in a single-track ripple all objects are inserted at the position of the playback marker. The objects on the target track are automatically moved back on the track behind the inserted object. Bordering tracks are unchanged.
- Videos and images are placed on the first track. If another object is found at the playback marker position, then it will be cut and continued at the end of the inserted object (so that the inserted object can start exactly at the point of insertion).

Keyboard shortcut (is applied directly): 2

Multitrack ripple



This adds the currently selected object from the Media Pool or the project temp folder and/or from the selected area in the source monitor to 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 subsequent objects on all tracks will also be moved.

- Objects located further along on all tracks will also be moved further down.
- In contrast to automatic insertion, the object 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 and 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.

Keyboard shortcut (is applied directly): 3

Exchange



This replaces the object selected in the project with the currently selected object from the Media Pool or the project temp folder and/or from the selected area in the source monitor. Length adjustment moves the objects following it correspondingly.

Keyboard shortcut (is applied directly): 4

Overwrite



This overwrites the object at the position of the playback marker with the currently selected object from the Media Pool or the project temp folder and/or from the selected area in the source monitor...

Note: In contrast to Replace, no length adjustment takes place here. The "Replace" functions moves subsequent objects, whereas "Overwrite" overwrites subsequent objects as well (sometimes only partially), depending on the length of the object being inserted in comparison to the object being overwritten.

Keyboard shortcut (is applied directly): 5

Object



This is the preset mouse mode for individual objects that is used the most often.

Left clicking selects an object. Holding down the mouse button moves the selected object. Right clicking opens the context menu.

Shortcut: 6

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 after the selected object.

Keyboard shortcut: 8

All tracks



This mouse mode behaves similar to "Object" mouse mode. However, when objects are moved, all of the objects behind the selected object are also moved.

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 useful for moving a complete arrangement, e. g. to insert new opening credits or to close gaps.

Keyboard shortcut: 7

Additional mouse modes



MAGIX Video Pro X offers additional mouse modes for different kinds of editing. They can be opened by holding down the mouse button or through the context menu of the last button.

Stretching



This special mode enables the length of objects to be adjusted. The object is played back completely and the playback speed is adjusted to the stretched object length.

Video objects are therefore accelerated or decelerated accordingly. Audio objects are stretched or pinched via timestretching, but without creating any changes to the pitch itself.

Attention: If the object is to be animated with effects curves, then the option "Connect curve length with object length (view page 160)" should also be set.

Shortcut: 0

Curve



This mouse mode is used especially for drawing effects curves.

Effects curves control the level of the effect: The higher the curve point is, the more intense the respective effect parameter will be at this position. These may be used for the video and image objects of the image tracks as well as for the audio objects of the sound tracks.

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

Shortcut: 9

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 + 6

Cut button



MAGIX Video Pro X offers various editing functions. They can be opened using the small arrow next to the button.

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.

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: Z

Remove end



This command cuts a selected scene in two at the point where the playback marker is positioned and removes the second part.

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.

Keyboard shortcut: Ctrl + Del

Split movie



Splits 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).

Shortcut: Alt + Y

Mute button



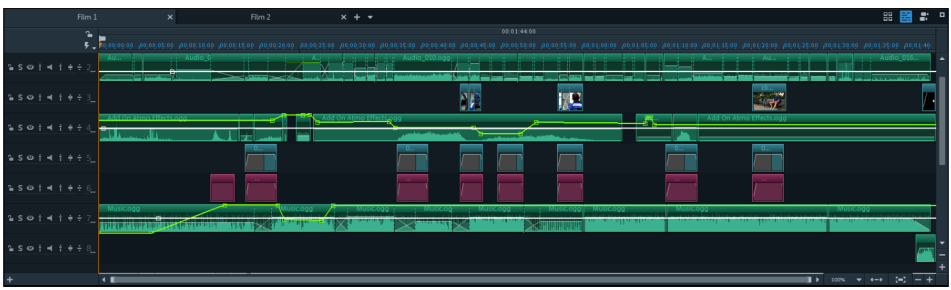
This button mutes the sound output. Clicking the triangle provides access to settings for scrubbing (view page 214) and selection of the audio track for multi-audio tracks (view page 212).

Mixer

With this option you can open and close the real-time mixer. Further information can be found in the Mixer (view page 205) chapter.

Shortcut: M

Project Window



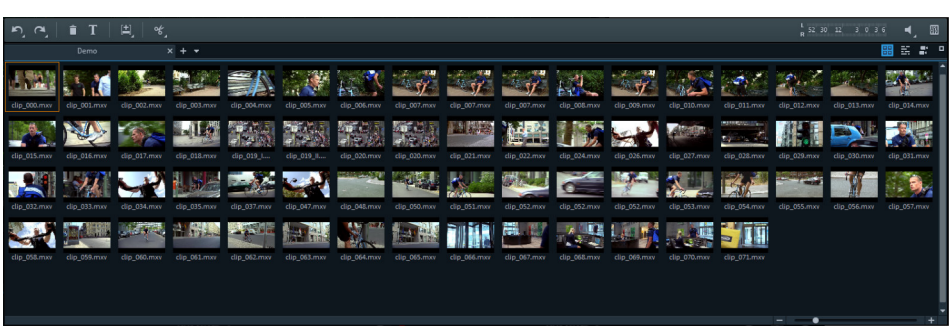
The project window offers a professional editing screen for post-production.

There are various views in the project window that you can easily switch between using the buttons in the lower toolbar.



With MAGIX Video Pro X, the default setting is timeline mode.

Overview Mode



The Scene overview allows you to manage and categorize scenes. All scenes are listed one after the other (in multiple lines, like in a text program) and can be copied, cut, moved, deleted and inserted.

"Overview" mode does not indicate start, playback, or end markers. The scene which is currently being played has a frame around it.



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 mode.

Timeline mode

In the Timeline mode, your movies and scenes are shown in proportion to their length: The longer the object in the track, the longer the corresponding movie.

You also have direct access to all media files such as titles, effects, etc. currently being used in the movie.

Multicam mode

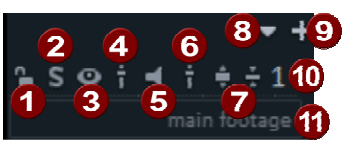
The Multicam mode is an expanded timeline mode, where you can edit together scenes shot with different camera perspectives, a process called Multicam editing (view page 119). The top two tracks serve as target tracks for copying sound and video from two different source tracks.

Tracks

The project window is divided into tracks where the multimedia material can be positioned and edited. The number of displayed tracks can be set in "File" > "Settings" > "Movie".

In principle, any object type can be placed on any of the tracks. Video and image objects can also be combined with MIDI and audio objects within a track. The maximum length of a movie is restricted to six hours.

At the beginning of each track there is a track header.



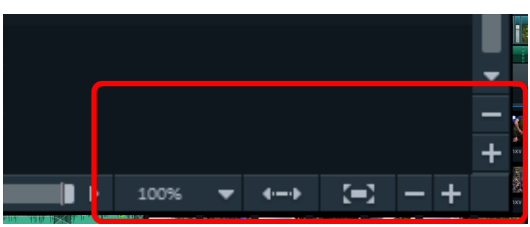
1. **Lock icon:** Clicking on this icon locks the entire track and all of its objects against editing.
2. **Solo:** This switches the track to "solo" mode. During playback, only this track will be seen or heard.

3. **Hide video, image and title objects:** Makes all visible objects transparent. Audio objects can still be heard.
4. **Transparency controller:** Here you can set the transparency for the entire track.
5. **Mute:** Mutes all audio objects on the track. Video, image and title objects are still played back.
6. **Volume control:** Sets the volume for all audio objects on the track.
7. **Maximize/minimize track:** Makes the track larger/smaller. This creates more space on the screen, making it easier to edit details.
8. **Track options** (see below)
9. **Add tracks:** Click the plus icon to add a new track above the current track.
10. **Track number:** All tracks have a number to help differentiate them in the project.
11. **Track name:** This is the track name. You can give the track a name by clicking on the name field and entering it manually. Press Enter to confirm the name.

Right-clicking on the track header opens a context menu with the following **track options**:

- **Multicam > Source track:** Here you can activate/deactivate a track as a source track.
- **Multicam > Master audio track:** Here you can designate the master audio track for multicam editing (view page 120).
- **DVD audio track:** If you are planning to burn more than one audio track (e.g. several languages) to a DVD or Blu-ray disc, you can specify the position for the current track here. This option is meant for pure audio tracks. When you select an option from the submenu, a dialog will open where you can give the audio track a name (e.g. "English"). You can find out more about this in the "Audio editing" (view page 212) section.
- **Track height:** Set whether the selected track or all tracks should be displayed as small, large or in standard size.
  You can also adjust the size using your mouse. To do so, use the mouse to drag the lower border of a track box downward.

Zoom



The vertical zoom function sets the number of visible tracks. On many tracks zooming is useful for selectively editing a track or an object in full view.

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

Clicking and dragging on the bottom border of a track allows you to adjust the height of the display.



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



Optimize view: Displays the full project. Zoom will be set to 100%.

When the function is turned off, the old zoom level will be reactivated.

Scroll

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.



Tip: To zoom and scroll, it is recommended to use keyboard shortcuts (view page 339).

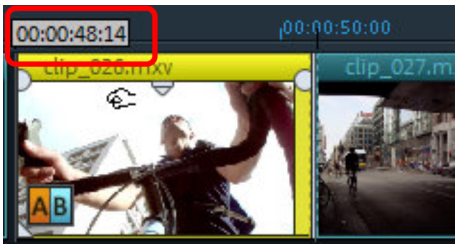
Grid

The project window features a frame-exact grid. This ensures that video and image objects snap exactly to the borders of a frame.

The step size depends on the frame rate specified in the movie settings ("File -> Settings -> Movie"). Choose between Europe's conventional frame rate for PAL (25 frames per second) and America's and Japan's conventional frame rate NTSC (29.97 frames per second) or any other manually set frame rate.



When moving an object, the position display indicates at which frame the first image of the object is shown.



The position is displayed in the form of a tooltip when moving the object.

This information is displayed in the form "Hours:Minutes:Seconds:Frame".

Note: Audio objects can be moved sample-exact. This means that they do not snap to the frame grid if they are not grouped with a video object.

In addition to the constantly active frame grid, an object grid can also be activated. This ensures that two consecutive objects will seamlessly snap together even if they are on different tracks. This avoids undesired gaps or overlaps.



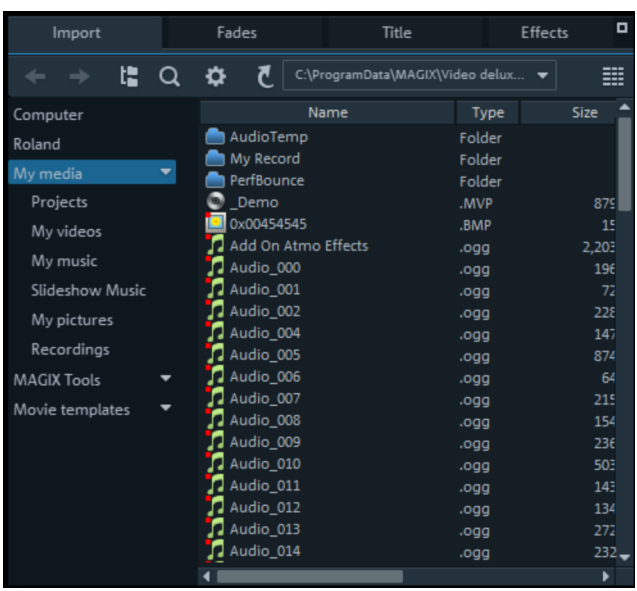
The object grid can be activated/deactivated using the magnet icon in the lower toolbar.

Preview rendering



You can reach the preview rendering (view page 267) features by pressing this button, located next to the timeline.

Media Pool

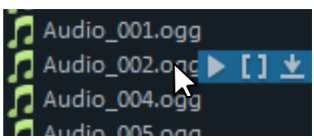


The MAGIX Video Pro X Media Pool has 4 main views with the following functions:

- **Import:** Organize, search and import files.
- **Transition:** Collection of transitions that are arranged into different categories and that can be used for object transitions (view page 106).
- **Title:** Preset title and title editor: Creation and editing of titles e. g. captions, closing credits, introductory text.
- **Effects:** Provides presets and edit pages with almost all effects available in MAGIX Video Pro X.

The structure and functioning of the import view of Media Pools is similar to Windows Explorer with the only difference being that the Media Pool only displays usable files. This is used to access and load multimedia files of all kinds: video files, photos and other image files, audio files, transitions, titles, effects, and also complete projects.

Note: The Media Pool displays the data on your hard drive. If you delete data here, you will not be able to find it again using Windows Explorer.



If you hover the mouse pointer over a media file, three icons for quick functions will appear: preview, range import and complete import.



Preview: All available media can be previewed using the preview function. If you click on the playback icon, the medium will be played back in the preview monitor. Video and image files are displayed on the preview monitor and audio files are played back through the sound card.

There are previews for the templates and effects included to make it clear how they will function.



Range import: You can define an import range on the source monitor using buttons for the in- and out-point.



Complete import: This button will import the complete file into the project window. When importing using the import button, the insert mode (view page 43) that is currently set will be used.

Tip: Use the insert mode keyboard shortcut (view page 342) to make additions directly to your movie.

You can also load files from the Media Pool by dragging & dropping them. You can even drag & drop entire folders into the project window. If you want to load several files simultaneously, you first have to select them in the Media Pool.

- **If you want to select multiple files individually**: Hold down the "Ctrl" key while clicking on the files you want to use.

- **If you want to load a sequence of multiple files:** Hold the "Shift" key and click on the first entry and then on the last.
  Result: All entries in between will be selected.
- **If you want to select multiple files using the mouse (object lasso):** Click in a free area and hold down the mouse button and move the mouse over the multiple files.
  Result: A visible frame is dragged by the mouse. All entries bordering to this frame will be selected.
- **If you want to select all the files in the current folder:** Press the keyboard shortcut "Ctrl + A".

Tip: Improve access to the folder with your media files by creating a link in the "Import" area of the Media Pool. You can do this by right-clicking on one of the entries and selecting "Create link" in the context menu. Select the media folder and click "OK" to confirm.

Note: The respective links are automatically deleted if the function "Reset program settings to standard values" (view page 299) is used.

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. Read the "Add objects into the project" (view page 68) section.

Importing

Navigation buttons

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



Forwards/Backwards: These buttons access the previously viewed folders.



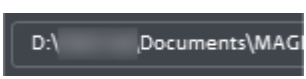
Up: This button brings you to the next highest folder level.



Folder tree: Here you can activate 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: In the top center you will see the path of the current folder. Use the arrow button to open the menu to find the folders you previously visited.



Options: All functions of the context menu (switch views, rename, or delete files, etc.) can also be accessed using the options button.



Display options: Settings for how detailed the entries should be listed may be made here.



Zoom: A zoom slide can be used to set the number and size of visible symbols in the "Large symbols" view.

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.

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

Projects: Here you can switch to the folder where your projects and films are usually stored.

You will find the "Show project contents" function in the context menu of a project. Using this function, you can display all objects of a project and copy them into the current project, retaining the editing and effect state of the object. This means that you don't have to edit the objects again to keep the status of the "old" project. But you can certainly continue editing the transferred object. These changes will be then saved in the current project.

My Videos: Displays all usable files found in "My Documents\My Videos."

My Music: Displays the contents of the "My Files\My Music" folder.

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 by default to store transferred images.

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

MAGIX Tools

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

XAR Animations: Here you can find various elements that you can manage and use in your projects with the aid of Xara Designer Pro. As soon as you drag an element to the track, Xara Designer Pro is opened automatically with the corresponding element. You can find more information about Xara Designer Pro at http://pro.magix.com.

Internet media: This opens the integrated browser (view page 335) in MAGIX Video Pro X. It offers you the possibility to collect media from the Internet to use e. g. for your current movie.

Send Anywhere

If you have received a 6-digit key for Send Anywhere and want to receive media, click here and enter the key in the text field.

Click on "Receive" to start the transfer.

Downloads

Use this button to access the media files that you downloaded with Catooh. Also, all data received via Send Anywhere is stored here.

Movie templates

Here you will find various movie templates, which can be customized as you wish (view page 285).

Transitions

Here you can find all transitions from MAGIX Video Pro X, sorted into various categories. One click on a category displays all of the transitions that are contained.

To load a transition, drag it with a held-down mouse key onto an object.

You can find additional information in the "Transitions" section of the "Objects (view page 105)" chapter.

Title

This displays the title presets and the title editor (view page 123, view page 123). The templates are sorted into various categories and can be loaded by double clicking or dragging and dropping them. The 3D templates are also located here.

The text in title objects can be changed directly in the preview monitor (by double clicking it) or in the entry field next to "title".

Effects

MAGIX Video Pro X offers a wide range of effects and effect settings. The "Effects" (view page 129) chapter contains detailed descriptions of each of them.

Video effect templates

Here you can find pre-configured effect templates that can be dragged-and-dropped onto a video or image object. These effect templates consist of a combination of various effect settings which you can adjust in the appropriate effect dialogs.

In the "Video mix effects" subfolder you will find templates for mixing two video or image objects. To do so, two video or image objects have to lie on two tracks directly above or below the other. To use a mix effect template, drag on the lower object.

Video effects

Here you can find adjustable effects for video and photo objects. The effects can be set only after selecting an object in the respective effects dialog. For more information, go to the "Video effects in the Media Pool" (view page 131) section in the "Effects" 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" chapter, section "Movement effects in Media Pool" (view page 145).

360° effects in the media pool

This is where you'll find the 360° video editing effects. For more information, read the paragraph on 360° videos (view page 286) in the "Wizards and special functions" section.

Stereo3D

This accesses the program's Stereo 3D functionality. Please read the corresponding chapter "Stereo 3D". (view page 172)

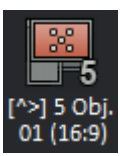
Audio effects

Here you will find many audio effect templates such as echo, reverb, equalizer, compressor, etc. Read the "Audio editing" (view page 187) for more information.

Design elements

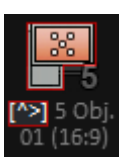
Collages

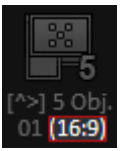
Collages work similarly to normal picture-in-picture effects but more objects are used. Depending on the collage, arrange the selected objects one after the other and drag the collage onto the first object.



The number of the necessary images and the justification of the images (portrait format, landscape format) for the collage can be seen on the icon and in the name. The collage name also indicates the aspect ratio best suited for the collage.

Example on the displayed icon:

Property	Distinguishing feature in the icon	Icon
Quantity of images	• Quantity of eyes • Number in the icon • Number in the name	
Justification	• Frames in the icon • Portrait format: "^" in the name of the collage • Landscape format: ">" in the name of the collage	

Resulting aspect ratio	• "4:3" or "16:9" in the name of the collage	

Test images

Professional test images are included for calibrating your system.

Backgrounds

The color fields are a collection of different backgrounds that can be used for your own color blends or as text backgrounds. The special "custom" template opens a color selection dialog where you can choose the desired color.

Image objects

Here you can find various image objects, such as black bars, different pointers for illustrations, etc.

You can find additional information in the "Effects" (view page 152) chapter, in the section "Design elements in Media Pool".

Snap marker (only in the Plus/Premium versions)

Select a location **directly in the video object** with a snap marker (view page 114) to indicate where another object should snap in. This snap marker will stay in place even if the object is moved into the Timeline.

Snap markers are helpful for trimming, moving and synchronizing objects, for instance, when you want a title to fade in at a specific position in a video object. Snap markers can also be applied to playback and stop positions, and to and between object edges.

They can also be aligned to transients (signal peaks) in order to select these signal peaks as snap points in audio material.

Lookup tables

Lookup tables can be used to create a specific film look or to calibrate cameras with log/flat formats. Learn more in the Lookup Tables (LUT) (view page 153).

My Presets

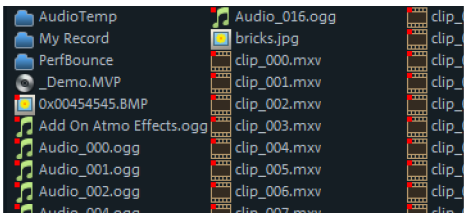
Here you will find the folder for your own effect templates. For more details, please read the "My Presets in Media Pool" section in the "Effects" chapter (view page 153).

Additional Effects

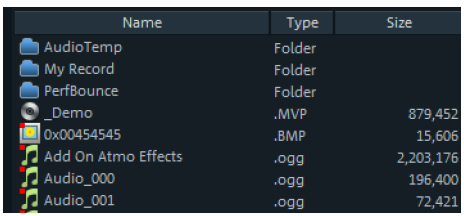
Here you will find all available effect plug-ins. Please read the "Additional effects in the Media Pool" section in the "Effects" chapter (view page 153).

Various file list view modes

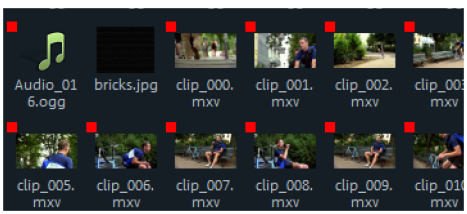
All supported multimedia files and subfolders of the currently selected folder are displayed in the **file list**. Three different views (list, detail, large symbols) can be set by right-clicking on the Media Pool context menu.



List: Only file names are listed. This view mode displays the most files simultaneously.



Details: For each media file, its type, size and date of last change will be displayed next to its name.



Large symbols 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.

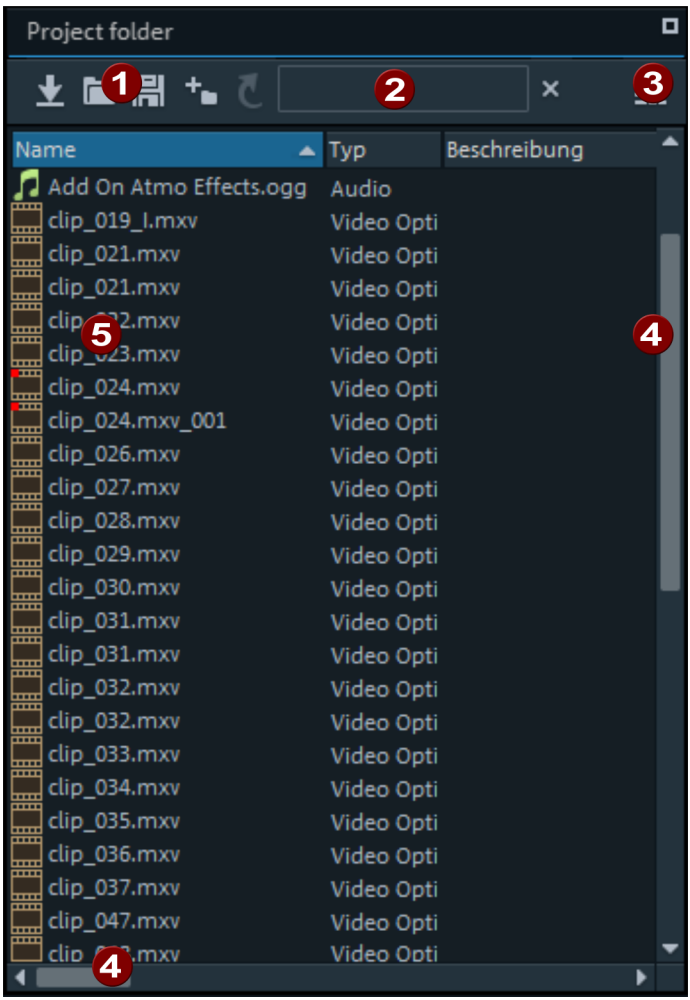
As soon as you activate this display, the **zoom function** will appear. With it, you can additionally magnify thumbnail images.

Project temp folder

The project temp folder is a point for collecting all the files needed for the project as well as all movies contained in the project. This makes it an essential tool for organizational tasks.

- **Material storage**: Files from the Media Pool can be combined in the project temp folder before loading them from there into the project.
- **Organization:** The contained objects can be freely renamed and a description can be added to each object. A virtual folder makes it possible to easily sort objects according to your criteria.
- **Search:** A certain character string can be searched using the search box. This takes entries under "Name" and "Description" into account.
- **Edit:** You can trim different sections from longer videos directly from the project temp folder and then use them as separate objects in a movie or save them as new entries in the project temp folder.
- **Replace:** Finished objects can be dragged from the project window to the project temp folder. The project temp folder can be saved so it can be used in other projects.

Overview



1. Control bar
2. Search field
3. Display Options
4. Scroll bars
5. Display area

The control bar with the search box and the display options are located at the top of the project temp folder.

The project temp folder entries are located below in the display area. The display is different depending on the selected view.

Control bar


Opens the import dialog As an alternative to drag & drop from the Media Pool, this dialog enables one or more files to be loaded into the project temp folder.


This adds a virtual folder to the project temp folder. Additional sub-folders can be added to a folder.


Save or load the entire project temp folder here in order to use it in other projects.


This button accesses the next highest folder level.


Search field: MAGIX Video Pro X searches through all file names in the project temp folder for the text entered and then lists the results.


The display mode is set here. The display mode determines how the entries will be listed in the project temp folder.

Display area

The objects, movies and virtual folders contained in the project temp folder are displayed here. The display options are used to determine how the entries are displayed.

Entries of objects used in a project are marked with a small red checkbox.

Detail view


This view displayed most information about the entries in the project temp folder. The display is a table with multiple columns.

The detailed view can be customized:

- When clicking on a column, MAGIX Video Pro X sorts the entries according to this column.
- Repeated clicking on a column reverses the order of the entries.
- When a column is clicked on and dragged, it moves to the corresponding position.
- If an area between columns is clicked on and dragged, the width of the column that lies before it is changed.

Note: The detailed view is the standard setting of MAGIX Video Pro X.

List view


All entries of a project temp folder are listed in the list view. The entries are sorted according to their names in ascending order.

Each entry has a thumbnail. With video objects, the first frame is used as the thumbnail.

The following information is displayed:

- Name
- Vertical and horizontal resolution (combination objects, video objects and image objects only)
- Image playback rate (combination objects and video objects only)
- Aspect ratio (image objects only)
- Sampling rate and bit depth (audio objects only)
- Length

Large icons



The "Large icon" view displays the thumbnails. Title objects and audio objects contain a corresponding icon graph. For video objects, the first frame of the video is displayed.



The size of the thumbnail is variable and can be set using the slider (using the button displayed).

In the "Large icon" view, only the name of the entry is displayed.

Functionality

MAGIX Video Pro X automatically creates entries in the following cases:

- Each film in the project is always displayed in the project temp folder.
- Each object that is dragged to the project window when loading a file creates and entry in the project temp folder.

You can

- add additional manual entries,
- remove unnecessary entries,
- rename existing entries,
- add metadata to existing entries,
- create a virtual folder.

Entries

The project temp folder supports all object types present in the MAGIX Video Pro X (view page 95).

Objects that are dragged from the project window to the project temp folder are saved with all settings in the project temp folder. This also includes the keyframe animation of effects (view page 156) in these objects.

In addition, all movies in the project appear as entries in the project temp folder. This makes it possible to use movies as separate objects.

Drag & Drop

The project temp folder supports drag & drop in both directions:

- From the project temp folder:
  - to the project
  - to the source monitor (playback and trim (view page 97))
- To the project temp folder:
  - Files from the Media Pool
  - Objects or object groups from the movie
  - Trimmed material from the source monitor

Quick functions

If the mouse pointer is located above a project temp folder entry, the following quick functions are displayed:


The selected entry is played back in the source monitor.


The selected entry can be played back and trimmed (view page 97) in the source monitor.


The selected entry can be applied to the current movie. Please keep in mind that the behavior of MAGIX Video Pro X depends on which insert mode (view page 43) has been set.

Virtual folder

In addition to the entries, you can enter as many virtual folders as you wish in the project temp folder. A virtual folder cannot contain other virtual folders.

Virtual orders are used to sort project temp folder entries. For example, previously edited and unedited material can be easily kept separate (view page 68).

Context menu

When the mouse pointer is located above entries in the project temp folder, the right mouse button is used to open the context menu (view page 331).

Working with the project temp folder

Some examples for working with the project temp folder are shown below.

Filling the project temp folder

Placing material directly in the project temp folder

1. Select the desired media files in the Media Pool.
2. Drag your selection to the project temp folder.

Result: All the selected media files will be added to the project temp folder as individual entries.

Roughly edit the material and place in the project temp folder

3. Select a media file from the Media Pool.
4. Trim this media file in the source monitor (view page 97).
5. Click on the image in the source monitor and drag it to the project temp folder.

   Result: The range of the media file will be added as a new entry in the project temp folder.

   Note: You can also drag the image from the source monitor directly from a virtual folder to the project temp folder. The entry is directly added to this virtual folder.

6. Repeat the procedure from step 2 for each additional section of this media file.
7. Repeat the entire procedure for each additional media file.

Placing objects from a movie in the project temp folder

Note: All media files added to a movie appear automatically as an entry in the project temp folder.

1. Select one or more objects in the movie. You can also select a group.
2. If you want to **copy** the selected objects to the project temp folder: Press and hold the Ctrl key and drag the selection to the project temp folder.

   Result: All selected objects will be added as individual entries in the project temp folder. The objects in the film remain unchanged.

3. If you want to **move** the selected objects: Drag the selection to the project temp folder.

   Result: All selected objects will be added as individual entries in the project temp folder. The objects in the movie are **removed**.

Using the project temp folder as a source

Using entries from the project temp folder in the movie

1. Select one or more entries in the project temp folder.

   Note: Use the quick functions (view page 66) for the preview. The current selection does not change when using the quick functions.

2. Drag the selection to the desired position in the movie.

   Result: All selected entries appear in the movie in succession as individual objects. The order corresponds to their order in the project temp folder.

Trimming entries from the project temp folder and using them in a movie

1. Select the desired entry and drag it to the source monitor.
2. Trim the range in the source monitor (view page 97).
3. Drag the image from the source monitor to the move or use the insert modes (view page 43).

   Result: The trimmed section becomes an object in the desired position in the movie.

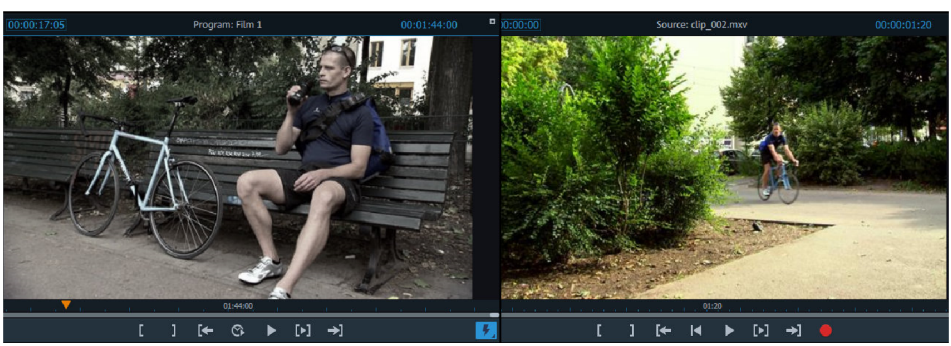
Using the project temp folder as a source and target

1. In order to maintain a good overview, create a virtual folder in the project temp folder and call it, for example, "previously trimmed".
2. Load the entry from the project temp folder to the source monitor in order to trim it.
3. Trim the entry in the source monitor (view page 97).
4. Drag the image from the source monitor in the project temp folder directly to the virtual folder that was created called "previously trimmed".
5. Repeat the procedure from step 3 for each additional section you want to use.
6. Repeat the procedure from step 2 for each additional entry that you want to previously trim.

   Result: All trimmed sections are now contained in the virtual folder "previously trimmed".

Program and source monitor

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



Setting up the preview monitor

Program and source monitors can be set up in various ways:

- The size of each monitor can be adjusted. This can be done by clicking the screen with the right mouse button and selecting the desired size from the context menu, either from the presets submenu or user-defined ("Other resolution").

- Every monitor can be positioned freely. To do this, click on the top bar of the monitor window and drag it with the mouse button held down to the position you want. This may be a separate monitor, for example, where you can maximize the window.

Fullscreen view

The option "Video monitor fullscreen" in the context menu maximizes the monitors. Alternatively, you can simply double-click on one of the monitors or select the desired monitor with a mouse click and press Alt + Enter.

You can also shift the monitors in full screen mode and access the context menu (right mouse button). There, you can also hide and display the transport control, apart from the regular entries.

Tip: Using the "Edit video effects" option in the context menu you can display Media Pools effect settings and edit effects directly inside the fullscreen display.

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

Movie overview

The option "Movie overview" in the "Window" menu enables an overview of the entire project. All objects in the project window are displayed in the program monitor. The overview display is especially recommended for working on long movies because the reduced overview in the program monitor can be combined well with the zoomed detailed view in the project window.

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

- When you click on a particular object in the program monitor, the project window will zoom into the object.
- When you drag on a border in the program monitor, the project window will zoom into the corresponding area.
- When you move the playback marker in the program monitor, the playback marker in the project window will also move correspondingly.

Tip: If you use this option very often, 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 162).

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

Transport console

Both transport consoles enable, e. g. the video material to be played back.





To the upper left, there is the video monitor menu that provides the additional fader as well as, e. g. the jog wheel and functions.



Range: Above the playback functions you can select the range between the in and out points using the mouse.



Playback marker: This marker indicates the position of the image currently displayed by the monitor.



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



To range start: This button sets the playback marker to the start of the current range for control purposes.



Playback around a Frame: A short area around the position of the playback marker will be played back.



Playback/Stop (pause): The playback button in the middle starts playback. A second click stops 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 the specified range.



To range 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 zoom in for precise positioning of the playback marker.



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 specific position can be reached quickly.

Note: Jog Wheel and shuttle-control are hidden if the corresponding video monitor is too small. In this case, simply enlarge the video monitor until both control elements are displayed.



The source monitor also includes these buttons
Jump to movie start: Sets the playback marker in the preview to the start of the movie.

Preview quality switch

You can "activate" a smoother preview if playback performance begins to suffer. This setting does not have any effect on the quality of video files when exporting or burning to DVD. Poor playback performance can be caused by the following:

- Under-performing hardware
- High-resolution source material (HD or higher)
- A very complex project



In the context menu for the preview quality switch, you can set which options you would like to use for the optimized preview.

The options are:

- Reduce resolution
- Reduce frame rate: Reduces the number of frames per second
- Deactivate plugins

  Deactivates all video effect plug-ins (view page 153).
- Deactivate effects
- Use proxy objects

  This option only appears when you activate "Create proxy file automatically" in the start dialog in the movie settings (view page 246).

Note: "Reduce resolution" and "Reduce frame rate" are preset.

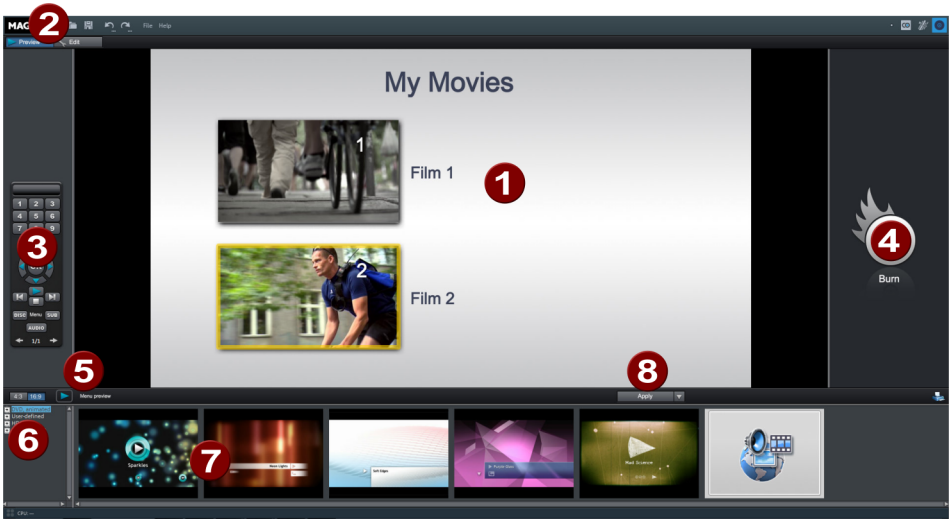
Customizing the workspace

The source and program monitors, the project temp folder, the project window and the Media Pool can be freely positioned or even completely deactivated. Your own configurations in the "Edit" interface can be saved and retrieved at any time by going to "Window" > "Window layout" > "Save...".

The first three custom window layouts are automatically assigned the keyboard shortcuts F10, F11 and F12. By going to "File" > "Settings" > "Keyboard shortcuts..." you can assign keyboard shortcuts (view page 348) to additional layouts.

Tip: The keyboard shortcut Ctrl + F9 can be used to switch between the current interface and the last one you used even if it was not saved.

The "Burn" screen



1 **Menu preview:** Here you can see a selection menu preview. For more information, read the "Edit disc menu" (view page 216) chapter.

2 **Switch views:** Here you can switch between preview and edit views.

3 **Remote control:** Here you can check how your future disc will react when you press the buttons of your player's remote control (view page 216).

4 **Output:**Before burning the project, select the desired format.

5 **Play preview:** Play the preview menu and test how it works with the remote control.

6 **Template category:** Select the desired section from various categories with different menus.

7 **Menu templates:** Switch between different templates for designing your menus.

8 **Use templates:** Here you can select whether a template should be assigned to a page, the menu or all menus on a disc.

You will find more information in the "Burning" (view page 234) section.

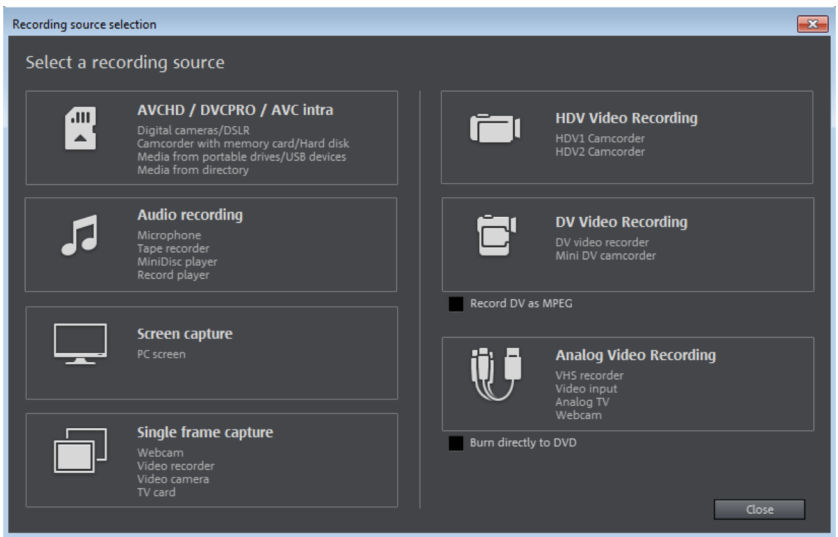
Video recording

Select the recording method



To start recording, click on the red "Record" button below the preview monitor.

The following selections are possible in the dialog window:



- **AVCHD/DVCPRO/AVC-Intra** cameras, but also for digital cameras or video DSLR featuring a memory card or hard drive as well as a P2 memory card for XDCAM. 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 HDV cameras
- **DV cameras** For mini DV cameras and DV video recorders
- **Analog** For analog video cameras, analog TV, VHS recorders, webcams, etc .
- **Audio** For microphones, cassette recorders, MiniDisc players, record players, etc .
- **Screen**: Records directly from the computer monitor.
- **Single frame**: For single and series images from analog video cameras, analog TV, 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. MAGIX Video Pro X automatically recognizes the folder 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.

If a less powerful computer is used, it may be helpful to transform AVCHD files upon import to a MPEG-2 format. A corresponding query appears during importing of these files.

Note: DVCPRO and AVC-Intra import is optional and must be activated (view page 353) subject to a charge.

Note: When importing AVCHD videos it is necessary to activate (view page 353) the MPEG-4 codec and download an audio package upgrade if necessary. MAGIX Video Pro X offers this option as soon as a codec is required.

Tip: The AVCHD import dialog is basically a universal import dialog, appropriate for external hard drives, photo or video cameras, containing usable files. If you find the display filters useful for your camera as well, nothing stands in the way of connecting the camera to the computer and then activating AVCHD recording in MAGIX Video Pro X.

Connect camera

Suitable cameras are essentially available in three varieties:

- **Cameras featuring removable data storage**: These cameras have a slot for a memory card. Your computer should have a card reader for the corresponding memory card, which you can then remove from the camera and insert into the card reader. Different camera models can also 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.
- **Cameras with built-in hard drives:** The camera will respond as a drive as soon as it is connected via a USB cable to the PC. This additional drive will appear in Media Pool.

Hint: The listed options and procedures reflect our experience with what works. Still, we recommend you read the camera's manual for the exact sequence of actions and contact the manufacturer in case of problems.

Import

The option "AVCHD/DVCPRO/AVC-Intra" does not produce a recording as such, but it makes it possible to transfer already created video files and their integration into the existing project.

After selecting the import, the following dialogue will open:



1. **Video source:** Here you specify the hard drive that will be used to access the storage medium or connected AVCHD camera.

2. **Save in following folder**: Create a target folder for the files to be imported.

3. **Advanced settings**: Adjust various settings for the name and date of the files to be created.

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

5. **Preview monitor and transport control** Here you can play back, rewind or fast forward clips in the file list.

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

7. **Options** for displaying files, here you can also specify the criteria which will be used to sort the files.

8. **File list**: The contents of the selected drive are shown here. Use the display filters (10) to reduce the types of files shown.
   You can select every file separately using the little check boxes in order to import them later.

Note: The files are color-coded. The same colors indicate roughly the same recording times, so that you can quickly recognize which recordings were made at the same time. Color assignments come with a certain "intelligence", which means they take into account how far apart the displayed recordings are chronologically.

9 **Import:** Imports the selected file to the target folder.

Cancel: Closes the dialogue without importing.

10 **Display filter:** The display filter can be used to define if certain files should be hidden.

When you **uncheck** a box, the corresponding files will be hidden.

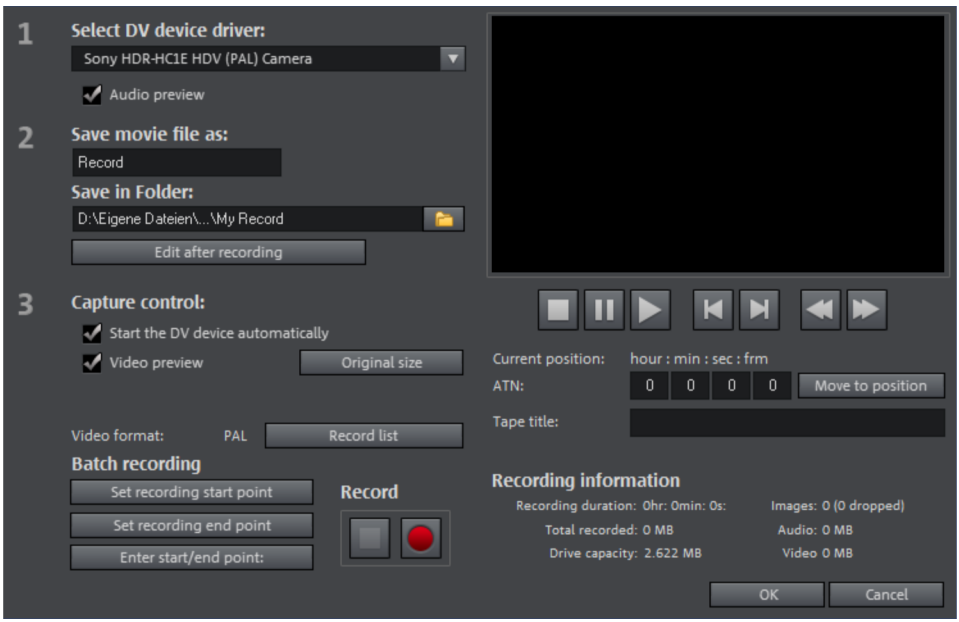
- **Videos:** Hides all video files.
- **Photos:** Hides all photo files.
- **Selected files:** All files selected for import will be hidden. Only the **files which have not been selected** will be displayed.
- **Not selected files:** All files which have not been selected will be hidden. This is useful if you want to check your selection before importing.
- **Imported files:** All files which have already been imported by MAGIX Video Pro X from the specified device will be hidden.

11 **Import options:** Here you can define what happens after import.

- **Insert into movie:** The media will be directly inserted as an object into the open movie. When inactive, they will be simply copied into the target folder and can 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.
- **Close dialogue after import:** The dialogue closes as soon as the import has finished.
-

HDV camera

Use this option to open the HDV camcorder record dialog. To do this, you have to connect an HDV camcorder.



The options in this dialog can also be found above in DV recording.

DV camera

Connect a DV or HDV camera

- 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 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

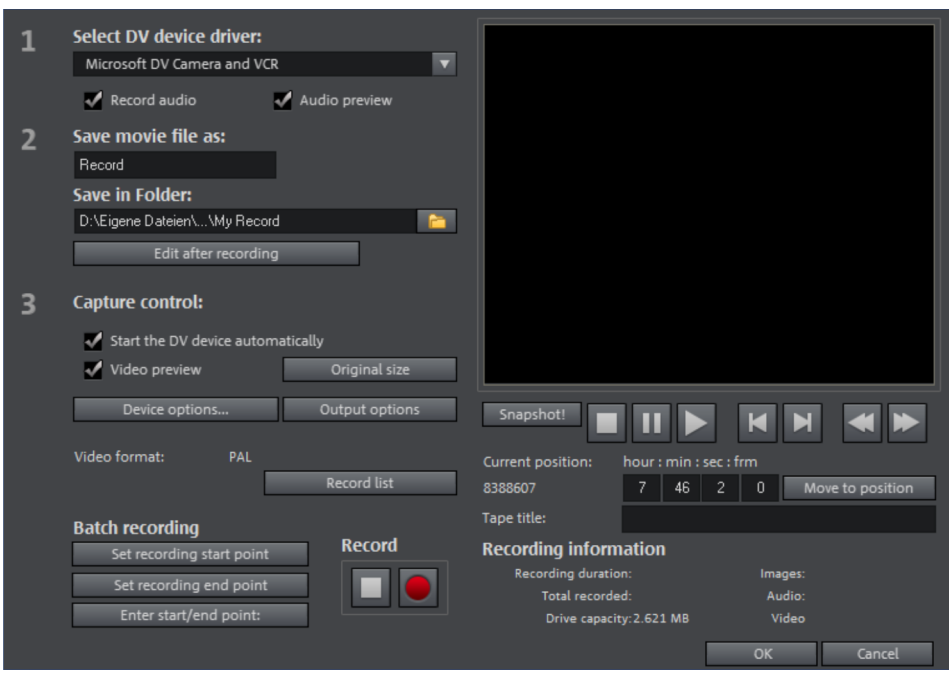
- Select "DV camera" from the recording dialog. Uncompressed DV capture requires approx. 220 MB per minute of video. If you would instead like to record

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 79).

"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 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 (view page 252) under menu item "File -> Program settings -> Path settings".

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

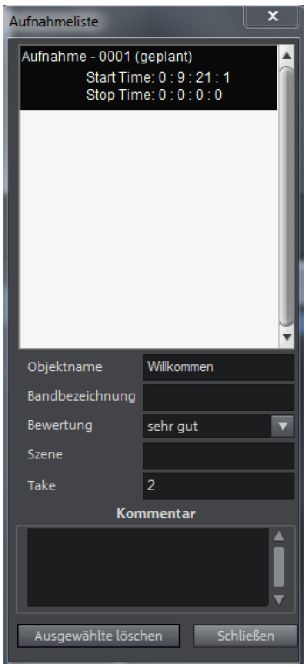
Start the DV device automatically: Starts the DV recorder or DV camera automatically when the "Record" button is pressed. This does not function with all digital cards/video devices.

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.

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 81)



Record 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.

Batch recording: 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 81)"

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

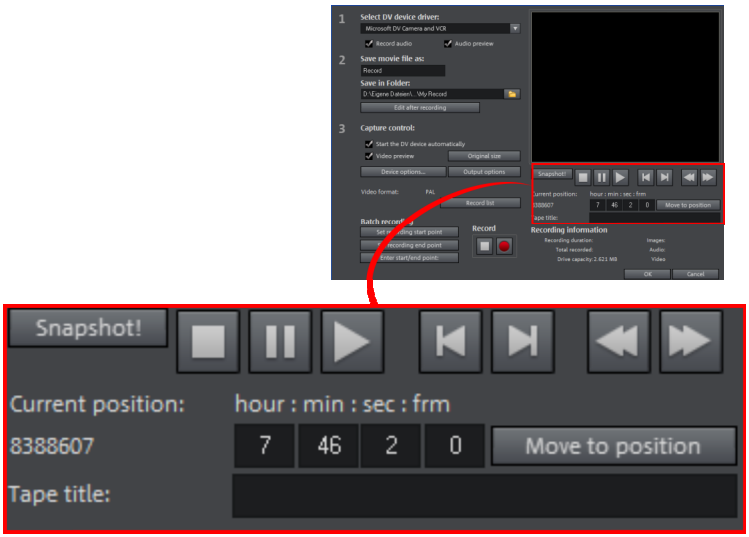
Stop: Stops the recording process.

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 X 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.

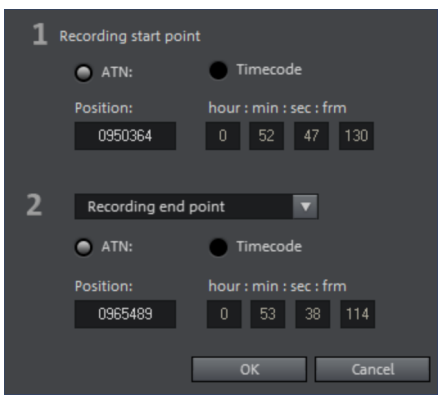


Tape title: Enter a name for your tape here. MAGIX Video Pro X requires this name for the DV logging feature.

Recording information: Displays various information about your recordings.

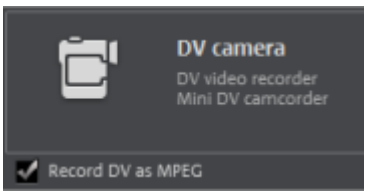
Set recording start/end point: Enter the exact start and end point or the recording length for a scene.

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.

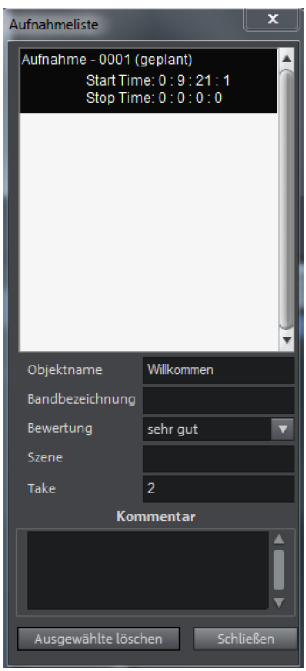


From the "DV as MPEG" dialog window you can find MPEG encoder settings options under "Advanced".

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 81)



Record 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 X 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 X 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

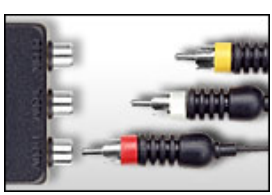
Connect the video out of your video camera, DVD player or VCR to the video in (TV, video, or video-in graphics card) of your computer, and the audio out to the line in of your sound card.

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: Many VCRs have a SCART output and most DVD players have three RCA outputs (two for the stereo track, one for the image). In such cases, you will need a SCART to RCA adapter, a cable with 3 RCA plugs at each end.



SCART/RCA adapter



Scart/RCA adapter with 3 RCA jacks

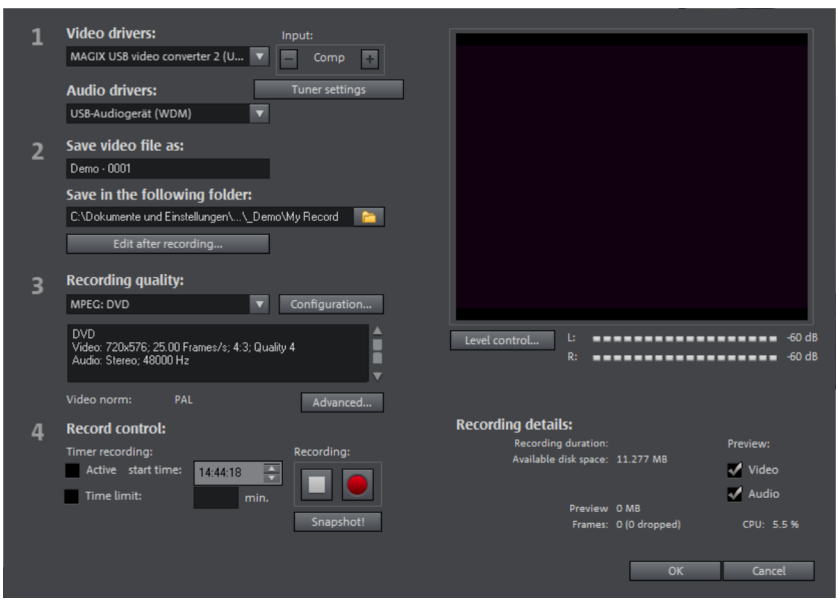


Stereo RCA/mini phone jack adapter

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

You will have to purchase a cable with three RCA plugs and a stereo RCA/mini phone plug adapter.

Record dialog



Video/audio driver: Here you can make settings to you video or sound card before recording. In practically every case the driver software supplied with the hardware must be installed.

Input/tuner settings: Supports your video recording card with multiple sources; in cases when a TV tuner or multiple inputs (SVHS, composite...) are available, you can select the source to be recorded and the correct TV channel.

Save video file as/save in following folder: Enter the name of the movie to be recorded. You can also select the folder where your video file should be saved. 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: This provides access to the automatic editing options.

Recording quality: You can select among various recording qualities depending on intended use of the material 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 X. There are several codecs for various applications, e.g. "MSU Screencapture Lossless Codec", which is used for screen capturing. Please pay attention to the general advice for AVI videos (view page 349).

Tip: Use MPEG presets if you want to burn your recordings immediately after recording, because thanks to the so-called "Smart Encoding" additional lengthy encoding after recording won't be necessary.

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

Recording control: Here you will find the red record button and the stop button. Using them, you can 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!: With Snapshot! you can create a still frame directly from the preview monitor. The images are saved in the recordings folder as graphics files in the resolution you have set.

Recording information: Here you will find statistics about recording time, available disk space, recorded frames and "dropped frames". Dropped frames are frames that have been left out because the computer is too slow for the selected image format and recording quality and cannot accept all incoming frames.

Preview: With some graphics cards, system strain can be reduced by switching video preview off. 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.

Source: 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

Display

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.

Audio

Songs, noises, or instruments can be easily recorded in MAGIX Video Pro X 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 recording sources

First, the recording source must be connected to the computer. There are several possibilities depending on the equipment you are using:

- If you would like to import music from a stereo system, use your sound card's line-in input. If the stereo system amplifier comes with separate line-out or AUX out connectors, they should be used. In this case, they have to be connected to the computer's line-in. Hi-Fi amplifiers usually have RCA (composite) connectors and the computer has mini stereo connectors. You need to then get a suitable cable with two small RCA (composite) connectors and a mini stereo jack.
- If the amplifier comes without separate outputs (other than the speaker connectors), you can also use the headphone jack for recording. Normally, you will require a cable with stereo or mini stereo jacks. This type of connection has the advantage of a separate volume control to set the headphone input signal level. However, headphone jacks are often not very high-quality. For this reason, you should use line-out outputs whenever possible.

- To record cassettes from a tape deck, connect the tape deck's line-outs directly to the computer's line-in.
- When recording LPs, the record player's outputs should not be connected directly to the computer because the phono signal has to be pre-amplified. In this case, connecting through the headphone jack or an external preamp is recommended. Some record players also have normal line-out connections.
- If you would like to make recordings with a microphone, connect it to the computer using the microphone input (usually a red jack).

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 in 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.

Display Volume control: Using the peakmeter, you can monitor the level of the incoming signal. Please read more on this in the chapter "Adjusting levels" (view page 87)

Record: 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.

Play 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 settings for audio recordings

- **Mono recording:** Activate to record in mono. This reduces the required memory space in half. Mono recordings are recommended for voice recordings made using only one standard mono microphone.
- **Real-time resample to project's current sample rate:** Automatically matches the sample rate of a new file to be recorded with the sample rate of the current movie's sound track (set in the video recording).
- **Automatic volume reduction of other audio tracks ("ducking"):** 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 arrangement during the recording session ("ducking"). This is achieved using an automatically configured volume curve: Before and after the recording, other tracks will be faded in or out, resulting in a homogeneous total volume level. (Lowering of volume level during spoken comments is also called "Ducking".)

Single frame

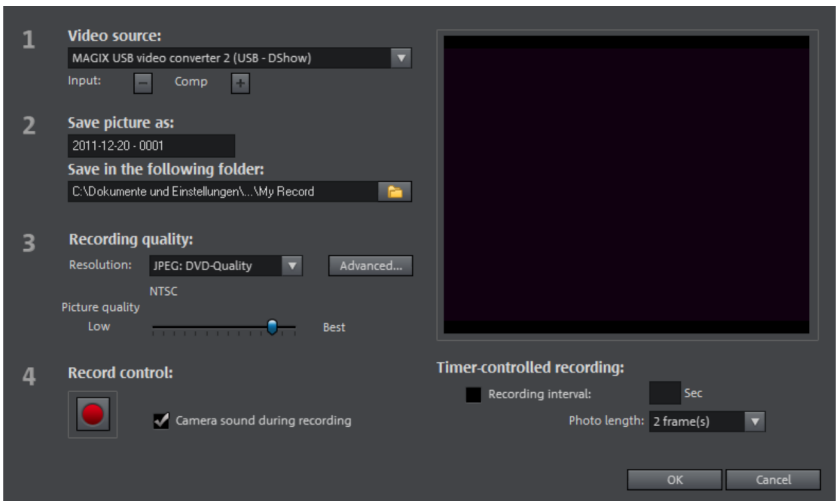
Single frame recording may be used to record snapshots from the connected video source. This requires a DirectShow compatible video recording or TV card or a corresponding USB device (e.g. a webcam).

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

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

Timer-controlled recording

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 accelerated time lapse recording will result.

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

Erweiterte Einstellungen

Hier können verschiedene Einstellungen des Videoaufnahmetreibers vorgenommen werden. Diese Dialoge, sogenannte „Property Sheets“, werden von den Videokartentreibern zur Verfügung gestellt. Die treiberspezifischen Features können in gewissen Grenzen abweichen, auch hat das MAGIX Team nur begrenzten Einfluss auf das Verhalten dieser Treiber. Sollte es Probleme geben, kontaktieren Sie bitte auch den Hersteller ihrer Videokarte nach Treiber-Updates.

Eingang: Stellt den sog. „Crossbar“ (= Kreuzschiene) der Videokarte ein. Mit diesem wird festgelegt, von welchem Video- und Audioeingangssignal aufgenommen wird. Diese Kreuzschiene ist dem eigentlichen Videoaufnahmechip vorgeschaltet, im Feld Output ist der Videoausgang (der Kreuschiene) also der Eingang des Aufnahmechips (Video bzw. Audio Decoder In) der Videokarte. Im Feld Input wählen Sie die Signalquelle aus, die die Videokarte zum Aufnehmen für diesen Eingang benutzen soll.

- Composite In = der normale Videoeingang (i.a. Cinch-Buchse)
- S-VHS In = S-VHS-Eingang (Spezialkabel)
- Tuner In = TV-Signal des eingebauten Tuners.

Videodecoder: Sollte Ihr Bild nur Schwarzweiß sein oder flackern, kann es daran liegen, dass der Videostandard falsch eingestellt ist. In Deutschland wird PAL_B verwendet.

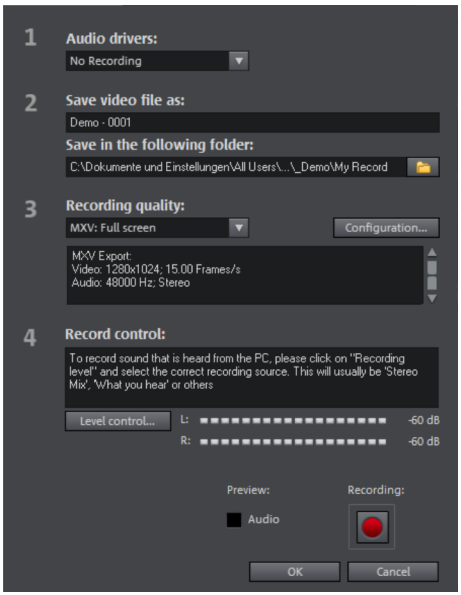
VideoProcAmp: Feineinstellungen für Farben, Helligkeit, Kontrast usw. Es empfiehlt sich, die Herstellereinstellungen nicht zu ändern.

Format: Hier bitte keine Änderungen vornehmen! Einstellungen zum Aufnahmeformat werden im Aufnahmedialog unter Auflösung vorgenommen.

Screen

Use screen capturing to record everything that moves on your monitor. This process is called "screen capturing".

Use this feature to record your screen content. This process is called "screen capturing".

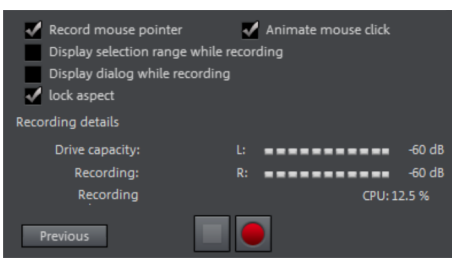


- Under **Recording quality**, you will find various presets for different applications. You can either record the entire monitor ("fullscreen"), a frame of variable size (e.g. to film the Windows Media Player display), or a different video player. Click "Configuration" to make custom size adjustments.

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 preset under "Recording quality". MXV, a video codec especially well suited for screen capturing, will be used.

- Click on the record button in the record 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.
- If you like, you can deactivate "Animate mouse click", if you don't want to visually record it.



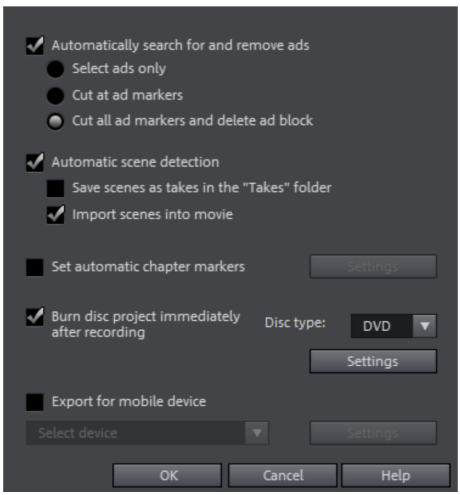


- Now select the screen area you wish to record, i.e. the screen of the video player in which the video is playing. Drag the frame over the area you wish to record and adjust its size as required by dragging the edges and corners.

Note: If you previously selected "Fullscreen", the window will be hidden.

- To start recording, press the red record button. The recording starts; the record symbol appears in the task bar (tray).
- If you are finished with everything, click on the record button or the stop button to stop recording. Recording ends and the recording dialog is visible once again.

Edit after recording



The "Edit after recording" dialog can be opened from the "HDV Camera", "DV Camera" and "Video" recording dialogs.

This dialog offers these options:

- **Automatic scene recognition**: This divides the footage into scenes. Please also read the section "Automatic scene recognition" (view page 270).
- **Automatically set chapter markers**: Please also read the section "Set chapter marker automatically (view page 115)" in the chapter "Edit" in the PDF manual (press "F1").

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

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

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 encoding 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.

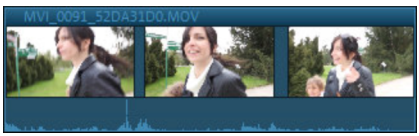
Tip: This function is particularly suitable for handling lengthy projects in one go. You can start recording in the evening and have the finished DVD by morning.

Export for mobile device: The recorded movie is immediately converted into the format of the selected mobile device and transferred. The preset in the list field is the device which has been selected in the Export video/audio dialog.

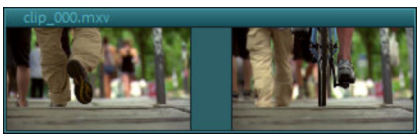
Settings: Opens the Export settings (view page 240) for the selected target device.

Objects

In the MAGIX Video Pro X "Timeline" mode you are dealing with objects. The general term "object" includes all media types that are present on the tracks in the project window. The following object types are found in MAGIX Video Pro X.



Combination objects: Combination objects are video objects with an image track and an audio track. In the context menu, you can add the waveform display of the audio track or add the sound as an independent audio object.



Video objects: Video objects include a file extension typical for videos (e. g. *.mpg, *.avi, *.mxv). Depending on the length of the video object, you will see several frames representing various positions in your video.

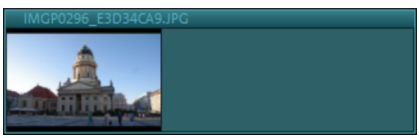
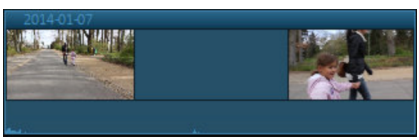
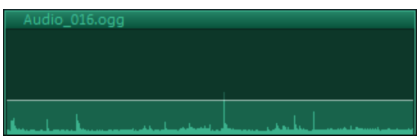


Image objects: Image objects are photos or other static images. They have a file extension typical for an image (e. g. *.jpg, *.png, *.bmp). In contrast to video objects, you will always see only one frame.



Movie objects: Movie objects contain entire movies (view page 20). This enables you to position repeating movie sequences or complex sections as simple objects. Changes to the movie are applied to all of the corresponding movie objects.



Audio objects: All objects that contain only sound are considered audio objects. They have an extension typical for audio (e. g. *.ogg, *.mp3, *.wav). With a right-click you can add a waveform display to any audio object.



Title objects: Title objects are created using the title editor (view page 123, view page 123) and contain the text that appears in your projects. They have no file extensions.

In the following chapter you can read about working with objects. The workflow for all object types is the same.

Insert object into the project

Load files

Files from the Media Pool can be loaded into the project window in various ways:

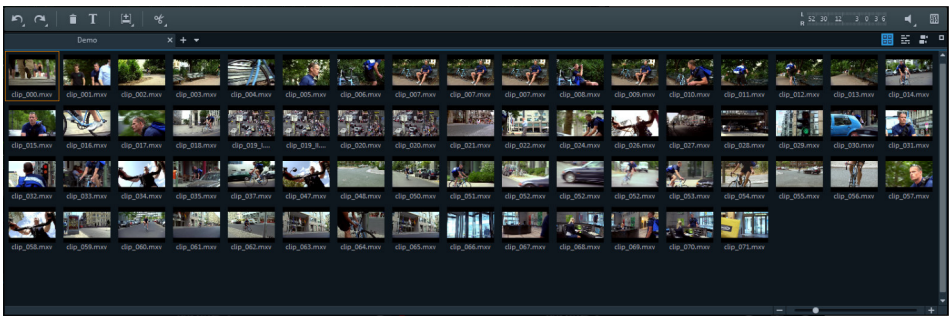
- **The fastest way:** Click on the "Paste" option that appears when you move the mouse pointer over the media file in the Media Pool. Or you can simply drag and drop the file from the Media Pool onto a track. If an object is already present at this position, the file is inserted at the desired time position on the next empty track below.
- **Load several files**: If you want to load several files from the folder, hold down the Ctrl key while clicking on the entries you want to use. If you want to load a sequence of files, hold the Shift key and click on the first entry and then on the last. All entries in between will be selected. Then you can drag all of the selected files onto the track with the mouse button pressed.
- **Use insert modes:** You can also use the menu commands of the "Insert modes" button. For more about this, read the section "Insert modes" (view page 43) in the chapter "Workspaces".
- **Insert through source-destination edit:** These professional insert techniques will be dealt with separately later on (view page 108).
- **Project temp folder**: If you want to combine your material separately, it is recommended to use the project temp folder. It can be used as a sort of clipboard where files that can be used in the project are sorted ahead of time for possible future use. This creates a better overview and saves repetitive, time-consuming navigation through folders in the Media Pool.
- **Movie as Movie Object (view page 98):** All of the movies in the project appear in the project temp folder. These movie objects can be loaded into the current movie using drag & drop.

Files with multiple audio tracks

MAGIX Video Pro X also loads VOB files that contain multiple audio tracks. After the VOB file has been loaded, 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.

Scene overview



The Scene overview allows you to manage and categorize scenes. All scenes are listed one after the other (in multiple lines, like in a text program) and can be copied, cut, moved, deleted and inserted.

"Overview" mode does not indicate start, playback, or end markers. The scene which is currently being played has a frame around it.



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 mode.

Load section from a video vile

Videos can be trimmed in the source monitor before being imported. To do this, proceed as follows:

1. Load the file from the Media Pool in the source monitor:
   - by double-clicking in the Media Pool,
   - from the Media Pool using drag & drop in the source monitor,
   - clicking the middle icon in the Media Pool
     
     (the icon appear as soon as the mouse pointer points to a file in the Media Pool)
2. If you want to have an overview of the video material, first locate the edges of the range. Play back the selected file in the source monitor and determine the range you want to use in the project.
3. Set the range edges (In Point and Out Point):
   - Move the range edges by holding down the mouse button,

- set the range edges with the button
   or
- set the range edges with the keyboard shortcuts I (= **I**n Point) and O (= **O**ut Point).

Tip: You can also set the range edges with the keyboard during playback. This keyboard shortcut is especially useful when setting precise positions with the "Shuttle and jog" wheel.

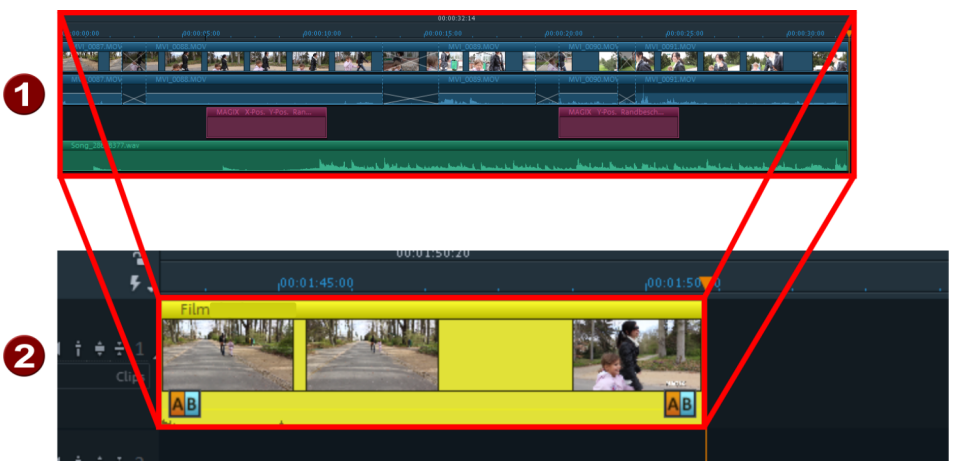
4. If you want to check the range: press the buttons for the range playback (keyboard shortcut: #).
   
   Result: The set range will be played back in the source monitor.
5. Apply the range as follows:
   - Click on the image in the source monitor and drag it into the project window by holding down the mouse button.
   - Use the Insert modes (view page 43) to apply the selection to the project window.
   - Click on the image in the source monitor and drag it into the project temp folder (view page 63) by holding down the mouse button.

   Result: An object corresponding to the selected area will appear on the track.

Tip: You can also use the Insert modes keyboard shortcuts (view page 342)!

6. If you want to load several ranges from the same video file, repeat steps 3 and 4 until all desired ranges have been applied.

Movie objects



1 The movie that forms the basis of a movie object

2 Movie object within a different movie

MAGIX Video Pro X enables you to use entire movies as single objects in other movies.

Movie objects offer the following advantages:

- Complete sections are transferred without having to be rendered and imported again.
- Frequently required scenes can be prepared and used as objects **multiple times**.
- If changes are made to the corresponding movie, they are immediately applied to the movie object.

> **Note:** If you are using several movie objects that belong to the same movie, any changes to this movie will immediately be applied to the corresponding movie objects.

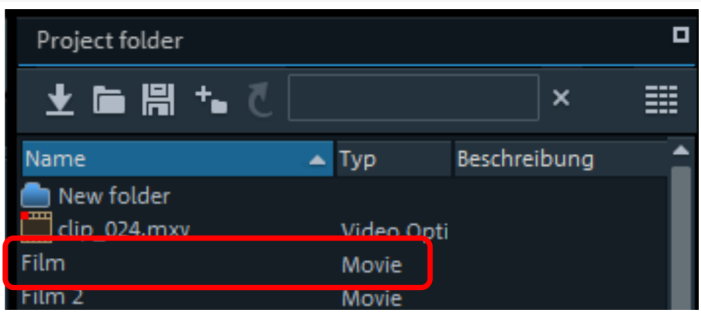
- Movie objects behave the same as video objects. The editing workflow for a movie object is also the same as the workflow for a video object.

Create and import a movie object

> **Note:** Video files saved separately on the hard drive first have to be opened as a normal movie project in order to be used as movie objects.

1. Create or open new movie to be used as a movie object
   Result: The new movie appears in the project temp folder (see illustration).

   > **Tip:** Give the movie a distinctive name to make it easier to find in the project temp folder.



2. Insert the movie from the project temp folder into the „main movie“ using drag & drop (view page 96).
   Result: The movie appears as a Movie Object. The Movie Object can be edited in the same way as a Video Object (view page 95).

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.

Move Objects

Hold down the mouse button to move selected objects to any tracks and positions via drag and drop. It is recommended to place objects that belong together on neighboring tracks and to create separate tracks for audio and video objects. For this reason, videos that should overlay each other should usually be placed on the same track.

If the Shift key is pressed, objects can be moved from one track to another, without the time position being changed.

Separate sound from videos

Videos with audio material appear in the project window as a combination object (audio and video in one object).



Separating audio and image material:

1. Right-click on the the object.
2. In the context menu, select the command "Audio functions" > "Video/Audio on separate tracks".
   Result: The audio object and the video object will be displayed as an object group on two tracks.
3. Select the object group.

4. Open the "Edit" menu and select the "Ungroup" (view page 303) function.
   - or -
   Select the corresponding button on the toolbar (view page 43).
   Result: The objects are ungrouped and both can be edited independently of each other.

The objects can be regrouped together using the "Group" function.

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)

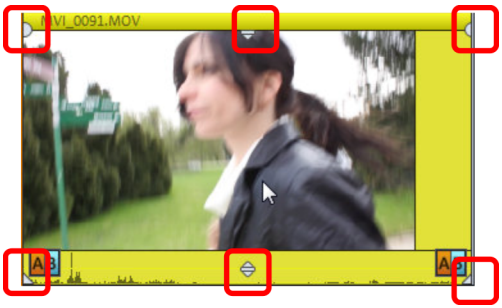
An object can be faded in or out with the handles to the left and right upper corners of the object. Cross-fades between different objects can be created by overlapped positioning of objects that are fading in and out. The length of the cross-fade can be adjusted with the handles.

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.

Object handles for combi objects

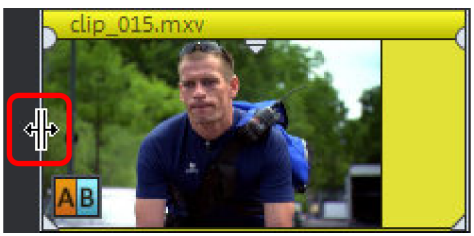
Combi objects have an additional, sixth handle.



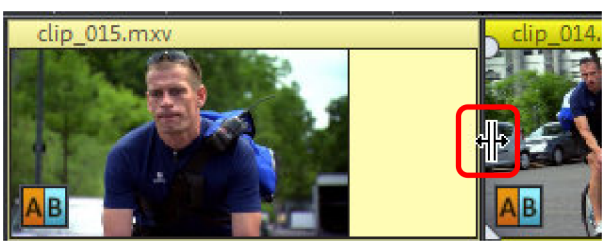
- The four outer handles have the same function as with regular objects.
- The lower middle handle regulates the object's track volume.
- The top middle handle controls the transparency of the object's image track.

Object borders

When you place the mouse pointer on a vertical object border, it will turn into a double line.



If the object doesn't border any other objects, the functionality doesn't differ from bottom handles, which means that you can stretch or compress the object. With a hard cut or a crossfade, the object transition will be moved, meaning that the object start and end of both neighboring objects will remain coupled to each other.



Trim Objects

Trimming provides exact placement of object borders or transitions. MAGIX Video Pro X 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. Replays can sometimes appear shaky because the processor may be over-worked. Those frames that the processor cannot calculate quickly enough are left out.

The **middle play button** plays the arrangement "frame by frame", which means no frames are left out. Depending on the processor load, playback may thus be slower, but still smooth.

The **left play button** renders material before playing, i.e. the current settings are calculated first and then exported. This method ensures a smoother playback.

With the **fast forward and rewind functions** you can change the range start in the timeline. This allows for complete control of transitions between two videos.

Increments: A click on the arrow buttons in both trim editors moves the handle or the material within an object exactly by one frame. With the Ctrl key you can increase the frame rate gradually to 5 frames per mouse-click.

Object trimmer

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: Shift + N

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 project window.

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 project window. These buttons make it easy to move and trim cuts in the arrangement without having to leave the trimmer.

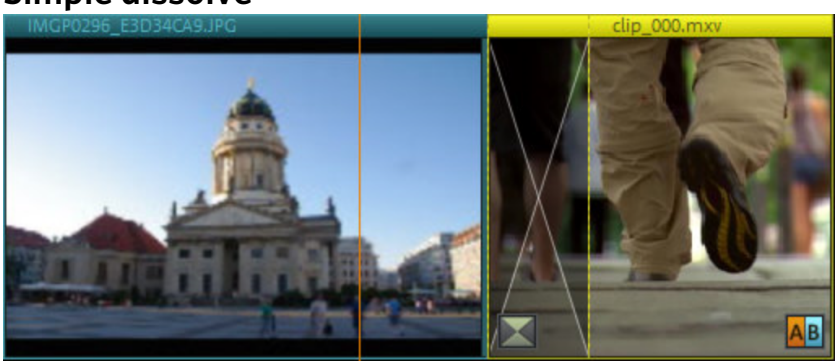
Keyboard shortcut: N

Transitions (fades)

When importing video files into the project window, 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 dissolve



A simple transition can be created in the project window by dragging one object over another. A dissolve 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 dissolve is displayed in the project window by white crossing lines. You can adjust the length of the dissolve 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 transition menu opens. The transition icon will change, depending on your selection.

Transitions from the Media Pool

Tip: Use transitions sparingly! Look closely when you are watching moves in the theater or on TV, you will see that hard cuts are the rule and transitions are used less frequently. Videos appear unprofessional and too ornate if transition effects are added to every change of scene.

- To open the transition folder, click on the "Transitions" button.
- Double clicking on an entry provides a preview of the transition.
- Simply drag the desired transition onto the border between the two transitioning objects. Only when the mouse pointer is placed over a scene change will it turn from a lock icon into an object icon, i.e. you can place the transition at that position. The object at the back will be shifted to the front to accommodate the duration of the transition.

Most transitions can have any length, and if a transition is shortened, it means that the resulting effect is speeded up.

Some transitions can be set even more exactly. To do so, click on the transition icon again and select "Settings..." at the bottom of the menu. Thus, a transition icon in the Media Pool can represent an entire group of different effects.

The so-called alpha transitions (in the subfolders "Mold and Objects" "Iris", "Random", etc.) are actually pre-produced black and white videos that are combined with the alpha keying effect to be used as transitions.

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

Custom transitions with alpha keying

You can add additional transition effects to MAGIX Video Pro X by producing videos containing a transition from black to white in any which way. You can create such a video from any (including color) video material 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 transition directory. It will be available in the Media Pool and in the transition menu.

3D transitions

3D effects offer exciting and varied opportunities to create transitions between two videos. You can find the 3D effects in the Media Pool under "Transitions" > "3D".

The following transition settings are available:

Anti-aliasing: An undesirable step effect is usually created at the borders of 3D objects. Anti-aliasing reduces this effect, but also requires more computer power. The setting applies globally to all 3D fades, switching on anti-aliasing during 3D fades has the effect that all other 3D fades are also affected by this setting.

Horizontal / Vertical Mirror: Use these options to influence the path of the 3D objects within the fades. "Horizontal" mirrors the movement of the object horizontally, i.e. along the X-axis. "Vertical" mirrors the movement of the object vertically, i.e. along the Y-axis.

3D series

The 3D series are a further development of 3D transition (view page 107), 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.

You have the following options to open 3D sequences for photos or scene transitions:

- In Media Pool, click on "Transitions" > "Spatial Transitions" > "3D Sequences". Select the desired 3D series and drag it onto the first scene or image transition where the 3D series should start.

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

Search for gaps

MAGIX Video Pro X 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 gap as range: Spans a section over the selected gap.

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

Keyboard Shortcut: Ctrl + Shift + C

Simple cut

All objects can be split. Each object section then becomes an independent object:

- Select the object to be cut.
- Position the playback marker at the position where the movie is to be cut.
- Select "Cut" among the cut functions in the toolbar or press the T key on the keyboard.



Cut button: Here you can choose between various Cut modes (view page 48).

In order to rejoin these split objects at a later stage, simply select the individual parts and select the command "Group" to join the selected objects into a group. Orders all selected objects into groups.

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 of the print manual.

Two-point edit

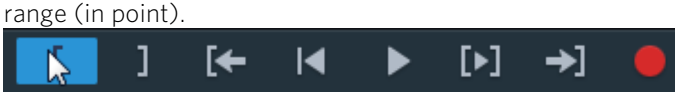
Two-point editing simplifies file import, makes it easy to add new material to specific positions in complex projects. To do this, one point is placed in the project window and another is placed in the source monitor and these are used in one of the following variations:

Variation 1: Source in/Destination in

1. The point in the project window 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").
2. Place the playback marker at the position in the project window where the new material should be inserted.
3. Click in the program monitor on the button in the transport console for the start of the section (in point).



4. Double-click the desired file in the Media Pool to load it into the source monitor.
5. Find the position in the source monitor where the material should be inserted.
6. Click the button in the transport console of the source monitor for the start of the range (in point).

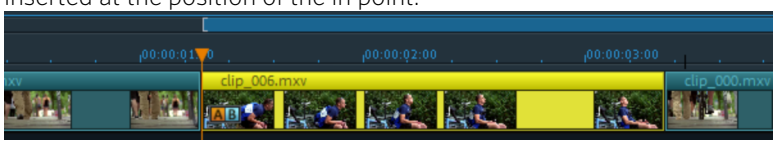


Note: To insert the complete material, an in point does not need to be inserted in the source monitor. Source in will now be the start of the source material.

7. Add the material:
   - Select the insert mode "Overwrite" (view page 46) to overwrite the material in the arranger behind the in point.

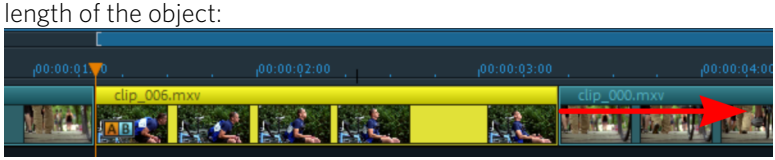
     Result: The total length of the project is not changed. The new material is only inserted at the position of the in point:

   - Or use one of the two ripple modes (single track ripple or multitrack ripple (view page 342)) in order to cut the material at the position of the in point and move it to the back.

     Result: The old material is moved together with the objects behind it to the end of the newly inserted object. This changes the total length according to the length of the object:

Variation 2: Source out/Destination out

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

Three-point editing

The three-point edit is an insert process that operates based on three reference points. It works in one of three ways:

Variation 1: Destination in/Destination out/Source in

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

1. Initially, the program monitor is used to set an in and out point to stretch out a range in the arranger.

2. A third point is then set in the source monitor to define the beginning ("source in") of the material to be inserted.
3. Finally, the range in the project window 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.

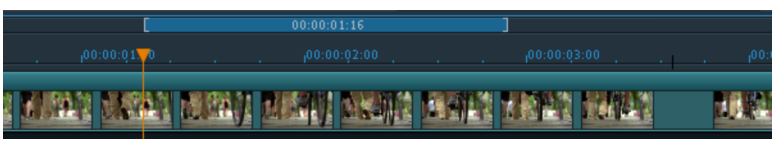
Variation 3: Source in/Source out/Destination in

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

1. Initially, a range is spanned out in the source material using in and out points in the source monitor.
2. A third point is specified in the program monitor which defines the beginning of the material to be inserted.
3. Finally, the range from the source monitor is inserted completely at the position of the in point.

We would like to illustrate variation 1 and 2 using step-by-step instructions:

- In the project, determine an area that corresponds to the time window and position of the video to be imported (destination in/out).

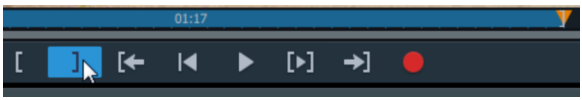


Tip: To keep things clear, it is recommended at the start to cut the material within the range and then to drag it backwards or to delete it from the range so that a gap is present.

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



- Position the playback marker 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 marker 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).

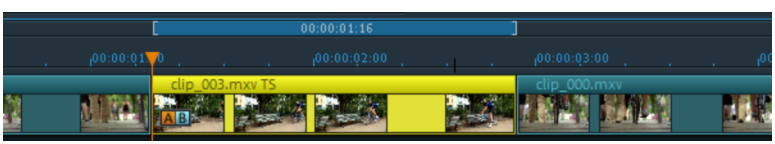


- Select the insert mode "Overwrite" (view page 46) to fill the range in the project window with the new material, replacing it with the existing material.

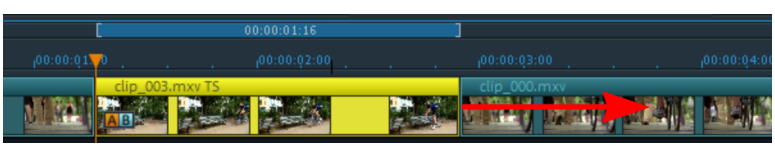


- Or use one of the two ripple modes (single track ripple or multitrack ripple (view page 342)) to cut the material at the start of the range and move it to the end of the range.

"Overwrite" mode does not change the total length of the project. The new material is simply inserted at the spanned out range:



The ripple function moves the material in the range to the back together with the objects behind it. This changes the total length according to the length of the range:



Four-point editing

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

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 project window.

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

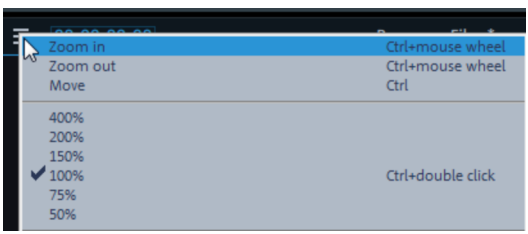
Because timestretching for an audio track is only possible and sensible in certain cases, the audio is removed when larger changes are made (above a factor of 2). A corresponding confirmation dialog appears first so that the procedure can also be canceled, e.g. to carry out a three-point edit instead.

Move the contents of trimmed objects

You can adjust the contents of a trimmed video object quickly and easily without changing the object length.

1. Select the trimmed video object.
   If the video has not been trimmed, the video object contents cannot be moved, because the entire video will be shown.
2. Press "Alt + Shift" and hold down the left mouse button while dragging to the left or right, in order to move the contents inside the video object.

Zoom preview



- The **video image** on both monitors can be magnified or minimized using the zoom buttons.

Note: This zoom applies only to the current view in the preview monitor and will not be applied as a video effect.

Markers

In MAGIX Video Pro X you can set various types of markers within your project.



The **Lock button** (at the very front, next to the time ruler) 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 project window.

The playback marker is displayed as a red triangle below the monitors. In the project window 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 project window. 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 "Edit" menu or the keyboard shortcut "Shift + numerical keys 1-0 (0 for the tenth marker) allow you to set a project marker (view page 305) at the current position of the playback marker. They 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 ten project markers may be accessed via Ctrl + number keys 1-0. 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.

Snap markers and transients

Objects, object edges, markers or the playback marker will jump automatically to particular "Key positions" when you move them close enough with the mouse. This is called "snapping".

Select a location in the object with a snap marker to indicate where another object should snap in. This can be helpful, for instance, if you want a title to be shown at a specific position in a video object.

You can find the "Snap Marker" in the Media Pool under "Effects".

Set snap markers

- To set a snap marker, select an object and place the playback marker at the position where you want to place the snap marker.
- Now click on the button "Set snap marker".
- You can move a snap marker with the mouse using drag & drop.

You can set as many snap markers as you like per object.

Align snap marker with transients

Transients are signal peaks in audio material that can also appear in video footage; e. g. a door slamming shut.

Transients in video footage can be used as a starting point for editing - for instance, fading in a title or making a picture-in-picture effect appear.

The "Align snap marker to transients" feature analyzes the signal peaks of the selected object and sets snap markers to these locations. This moves snap markers that have already been put in place near the transients into the new locations.

Note: Combination objects must be displayed separately so that transients can be seen clearly. In the context menu of the combination object, select the command "Audio functions" > "Video/Audio on separate tracks". Snap markers are set independently of this setting.

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 234).

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

Set chapter markers



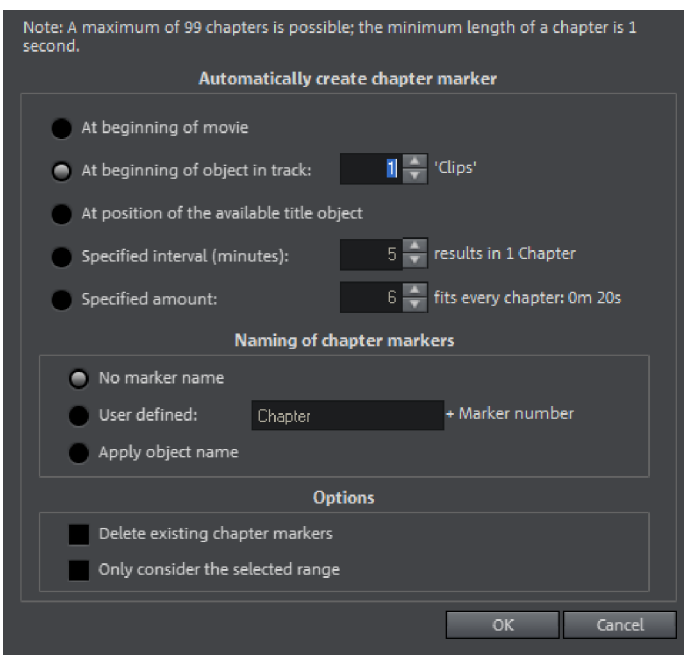
Places a chapter marker at the position of the playback marker. This creates a chapter entry in the disc menu in case the movie is being burned to disc.

You can rename the chapter markers by right clicking and selecting "Rename" in the context menu. The new name will also appear in the chapter menu (view page 217).

Set chapter markers automatically

This option automatically sets chapter markers in the project according to specific rules that will then appear as chapters in the film menu of a disc. This is useful if you need to burn a disc immediately after recording.

Keyboard shortcut: Shift + Alt + Return



Automatically create chapter marker

- **At the beginning of a movie:** The movie contains only one chapter

- **At object starts in 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.

Naming chapter markers

- **No marker name:** Marker name and marker number are not specified.
- **Custom:** You can use a custom name. A sequential marker number will be attached to it.
- **Apply object name:** The marker name is taken from the object name and the text in the text object. **No sequential marker number** is specified.

Options

- **Delete existing chapter markers:** Deletes chapter markers that have already been set.
- **Only take the selected area into account:** The chapter marker is automatically set to the area between the start and end markers only.

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.

Keyboard shortcut: Ctrl + Alt + Enter

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 "Range Playback" 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.

There are various options for changing the playback range, and with it the project start and end markers.

- Set the playback marker at the desired position and press "Set start of range (in-point)" or "Set end of range (out-point)" underneath the monitor to set the in and out points of the range.
- Click on one of the markers below the preview monitor and move it with the held-down mouse key to the desired position.
- Click one of the markers in the upper-most bar in the project window and drag it.
- A right click on the bar moves the range end to the position of the mouse cursor. A left click moves the start of the range. The area grows or shrinks in size correspondingly.
- 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 the Crtl button.

Range markers in the source monitor

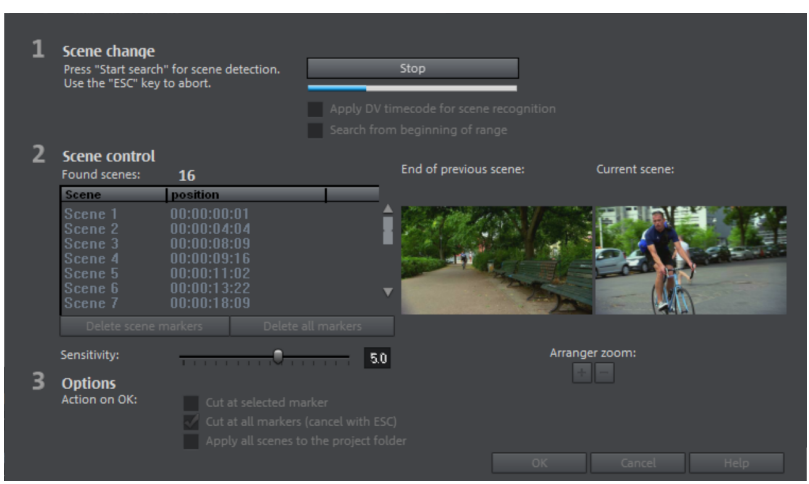
You can set the in and out points in the source monitor in the following manner:

- Set the playback marker at the desired position and press the "Set range start (in point)" or "Set range end (out point)" buttons below the monitor to define the start and end points of your range.
- Click on one of the markers below the monitor and move it to the desired position by dragging it.
- The position of the entire range can be changed by clicking on the blue bar between the two markers with the Ctrl button held down and moving the bar.

For the exact functions of the range markers in the source monitor, please read the section "Loading ranges from longer film files (view page 97)".

Scene markers

Scene markers separate a complete video into scenes. You can load any video into MAGIX Video Pro X and have it divided into scenes. Load the desired video into the project window. Then, right-click on the video and select "Scene detection". 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 the list.

Delete all markers: Deletes all project markers.

Action on OK: You have three options. Either MAGIX Video Pro X splits your video into individual scenes ("Cut at all markers"), a scene is selected and cut only at this position ("Cut at selected marker"), or all scenes are added to the project folder.

After deciding in favor of one of these options, red scene markers will appear on the timeline in the project window. 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 consecutive videos.

Additional information about scene recognition is provided in the chapter "Edit objects (view page 270)".

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 mode in the project window. The top two tracks serve as target tracks; sound and video can copied from up to nine different source tracks. The two most upper tracks need to therefore be empty when changing into multicam mode, if required the objects will be moved onto another track.

First you can 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 some kind of audio cue if sound was recorded.

Note: To localize the sound in the audio track exactly you will have to create a wave display of the track. To do this, right-click on the audio track and select "Waveform display".

If you have one, you can use a clapper to signal the start of a scene. If not, simply having one of the "actors" clap their hands can have the same effect. Set a snap marker in each source object, with to-the-frame precision. You can now move the source objects over each other, so that the grid points are aligned.

In each case two video sources with audio tracks can be automatically synchronized using their audio material. To do this, use the "Align with other audio objects" (view page 122) function in the audio object context menu.

It is also important that you carry out all output material effect processing (e.g. video or audio cleaning) on the objects on the source tracks and master audio track (view page 121) **before** the multicam cut. These object effects are transferred to the object in the target track when editing. Otherwise, you will have to apply the effects from every single object to the target track.

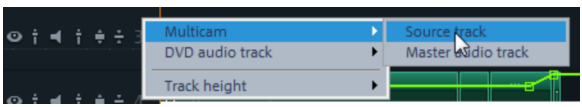


You can activate "Multicam" mode with this button or with the "Multicam" command in the "Edit" menu.

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 is added into the target track starting from this time point.
- To switch the source, click in the source monitor on 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 (view page 103). 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 with 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 at 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 project window, select an area to edit by determining the in point by clicking with the left mouse button 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 audio track

Video objects can be synchronized using their audio tracks. This is done by comparing the audio tracks for similarities. If videos come from the same recording environment, the same acoustic events will be found on their audio tracks (e.g. the sound of the clapper board).

Synchronization of multiple objects on one track is possible.

1. On the reference track, select all audio objects that are to act as reference positions.
2. On another track, select all audio objects that should be moved.
3. Choose the "Align with other audio objects on this track" function from the audio object context menu.

Note: If the desired audio track is found in a combination object, you will find the "Align with other audio objects on this track" option in the "Audio functions" submenu.

MAGIX Video Pro X 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 or comprise a common object, videos are synchronized in the process.

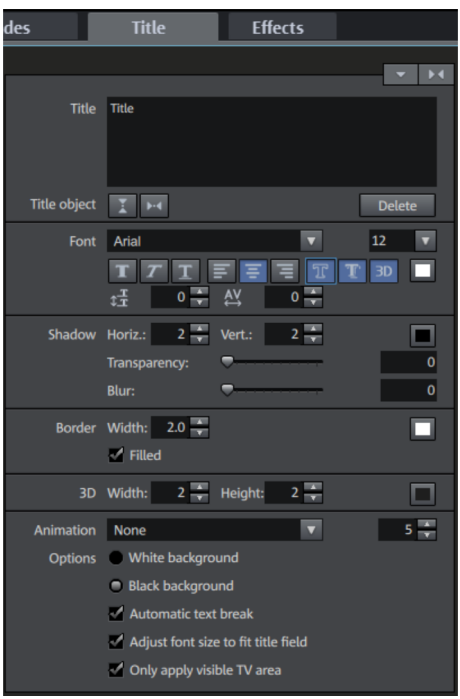
Title

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.

Title editor

In the Title editor you can determine the appearance of your titles. If a title object is already present, you can select either the title object or the corresponding video object and open the Title editor using the "General" button.

You can customize the text properties for multiple selected text objects at once. The settings will only be applied to the text objects you have selected. The individual properties of each text object remain unchanged.



The following editing options are available for selection:

Font

Here you can determine the font type and size of the title. If you click on the small arrow next to the font size, you can change the font size using a smooth slider.

You can set format properties in the toolbars below.



Bold/Italic/Underlined



Left-aligned/Centered/Right-aligned



Font color



Border/Shadow/3D effect/3D title object (view page 124)

Effects

With "Advanced" you will find advanced Title Editor settings (view page 125). "Automatic text break" separates text automatically when the end of the text field is reached. "Adjust font size to title field" changes the font size according to the text field size. You can activate or deactivate this option temporarily by pressing the shift key while dragging the text field handles.

Animation

Here you can set four movement directions to move the title on the image. You can also set any course of movement. Read more about this in the chapter "Animating objects" (view page 156).

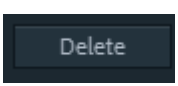
Title object



The left button vertically centers the title object on the monitor; the right centers it horizontally.



Here you can enter text for your title instead of editing it directly in the program monitor.



This deletes selected title objects.



Use the arrow keys in the title editor to move from one title object to the other without having to search in the project window. Captions are not included in this.

3D text

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



This button only appears when you have created a title object and it is selected in the project window.

- Open the title editor and then click on the 3D Title button.

The title object will now be turned into a MAGIX 3D Maker object. If you have also installed MAGIX 3D Maker, the program will open so you can edit the text. Presets are also located in the Media Pool under "Titles" -> "3D". You can enter or edit text here.

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

Other text settings

You can edit titles precisely with different text effects: font, font size, justification, spacing etc.

Line spacing: Cannot be applied to only one line. When applied to multiple lines, this alters the spacing between the lines. Line spacing always applies to the entire line.

Tracking: This controls the spacing between characters. Negative values move the characters closer together, positive values move them apart.

Transparency: Controls foreground transparency levels.

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

Width: Enter the width of the frame in points.

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.

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

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

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

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

Animation: Make your credits scroll down the screen or select one of the many other text movements from the menu. You can also set the display duration for the title here.

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.

Wrap text automatically: When activated a break will be inserted automatically after each line.

Adjust font size to title field: The text size will be adjusted to fit the size of the positioning frame.

Only use visible TV area: The text will be zoomed so that it will always be within the TV's screen area, which is specified in the Movie effect settings (view page 170).

Creating titles using a template

There are a wide range of title templates for fonts, opening and closing credits, captions etc. under "Templates" in the Media Pool (in the "Titles" tab).

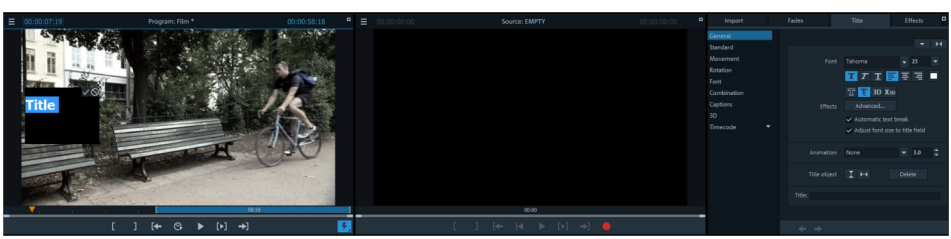
- Open one of these entries and select any title template. Start a preview or add a title to a playback marker location using the quick access feature.

Note: Templates may be applied to an existing title object. Only the text will remain when the template is applied. All other formatting settings will be lost.

Create titles without a template

Here's how you can create titles without a template:

- In the Arranger, place the playback marker at the position where the title should appear.
- Click on the "General" entry under "Title" in the Media Pool.
- Click in the program monitor at the location where the title should be positioned.



- Next, simply enter the text using your keyboard.
- After the text has been entered, click the check mark in the program monitor to confirm it.
- You can format your title later with the title editor in the Media Pool.



You can open the title editor by pressing "T". A title object will be created where you can enter your text directly.

Edit titles retroactively

- Double click on a title in the program monitor (or the title object while in "timeline" mode).
- Now change the text however you like.
- Confirm your entry by clicking the check mark next to the positioning frame.

Position titles

- Click in the program monitor once on the title to access the positioning frame. 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.



Click once on the button in the Media Pool under "Title -> General" to center the title horizontally or vertically in the monitor.

Fade in date as title

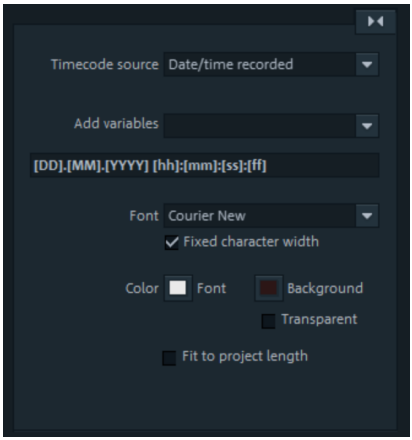
MAGIX Video Pro X is also able to insert the time and date into the image material. To do this, select the option "Show date as title" in the video object's context menu.

If a DV-AVI file is involved (e.g. a digital recording from a camcorder), then the recording date for the selected position will be used. If another type of file is involved, then the creation date of the file will be used as the timecode. Following this, the title editor will appear to adjust the information.

The context menu of the program monitor also features the option "Show playing time". This also creates a timecode.

Timecode

In the "Timecode" section you will find various presets that you can use for displaying the timecode. This function adds a special timecode object to a free track under the video object. You can adjust the position of the timecode by moving the timecode object in the preview monitor. The handles on the borders can be used to adjust the size. Presets can be customized in "Settings".



Timecode source: The type of timecode can be selected here. The choices are:

- **Movie time:** The time position in the MAGIX Video Pro X arranger.
- **Object time:** The time position within the timecode object independent of the movie length and the position in the arrangement.
- **Recording date/time:** The date and time when the footage was recorded. This timecode information must be saved in the video, otherwise the display will be empty.
- **Recording timecode:** The timecode for the video that is created by the camera. This timecode information must be saved in the video, otherwise the display will be empty.

Note: If the recording date/time and the timecode are not saved in the source material, only placeholders in the form of "-" will be displayed.

Add variable: The date/time format of the selected preset will be displayed as variables in the format line (square brackets define a variable). These can be deleted or additional ones can be added. You can also add your own text and adjust the separators between variables.

Font: Select a font.

Fixed character width: For fonts with variable character width (proportional fonts), the display will change during playback because, for example, "1" is narrower than "0". Here you can hide these types of fonts from the selection list.

Color: You can set the font and background color here. If "transparent" is activated, the background will be transparent.

Adjust to project length: Adjusts the length of the timecode object to match the length of the project to ensure that it is displayed at all times.

Counter start/Progress: If you have inserted a counter as a variable or are using a preset, you can regulate how it behaves here. For example , the counter can start with 10 and continue in intervals of 5. If you would like the counter to count backwards, enter a minus sign in front of the number in the "Progress" field.

Effects

MAGIX Video Pro X 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.

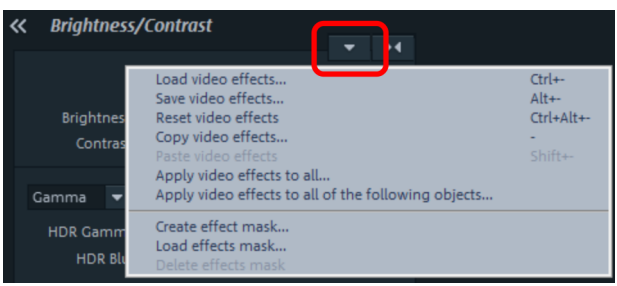


This button resets all of the current effect settings.

Note: If you animated the effect using keyframes, resetting will affect the entire animation. Individual keyframes may be deleted via click + Del (view page 158).

Transfer effects settings

The items video effects (view page 131), movement effects (view page 145), and Stereo 3D (view page 172) 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 later use 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/paste video effects: Copies or inserts the current settings as a new object. Use the dialog to select which settings should be copied.

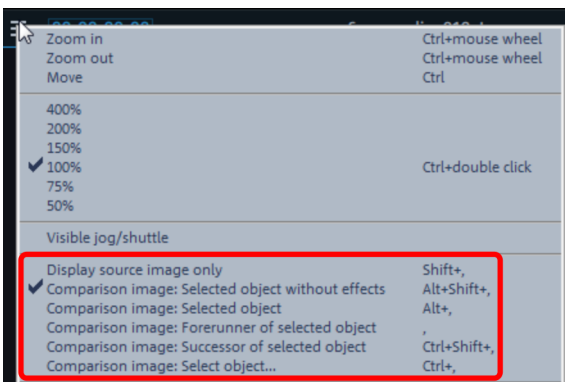
Apply video effects to all: Copies the current effects settings to all objects in the arrangement. Use the dialog to specify which settings should be copied.

Apply video effects to all the 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.

Load effects mask (in the Plus version): An effects mask may be loaded for a selected object.

Comparison image in the source monitor

When editing effects in video and image objects, MAGIX Video Pro X 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 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.

Video effects in the Media Pool

Video effects in the Media Pool can always remain open independently from the selection of an object.

The image is always displayed at the position of the playback marker in the program monitor. To see the impact of the effect settings, you must always set the playback marker to the position where the selected object is located. The playback marker also enables you to jump to a specific position in the video object in order to check the results of the effects by starting and stopping playback.

Brightness & Contrast

You can adjust the selected object's brightness, contrast, saturation and temperature using the curve effect.

- You can select individual channels: RGB for brightness/contrast and individual color curves Red, Green Blue.
- Additionally, you can decide how these curves should behave: Standard mode draws soft curves. In manual mode, you will see handles that can be used to draw soft, linear and freehand curves. In addition, you can individually set how the curve behaves at every location by going to "Selected point".

Keyboard shortcuts:

- Mouse left click adds a curve point
- Mouse right click deletes the selected curve point
- Ctrl and selected point = movement along the x-axis
- Shift and selected point = movement along the y-axis
- Ctrl + Shift + click on curve point = switch between curve modes
- Ctrl + Shift + click on curve handles = changes curve behavior of this curve point

Auto exposure

With this button you can automatically optimize brightness and contrast with a click. Use the fader in the dialog for finer adjustments.

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

Gamma: "Gamma" determines the mean gray value that can be calculated from the various color ranges. In the preset list, select various areas 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.

HDR Gamma: Unlike "Gamma", very dark areas are selectively lightened.

HDR Blur: This changes the transition between light and dark areas together with "HDR Gamma".

Color

White point: An incorrect white balance can lead to an unnatural blue or red hue. Instructions: To use the white balance, click on 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: Interesting color effects can be achieved by setting a color other than white. There is definitely room for experimentation!

Red Eye Removal: Using this photo function you can remove unnatural red eyes that are the result of using a flash. Click on the eye symbol and then select the red pupils in the preview monitor using the mouse.

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 (for example contrast settings) in order to achieve the most natural coloration possible. With some experimenting, you can achieve some amazing results – such as turning summer images into autumnal pictures, or creating funky pop art...

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

Red/Green/Blue: Changes the color portion mix using the slide controller.

Color correction

Secondary color correction allows individual colors in video and image objects to be adjusted. "Highlights", "Midtones" and "Shadows" ranges can be adjusted individually. 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.

Tip: Note: Before using complex color correction, you should first check if "Brightness/contrast" and "Color" functions can help you.

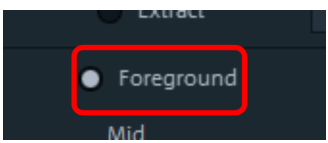
To open color correction, click the video or image object and open the entry "Color correction" via "Video effects" in the Media Pool.

"Insert" allows a color to be selected with the pipette tool to create a mask. MAGIX Video Pro X 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.



Now, shadows, midtones and highlights of the selected color and level will be able to be edited separately in a regular fashion.

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

Shortcuts: Shift + mouse wheel above each color wheel

Correction level: 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.



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

Levels

Levels is a correction filter used to adjust color and brightness in video. By matching your input source with your output, you can precisely compensate for differences and standardize your video signals. This is a very effective method of remapping the total range of the colors and improving the overall quality of the video.



Original



Fixed

- Click on "Apply effect" to activate the Open FX plug-in.

Channel	Select the particular color channel (red, green, or blue) or alpha channel that you want to adjust, or adjust all (which corresponds to adjusting the brightness).
Input Start/End	Use the slider to set the darkest and lightest values in the source material.
Output Start/End	Use the slider to set the darkest and lightest values for the output. For optimal contrast, leave the values at 0 and 100.

Gamma Gamma compensates for difference in brightness between different sources and corrects the output brightness.

Tip: To use this effect properly, you require the measuring instruments Histogram and RGB parade (view page 179).

LAB color

LAB color allows you to manipulate colors in the Lab (L*a*b* or L*, a*, b*) color space. Adjusting colors in the LAB color space allows you to:

- Adjust lightness (brightness) without affecting colors.
- Perform luminosity inversion without affecting colors.
- Change colors without affecting brightness.
- Produce high-quality desaturation and black-and-white conversion.
- Change subsets of colors without affecting their opponent colors.

Brightness The Brightness control allows you to gradually adjust the brightness of the image without changing the colors in an image. Drag the slider to the right to brighten the image, or drag to the left to darken the image.

Channel a The a channel contains green and magenta color information. Moving the slider all the way to the left (-1) shifts the green and magenta colors to green; moving the slider all the way to the right (1) shifts the green and magenta colors to magenta.

Channel b The b channel contains blue and yellow color information. Moving the slider all the way to the left (-1) shifts the blue and yellow colors to blue; moving the slider all the way to the right (1) shifts the blue and yellow colors to yellow.

Invert luminance Select the check box to invert all luminance values, which creates a negative image.

Desaturate The Desaturate control allows you to gradually adjust the a and b color channels to black and white. Moving the slider all the way to the right (1) removes all color from the image, converting it to gray scale.

Glow

Apply the **Glow** effect to create a halo effect around bright objects in a video.

- Click on "Apply effect" to activate the Open FX plug-in.



Original



Glow (Red)

Light intensity	Changes the amount the light radiates (similar to feathering). Light intensity, Effect intensity, and Suppression all work together. Adjust the settings to get the desired effect.
Effects intensity	Adjusts the intensity of the glow color.
Suppression	Drag to suppress the glow so it is applied only to highlights.
Color	Use the values r, g and b for red, green and blue to set the colors for the glow effect.

Tip: Drag the mouse while holding down the Shift key to adjust values more precisely.

Broadcast colors

Computer monitors can display 16 million colors, while televisions display roughly two million colors. This difference means that through editing video on a computer, you can create colors that are out of range for a television display. The visual effects can range from color variations to noticeable ghosting artifacts.

The broadcast colors plug-in can be used to adjust luminance and chroma values where color may be an issue (especially with titles and still images).

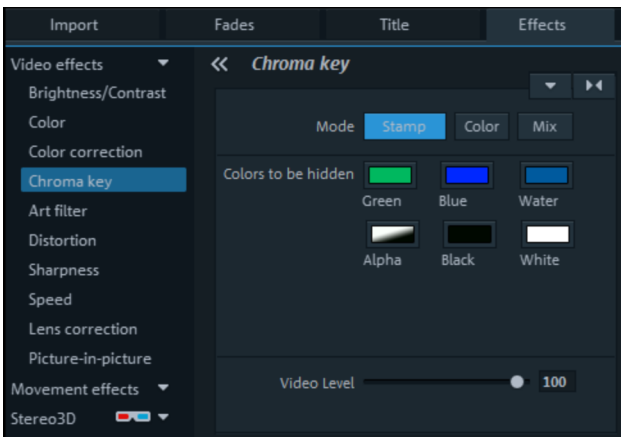
- Click on "Apply effect" to activate the Open FX plug-in.

Luma/Chroma/Composite Min/Max: Enter the minimum/maximum value for luminance, color and composite and drag the Smoothness slider to control how smoothly the luminance values are blended.

7.5 IRE settings: Select this check box if you want to a value of 7.5 for the color black, as is used in the United States for NTSC video.

Studio RGB: Limits RGB values to the studio standard of 16 - 235 respectively

Chroma key



This section contains the effects for chroma keying used to mix together two videos into a foreground and background.

Note: The background video must be placed in the track above the foreground object.
E. G.: Track 1: Background, Track 2: Foreground

Mode

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. 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 145) effect or via the submenu "Section" in "Effects -> Video object effects".

Color: In the preview monitor, drag the cursor over the color that should be transparent and select a section. The video is made transparent in the sections with this color and the video on the top track will show “through”. You can use the "Threshold", "Fading range" and "Antispill" controls to fine-tune your results.

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

Colors to be hidden

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

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

Alpha: This video effect uses the brightness of a video to control a transition effect between two other videos on neighboring tracks. The additional videos should be situated 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.

Video Level

Changes the brightness of the video before additional video effects are applied. This can have a serious influence on the effects, in particular on Chroma Keying. The level setting may be automated so that two videos can be mixed dynamically with each other. Read more about this in the chapter "Animating objects" (view page 156).

Mask Generator

This effect lets you create a mask from any video or image. The video or image is converted to gray scale and made partially transparent. Brightness (**Luminance**), one of the color channels **red/green/blue** or an **alpha channel** (for image files in PNG or TGA format) can be set under **Type** as an information source for transparency.

- Click on "Apply effect" to activate the Open FX plug-in.

Invert reverses the transparent and opaque areas in the mask.

Low in/High in lets you determine a range between the minimum and maximum brightness values for the source (independent of type) for which the image/video will be opaque. If both values are the same, the mask created will have hard borders (threshold value), whereas if the second value is higher, a graduated fade will appear at the mask borders.

Low out/High out lets you set the minimum/maximum transparency value. If lows are increased in value, the entire image will become brighter (less transparent)

Note: 1.0 corresponds to maximum white, therefore maximum opacity.

Stamp forms

Apply the "Stamp forms" effect to punch simple geometric shapes and create picture-in-picture effects in a video.

- Click on "Apply effect" to activate the Open FX plug-in.
  The selected object will be punched in circular form as default. You can also customize these presets the way you want.



Original



Stamp form (Preset=Circle, Center)

Color	Use the values r, g and b for red, green and blue to set the colors for the borders. (This is only visible when borders > 0; see below)
Shape	Choose a setting from the drop-down list to determine the cutout shape.
Methods	Determines what part of the video image is revealed/masked: • **Cut everything apart from section:** The cutout shape forms a window which displays your video. • **Cut section:** The cutout shape covers your video and the area outside the shape is visible.
Feather	Drag the slider to determine how smoothly the cutout border fades into the background.
Borders	Drag the slider to determine the size of the border around the cutout shape.
Repeat X/Y	Drag the slider to repeat the cutout shape along the horizontal or vertical axis by the number of times specified.
Size	Drag the slider to set the size of the selected cutout shape.
Center	Drag the slider to set the center of the cutout within your project's video frame: 0.00, 0.00 represents the lower-left corner of the frame, 0.50, 0.50 represents the center, and 1.00, 1.00 represents the upper-right corner.

Art 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!

Move: 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.

Colorize: 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.

Lens reflection

Apply the "Lens reflection" effect to simulate the light reflected by a camera lens.

Light color: Set the color value to which you want to apply the effect.

Light position: Set the position of the light source that creates the Lens Flare effect.

Lens type: Click on a lens in the drop down list to select the number of light flares to be created.

Tint: Drag a fader or enter a value in the field to set the strength of the tint that will be applied to the light source.

Intensity: Drag the slider or enter a value in the field to set the strength of the effect.

Blend: Drag the slider or enter a value in the field to set the transparency for the light flare effect. Setting 0 is fully transparent; setting 1 is opaque.

Size: Drag the slider or enter a value in the field to set the size of the light flare effect.

Perspective: Drag the slider or enter a value in the field to set the angle of the light flare effect.

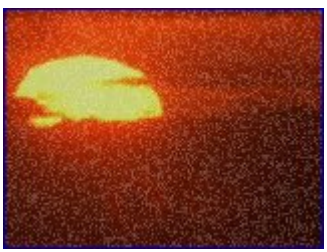
Noise

Use the Noise filter to add static or noise to a video sequence. When applied to a simple background with a monochrome setting and then animated, it can produce a pattern similar to that on a television when no transmission signal is obtained.

- Click on "Apply effect" to activate the Open FX plug-in.



Original



Noise

Noise level	Determines the strength of the effect.
Monochromatic	Select this option to make the noise all one color. When this option is not selected, the static will appear with random colors.
Gaussian noise	A method for creating more intense noise.
Animate	Check this box to make the noise move randomly.

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

Sharpen: This fader allows you to increase the sharpness of the image.

Blur: This fader allows you to reduce the sharpness of the image, making it blurry.

- **Apply to:** This allows you to set just how much the sharpness or blur should be applied to surfaces or edges. This enables you to effectively reduce ongoing image distortions (noise).

Artificial blur: Here you can blur the image in an alternative manner. The achieved effects are much stronger compared to simply sliding the "Blur" fader.

- **Quality:** Enhances the artificial blur.

Tip: Artificial blur is useful for creating transitions. To do so, you can animate (view page 156) the first video so that it is strongly blurred and let the second video begin with blur and slowly return to normal focus.

Directed blur (Plus/Premium version): Select between linear, radial and zoom-blur. Depending on the type of blur, you can specify the angle and its direction or the center.

- **Intensity:** Lets you specify how distinct the effect should be.
- **Quality:** The higher the quality, the more precise and finer the effect.

Note: The higher the quality, the longer the calculation will take.

Unsharp mask

This filter lets you achieve high-quality sharpness. It's named after the process of sharpening an image by comparing it with a blurred copy, where the differences between the two images are used to increase contrasts.

- Click on "Apply effect" to activate the Open FX plug-in.

Intensity	Lets you specify how distinct the effect should be.
Radius	Set a radius for the filter to search for details to help it sharpen the image.
Threshold	**THRESHOLD** sets the minimum value for difference in brightness between original pixels for replacing them.

Gaussian blur

This filter adjusts the video focus and adds blur and soft focus effects. It can also be used to flatten certain types of noise or as a correction filter.

Horizontal range/Vertical range: Drag the slider or enter values in the editing fields to specify the number of pixels in a block.

Color channels: Select individual color channels (Red, Green, Blue or Alpha) to which you want apply blur. If the video or image contains an alpha channel, applying blur to this channel can enhance transparency and the mask dissolve.

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 project window is automatically shortened.

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

Algorithm: Here you can determine how to adjust the soundtrack. "Timestretching" changes the playback speed, without influencing the pitch: "Resampling" changes the playback speed together with the pitch (the faster the playback, the higher the pitch).

Reverse playback: With this button the playback direction will be reversed (with the same tempo).

Interpolate intermediate frames: Activate this option if your video lags as a result of being slowed down. MAGIX Video Pro X then automatically fills in missing frames so that your video can be played back more smoothly.

Maintain length: If you shorten an object in the arranger, you can play a video faster without reducing the object length. The shortened footage is used to maintain the object length.

Lens correction

With the lens correction you can remove image distorions caused by certain lenses. Even so called "converging lines" can be easily straightened. Here is an example:



Original image



Image after editing

Setup

- **Lense:** Affects the curvature of the image
- **Section//zoom:** Corrects the black edges that appear around the image when changes are made to the "lens" parameter.
- **Automatic:** Automatically sets the "Section/zoom" parameter to remove black edges caused by changes to the "lense" parameter.

  Note: Manually changing the "Section/zoom" parameter will automatically deactivate this.

- **Perspective:** Strongly upward or downward facing image material often contains distortions which are unnatural for the human eye and causes so called "converging lines". This parameter balances out these distortions, allowing images with "converging lines" to appear more natural.

Tip: The lens correction parameter can be animated (view page 156). This is particularly useful in videos where the perspective changes, causing, for example, converging lines to also change over time.

Shot match

Match the appearance of two video clips to each other. The colors and tonal values of two separate videos are aligned fully automatically.

You can do this in the following way:

1. Click on **'Start comparison mode'** to switch the source monitor to preview mode.
2. Then select a source image from the program monitor (left) and a target image from the source monitor (right).
3. Now click on **'Apply shot match'** to transfer the source image characteristics (left) to the target image (right).

Tip: Remove checkmark in front of the "Shot match" button in order to hide the shot match. Set the check mark again, and the shot match will reappear. You can also use this for comparison during color assignment under "Manual adjustments".

You can adjust the result by activating **"Manual adjustment"** and then picking and assigning individual colors.

1. Using the pipette, select a color that should be matched from the source monitor (left).
2. In the target monitor (right), select the color that should be replaced. MAGIX Video Pro X replaces the color.

Tip: You can conduct color assignments without a preliminary shot match.

Shot match works best under these conditions:

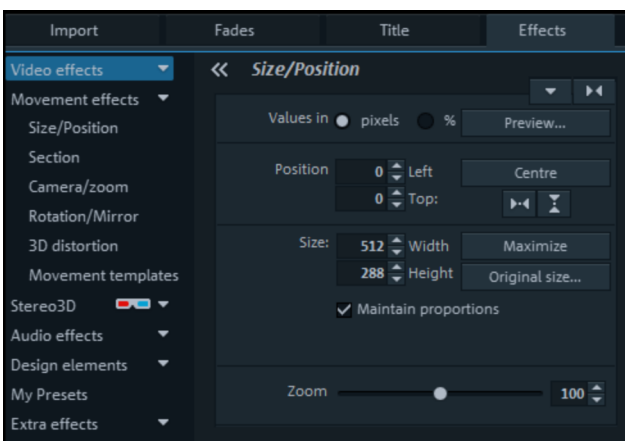
- The same scene has been filmed with multiple (different) cameras from various perspectives.
- The same scene has been filmed in different lighting conditions.

If the conditions are different, the result may be suboptimal.

Note on multiple selection: If multiple objects are selected as target objects, then the object selected last will serve as the target. The target image is set as usual in this target object. This sets the Shot match result which can be applied to other clips.

View and animation

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 here.

Height: Enter the height of the image here.

Maximize: The image is maximized to the resolution of the film.

Set original size: The image will be scaled to its original size.

Fix proportions: This option makes sure that the image will not be stretched or distorted. The ratio between width and height will always stay the same.

Note: In the preview monitor you can use the object handles on the sides of the decorative element to adjust its size. The additional handles for rotation located at the top can be used to tip the element and align it with a background object.

Zoom

Use the zoom slider to enlarge the complete section proportionately (values greater than 100) or to reduce it (values less than 100).

Note: When zooming, the image will be centered automatically, i.e. anchor point = center point.

Section

Note: In order to move the section with a movement effect across the image, please refer to the following section "Camera/zoom" (view page 147).

Sections may be used to display only part of the image.

- You can specify an image section in the preview monitor. Use the eight handles to reduce the frame displayed in the monitor and move it to the desired position.

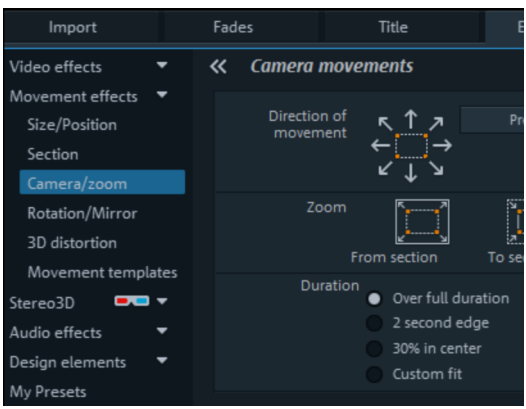
Preview: With this button you can preview how segment will look like in the movie. Click on this button a second time in order to keep editing this segment.

Movie size: The section will be adjusted to the size of the movie. This way if your raw material is, for example, in 4K quality, you will get a section in top HD resolution.

Keep proportions: In this menu, you can select the format for the section. The format of the original picture is used as the default.

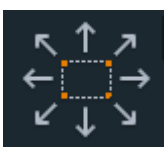
Fullscreen: If this check box is selected, the opened section will be zoomed to fullscreen. If this option is deactivated, only the section of the image within the frame will be displayed and the edge will remain black or filled with the object behind it.

Camera/zoom



With this effect, you can move a previously selected frame inside the image, creating an impression of camera movement or zoom.

Movement in direction



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.

Zooming



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.

Duration

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 "Use custom settings". Read the section "Retroactively editing an effect's keyframes" (view page 158) in the chapter "Objects".



Reset: This option applies a static zoom to show the selected section of the picture only.

The size and the position of the image can be roughly entered in the program monitor by simply moving the image into it and dragging on the handles. The frame of the video monitor with handles can also be moved with the keyboard.

Keyboard shortcuts for moving the edges of the frame that are visible in the video monitor:

Nudge the screen 1 pixel:	Arrow keys
Nudge the screen 5 percent:	Shift + arrow keys

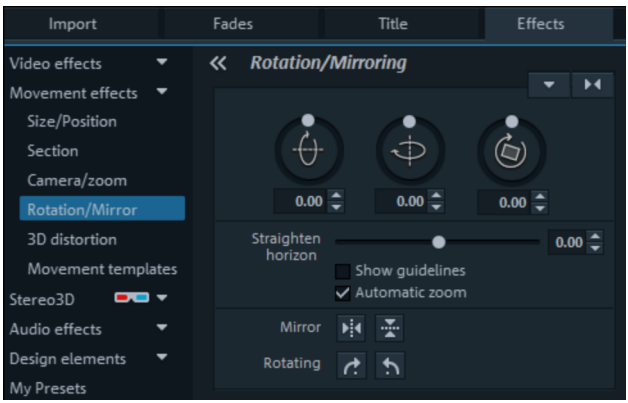
For animated movement effects, it often makes sense to zoom out of the video monitor and use the resulting workspace to, for example, let a minimized image or text object move through the picture.

Keyboard shortcuts for the preview picture:

Thumbnail zoom in/out:	Ctrl + mouse wheel
Move thumbnail:	Ctrl + left mouse button + drag

See the "Animation from outside of the image" (view page 162) section for more detail.

Rotation/Mirroring



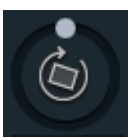
Rotation



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 using 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.

Zoom automatically: This function is preset to active. Unwanted black borders that result from horizon straightening are eliminated by zooming in on the image.

Note: If the image format does not completely conform to the current movie format and already has black borders, these cannot be eliminated with the horizon straightening function.

Mirror/Rotate

Mirrors the image on the vertical axis.

Mirrors the image on the horizontal axis.

Rotates the image 90° clockwise.

Rotates the image 90° counterclockwise.

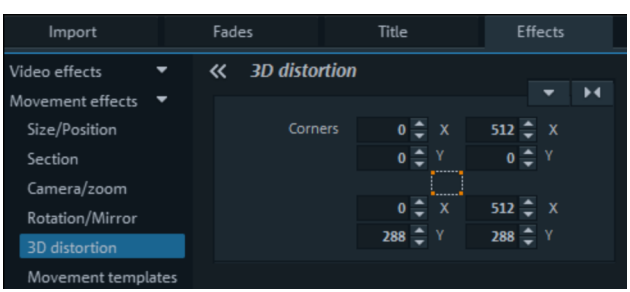
Rotate image on monitor

In addition to the settings options in the Media Pool, you can also rotate a video object directly on the monitor.

To do this, move the upper middle handles that are located within the monitor image.



3D distortion



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 preview monitor using the mouse here.

Note: Unlike 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.

Movement templates

This is where you can find finished templates for movement effects that can be applied to objects.

360° effects in the media pool

This is where you'll find the 360° video editing effects. For more information, read the paragraph on 360° videos (view page 286) in the "Wizards and special functions" section.

Stereo3D in the Media Pool

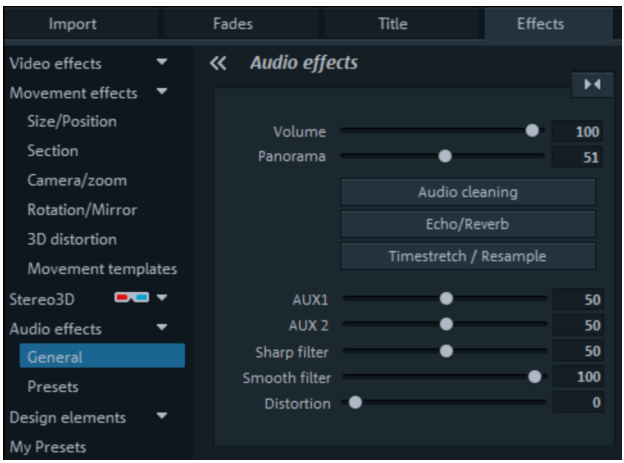
This accesses the program's Stereo 3D functionality. Please read the corresponding chapter "Stereo3D". (view page 172)

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 187) section below for more detail.

General options



Under "Effects -> Audio effects -> General", you will find audio effects that can be animated using effects curves (view page 156). 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 189), Echo/Reverb, and Timestrech/Resample (view page 194) 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 presets

In the Media Pool you will find a broad palette of effect settings which you can add to audio objects via drag & drop.

Design elements in the Media Pool

This catalog contains a wide selection of decorative elements: templates for collages, color fields for your own backgrounds or test images and image objects that can be freely positioned and animated.

Here you can first look and see what is available.

- Open the categories one after the other to get a general impression.

A simple example for use are the frames (Media Pool > Effects > Design elements > Image objects > Present). These are various arrow icons that are equipped with a video mix effect. You can use these to select a certain part of your image.

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 fading in and out.

Note: Some design elements require a free track 6. In the case of these elements, you will be informed by a dialog before you can use them.

Lookup Tables (LUT)

Lookup tables (LUT) contain predefined values that can be called up without having to be calculated first. They are used in various industries, as well as image processing, for example for improved color reproduction.

You can use lookup tables in the creative sphere to give your movies a specific look, e.g. "Matrix" style.

Lookup tables can also be used to calibrate log/flat formats. Some cameras offers these formats to create original material with lower contrast for improved processing later. The manufacturers of such camera models usually offer corresponding lookup tables for conversion.

At this time, MAGIX Video Pro X supports lookup tables in cube format.

Some lookup tables for specific movie looks are already included and can be selected. Try out to see if you can find the right look.

Tip: Search using the terms "colorgrading lut" or "cube lut" for the right lookup tables on the web and save these to your PC. You can then load and use these in MAGIX Video Pro X.

My Presets in the Media Pool

Your 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 Presets". 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 effect plug-ins are additional programs from third-party manufacturers that can be used to apply additional video effects to video objects. MAGIX Video Pro X supports the plug-in format of the freeware video editing software VirtualDub, as well as the

"VitaScene" and "Adorage" programs by proDAD and effects based on OpenFX standard.

Install the OpenFX plug-ins and click in Media Pool under "Effects“ > "Additional effects“ on "Scan“ and restart MAGIX Video Pro X. OpenFX plug-ins appear directly below and are ready for use.

Important applications for plug-ins:

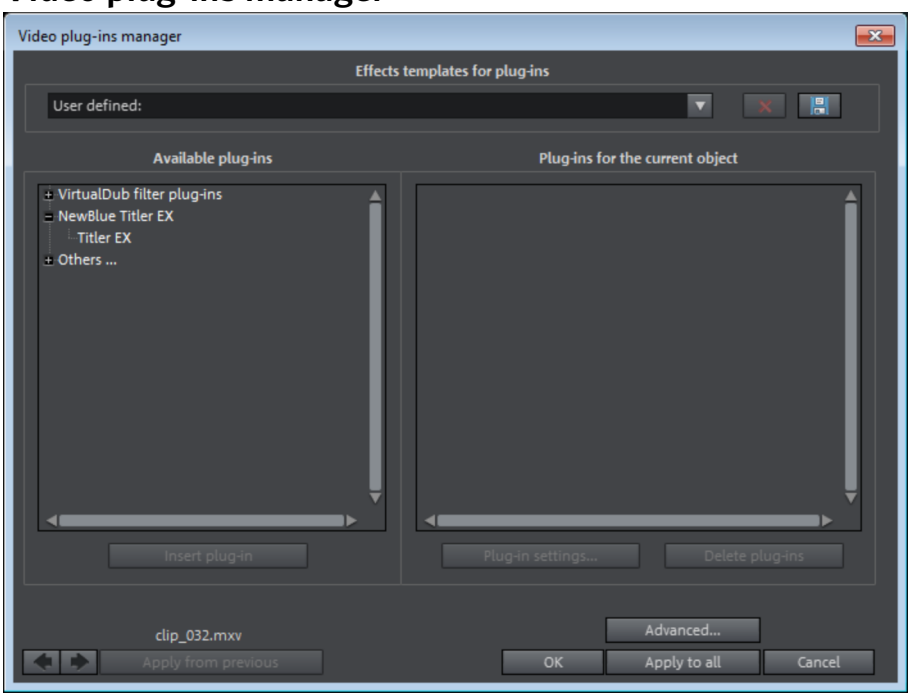
- Removal of broadcast logos
- Removal of interference
- Addition of special effects

Using video effect plug-ins

First select the video or image object. Then open "Effects -> Additional effects -> Plug-in manager" in the Media Pool menu. This opens the manager dialog for video effect plugins, which lists all available plugins on the right side of the dialog.

Note: In order to use plug-ins, you have to install them first. After you install the plug-ins, they will appear in the plug-in manager.

Video plug-ins manager



Effect templates for plug-ins: MAGIX Video Pro X does not include plug-ins due to licensing reasons.




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 will be added to the editing chain ("Plug-ins on the current object" list on the right side of the dialog). You can load as many plug-ins as you like simultaneously. They are then edited subsequently according to the list sequence. The plug-in order can be changed using drag & drop in the list.

Plug-in settings: Opens the settings dialog for the selected plug-in. All plug-in settings for the entire list can be saved together as a preset (effect templates for plug-ins).

Advanced...: Opens the dialog with advanced settings.

Navigation buttons: Switch to the previous or next movie via the navigation buttons in the lower part of the dialog of a movie.

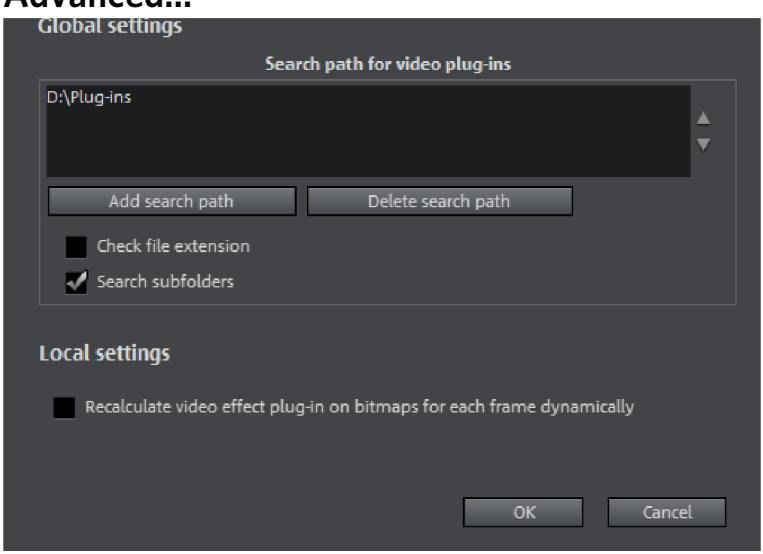
Last used: The settings used for the last videos will be applied. This option is active only if you edit one image after the next using navigation buttons (see above).

OK: Settings will be applied to the current video.

Apply to all: Effects will be applied to all objects included in the movie.

Cancel: The dialog will close, settings will not be applied.

Advanced...



In the "Advanced" dialog, you can specify the search path for plug-ins. MAGIX Video Pro X 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 subfolders: Extends the search to subfolders below the selected paths.

Local settings

Recalculate video effect 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.

Animate objects, effect curves

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:

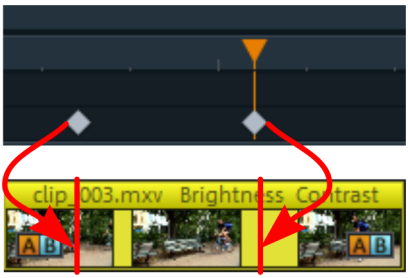
- Combined objects
- Video objects
- Image objects (still images)
- Title objects
- Audio objects (in the Media Pool under "Effects" > "Audio effects" > "General")
- MAGIX 3D Maker objects (3D texts)

Preparing animations

- First, select the object in the project window 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.

Note: You can also use the timeline in the project window for exact positioning. Using project markers (view page 113) is recommended in this case.

- 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.

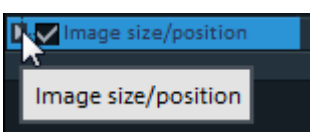
Copy keyframe

- Select the keyframes to be copied by clicking them and then press the "Copy" button.

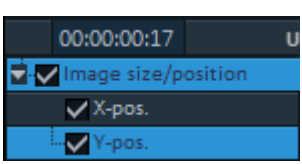
- Next, set the playback marker at the location for insertion and the press the "Insert" button.

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.

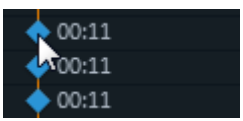
Note: Only those parameters are listed which are used for the animation. As soon as another parameter is required for editing the effect, it becomes visible to you here.

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.

Delete keyframe



Select the keyframe to be deleted by clicking it.

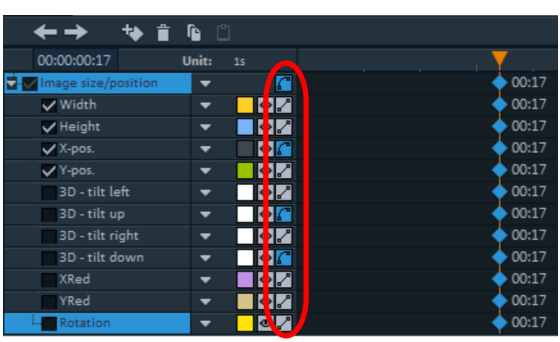


This button removes the selected keyframe.

Keyframe interpolation

Keyframe interpolation refers to the process of how the transition is made from one keyframe to the next. This can either be constant ("linear") or flattened ("Bezier").

The interpolation type for each animated effect can be set using the interpolation buttons in front of the keyframe bar.



In addition to the standardized curve progressions you can also create (view page 160) any kind of curve progression you like.

Linear interpolation



Linear interpolation is the default setting.

This transfers the values evenly as a straight line to the following keyframe.

Soft movement

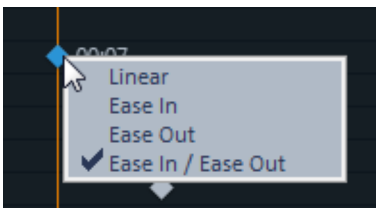
The automatic Bezier interpolation applies an approximation curve at the keyframe.

This makes the movement progression softer and more natural.

Manual Bezier interpolation

Manual Bezier interpolation enables you to set the value for each keyframe separately.

To do this, right-click on one of the keyframes in the keyframe bar. This will open a context menu with four options.



Linear (default setting): Keyframes set to "Linear" are entered and left with a constant parameter change.

Ease In: In this setting the parameter change slows down just before the keyframe. The effect curve before the keyframe is slowly flattened. The effect curve after the keyframe proceeds in a linear fashion. This setting is not suitable for the first keyframe.

Ease Out: In this setting the parameter change starts after the keyframe and becomes slowly more intense. The effect curve after the keyframe starts off flat and becomes progressively steeper. The effect curve before the keyframe proceeds in a linear fashion. This setting is not suitable for the last keyframe.

Ease In/Ease Out: This sets the options "Ease In" and "Ease Out" in combination.

Note: Please keep in mind that the settings for two keyframes that follow one another always work together. This means that if you set one keyframe to "Linear" and the next one to "Ease In", the effect curve will still be slightly bent. In this case, a complete linear change of the parameter can only be achieved by setting the second keyframe to "Linear" or "Ease Out".



Example:
Left keyframe: Ease Out
Middle keyframe: Ease In/Ease Out
Right keyframe: Ease In

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.

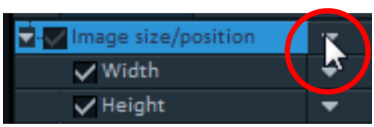


Edit curve points: The curve point can either be edited with the individual curve points (in "Standard" mouse mode) or by freely drawing the effect curve (in "Curve" mouse mode).

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**.

Combine effects curve 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 curve: 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 effects 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: 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.

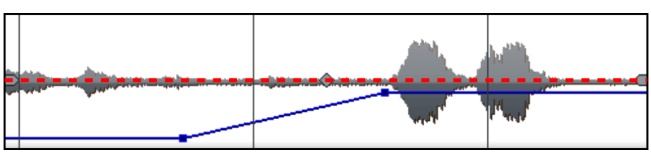
Stretch/Compress

Time: 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.

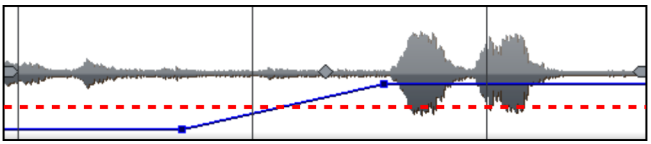
Effect: The effect curve is stretched or compressed in its values, no time-related editing takes place. The selected option (see table) is decisive in editing.

Mirror: The entire curve is mirrored along the X-axis, whose position is determined by the following option (see table).

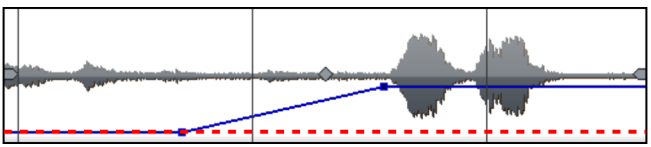
... around object center: The X-axis lies exactly at the center of the object.



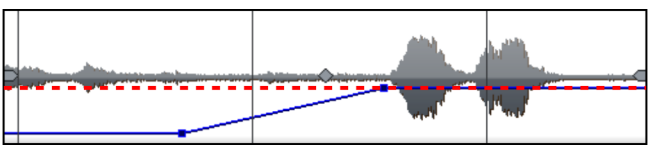
...around curve center: The X-axis lies between the upper and lower automation point.



...around curve minimum: The X-axis lies at the level of the lowest automation point.



...around curve maximum: The X-axis lies at the level of the highest automation point.



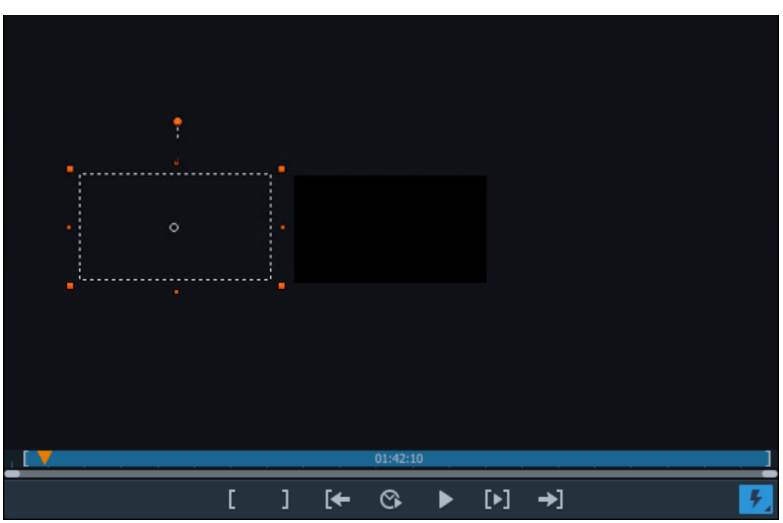
Animations outside of the image area

Animated effects are useful for making objects or titles appear to "fly" across the image. In this case it is recommended that the start and end point of the animation are placed outside of the image.

This will require a video object and a second object to be animated, for example a title or a small object to float across the video image.

Here's how it works:

- Click on the program monitor and zoom out of the video image (Ctrl + mouse wheel). This displays the workspace at the edges of the reduced preview image.
- Select the effect "Size/Position" (view page 145).
- Move the object to be animated to the position on the workspace where the animation should start; for example, to the left of the preview image:



- Position the playback marker at the location where the animation should start.
- Create a keyframe for the animation start.
- Position the playback marker at the position where the object to be animated should disappear from the image.
- Move the object to be animated to the position on the workspace where the animation should end; for example, to the right of the preview image.
- A second keyframe for the end of the animation will be placed automatically.
- Play back the result.

The object to be animated should now fly from left to right through the video picture.

Create effects masks

Create effects masks with MAGIX Video Pro X

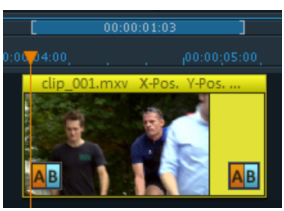
Effects masks help you to apply effects in different areas of one video image with varying intensity. A specific image is used as a mask to determine the specific areas where the effect should be applied.

Typical application include:

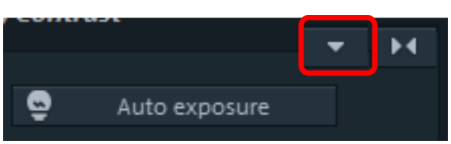
- Image optimizations: A typical example are horizontal camera pans of the horizon, where the lower or upper image area should be made brighter or color-adjusted.
- Eye-catching color gradients, colorations, etc.
- Special effects such as pixelation of a car license plate.

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.

Proceed as follows:



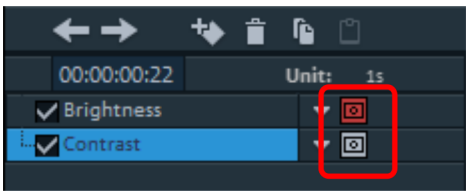
- Select the object in the arrangement to apply the effects mask to.
- Open the desired effects page in the Media Pool.
- In Media Pool, set the effect parameters which should be applied with the effect mask. These must be parameters from the "video effects" area (without "speed" and "chroma key").



- Click on the button with the arrow pointing down on the effects page and select "Load effects masks" from the menu.

In the folder that opens you will now find templates for SD and HD material. Double click on the mask that you would like to use. The brighter the area in the effects mask,

the stronger the effect will be. Black indicates no effect, and white indicates full effect. If you use your own color images, only the brightness values will be used.



- In the effect overview you can also make settings that will apply the effect mask for all other effects, too. Click on the masking button for each effect, for which the effect mask should be applied.
- Click on the down arrow button again and select the "Delete effect mask" entry from the menu to remove the effect mask.

To now apply the mask on a certain portion of the video image, you have to edit it further. 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 145).
- 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 166)".
- Or animate the effect mask object directly. To proceed, please read the "Animate objects" (view page 156) section.

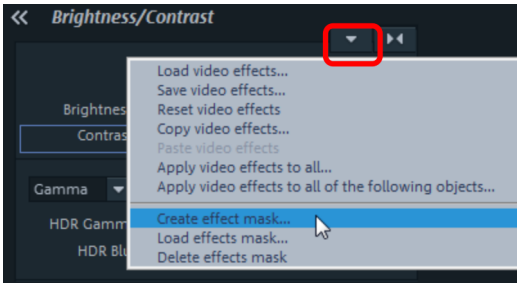
Tip: You can also use your own effect masks. Any image or photo in JPEG format can be used. You can draw a suitable image in a graphics program, save it as a JPEG and load it using the "Load effects mask" option in MAGIX Video Pro X.

Designing effect masks with Xara Designer

You can also create animated effect masks in Flash format to adjust the effect regulation to the moving video images. To do this you will need to have either Xara Photo & Graphics Designer 2013 (or newer) or Xara Designer Pro X (or newer) installed on your computer.

Please proceed as follows:

1. Select the image or video object for which you would like to create an effect mask.
2. Open the effects page in the Media Pool that will be used as the effect. Click on the down arrow button and select "Create effect mask".
   Here you will also see the option for deleting the effect mask if necessary.



MAGIX Photo Designer or Xara Xtreme Pro will start with the animation document and the opened frame gallery. The first frame will be added automatically and will display the selected image or video object from MAGIX Video Pro X.

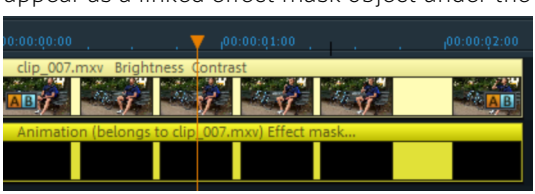
3. **Create effect mask:**

Note: Be aware that the lighter the effect mask, the stronger the effect will be later in MAGIX Video Pro X. Black indicates no effect, and white indicates full effect. The best option is to color the object that will be used as the effect mask white and to adjust the intensity of the effect yourself in MAGIX Video Pro X.

1. Use the tools in the editor to create the desired mask form. Add an object that marks the area where the effect should later be applied. It will automatically be assigned to the first frame.
   With the "Invert mask" function in MAGIX Video Pro X you can use an object to indirectly select the precise area where the effect should not be applied.
2. Color the object white.
3. Give the object a name by clicking on "Names..." in the context menu. Enter the name under "Names" and click on "Add" and then "Close".
4. Create additional frames by clicking on "Copy" in the Frame Animation Gallery. The object that should move will automatically be added to the new frame. With each new frame the video moves to the corresponding position making it easier for you to adjust the objects directly on the video image by moving them to the right position.

Tip: More information about Flash animations is available in the documentation for the editor.

4. Close the document from the external editor. You do not need to save it because it is automatically transferred to MAGIX Video Pro X when it is closed. It will then appear as a linked effect mask object under the image or video object.

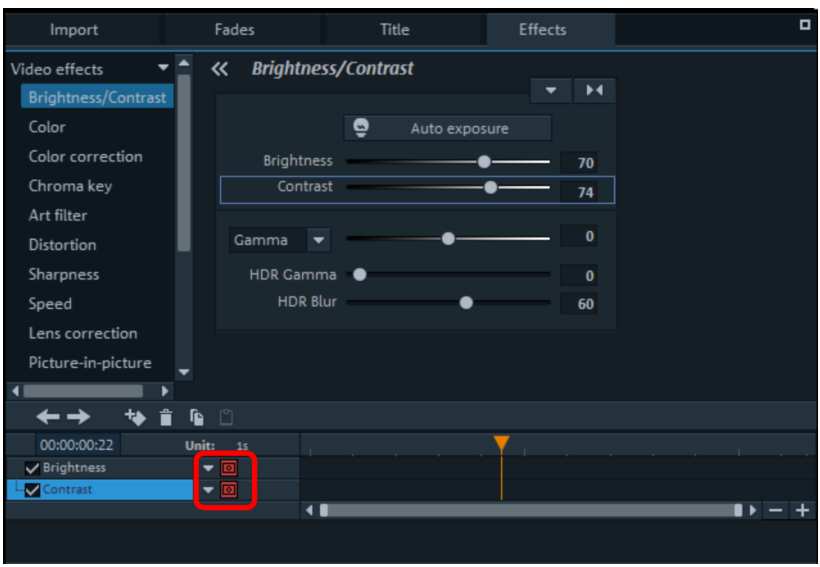


If you would like to edit the effect mask retroactively, double-click on the effect mask object to start the external editor with the opened mask.

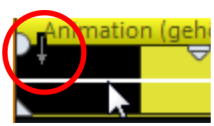
The next thing to do is set up the effect that will be regulated by the effect mask.

5. **Set up effect:**
   1. Select the source object for which you just created the mask.
   2. Set up the effect parameters in the Media Pool that should be regulated by the effect mask. These must be parameters from the "Video effects" area (without "speed" and "Chroma Key").
      The effect will be applied to the whole object.
6. **Activate effect mask:**

   In the effect overview click on the mask icon in the bottom edge of the Media Pool for every effect the mask will be applied to.
   You can invert the effect mask by clicking on the small arrow on the left of the effect mask object. The effects will then be applied to the rest of the image instead of the mask.



Reverse mask



You can reverse masks: To do so, click on the arrow in the mask effect object which appears as soon as you place the mouse cursor over it. All dark areas will become light and all light areas will become dark. By clicking again, you will remove the reversal again.

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.

Create overlay graphic/animation

Create vector graphics or animations in an external editor such as Xara Designer Pro in order to use them as overlay objects in MAGIX Video Pro X. A typical use scenario would be to draw an object in order to darken certain portions of the video, such as a black bar to cover a person's eyes. Overlay objects aren't bound to the source material by grouping. They can me moved and edited as you please.

Note: This menu will appear only when a corresponding graphics program is installed on your PC.

To create an overlay object, proceed as follows:

1. In the arrangement, select the image or video object, for which an overlay effect should be created.

2. Right-click on this object and in the context menu select "Create overlay graphic/animation".

The external graphics editor will be launched. Your selected object will be displayed to help you get a better idea of how to best design your overlay.

3. Create the template for the overlay object. You can use all editor functions.

4. Close the editor You don't have to save the project in the editor, as the overlay object will automatically be transferred to MAGIX Video Pro X and placed below the image or video object when the program is closed.

You can continue to edit it in MAGIX Video Pro X as you wish, for example using Animated movement effects (view page 145).

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".

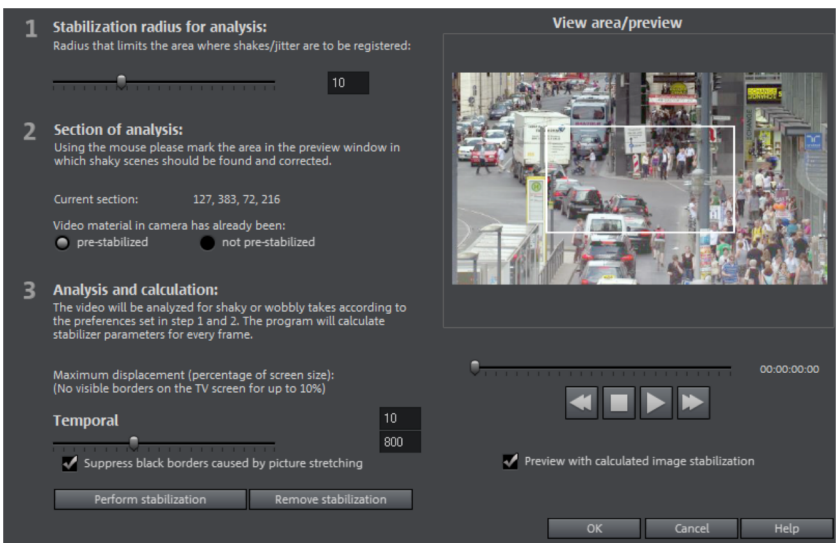
Functionality

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



Stabilization radius for analysis: To prevent the image stabilizer from recognizing every camera movement as unwanted shakiness, you can determine the radius within which movement is accepted; the larger the stabilization radius, the more shakiness is corrected. Changing this parameter will require re-analysis of the source footage.

Section of analysis: This area determines the area of the footage that should be analyzed. The center of the image is preset. If shaking occurs in one area more than in another, then you can move the analysis area (e.g. a foreground element at the edge is especially shaky). To do this, use the mouse to “capture” the shaky area. The smaller the area, the quicker the analysis will be calculated. Generally, changing this parameter will require re-analysis of the source footage.

Maximum displacement: Correction moves the image accordingly to the shaking movements. This means that the edge of the image will be removed. This value determines how large the edge area is which may be cut away by the stabilization feature; the smaller the value, the less movement correction. Changes to this value are immediately applied.

Temporal smoothing: This value determines the speed of the movements considered shaky. 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 accepting changes to settings.

Reset: Resets the current settings.

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.

Brightness/Contrast

Brightness: Use the sliders to reduce or increase the objects' brightness.

Selective brightness (gamma): “Gamma” determines the mean gray scale that can be calculated from 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 power of the brightness/darkness adjustments.

Contrast: You can increase or lower the object's contrast.

Color space correction: 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.

Image sharpness

Use the slider to adjust the sharpness or blurriness of an entire slideshow.

Apply to: Set whether the sharpness should only affect edges or whether the blurriness should only affect surfaces. This enables you to effectively reduce ongoing image distortions.

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..

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TV cropping

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.

Show TV screen area in 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 border range 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 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 X.
- 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 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 crop adjustment: Select this option if the edges are cropped during playback on your television. Values stored in "Film effect settings (view page 170)" will be applied.

Stereo3D

MAGIX Video Pro X enables the editing and creation of "genuine" 3D videos and photos. First, let's create an overview of this complex topic by familiarizing ourselves with the most important principles and the golden rules that are involved. Next, we'll look at the individual steps of the workflow in more detail.

Note concerning 3D content: Some people experience unpleasantness (e. g. headaches, straining, exhaustion of the eyes, or nausea) when viewing 3D videos. We recommend taking regular breaks for this reason. In case of problems, the user should immediately stop use and refer to a doctor or optometrist. Incorrect production of 3D-content may also produce these symptoms.

Warning for small children: The sight of small children (especially those younger than six years old) is still developing. We recommend referring to a doctor or optometrist prior to allowing 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 173) 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 146).

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 X.



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	Equipment	Requirements
View partially interlaced	Polarizing filter	• Polarizing filter glasses • Special monitor, typically referred to as a 3D monitor or similar

Note: You can choose between right or left image first, depending on which type of display produces better results on your monitor.

Shutter export	Shutter mode	• nVidia 3D Vision Kit • 120 Hz monitor/projector • 3D TV device
Side-by-Side-Display	Side-by-side	

Note: You can choose between right or left image first, depending on which type of display produces better results on your monitor.

Note: These three modes should be set only when the preview image is to be exported to a separate monitor or TV device. Shutter mode also requires a 3D-capable graphics card.

Anaglyph display	Color anaglyphs	• Red/cyan glasses

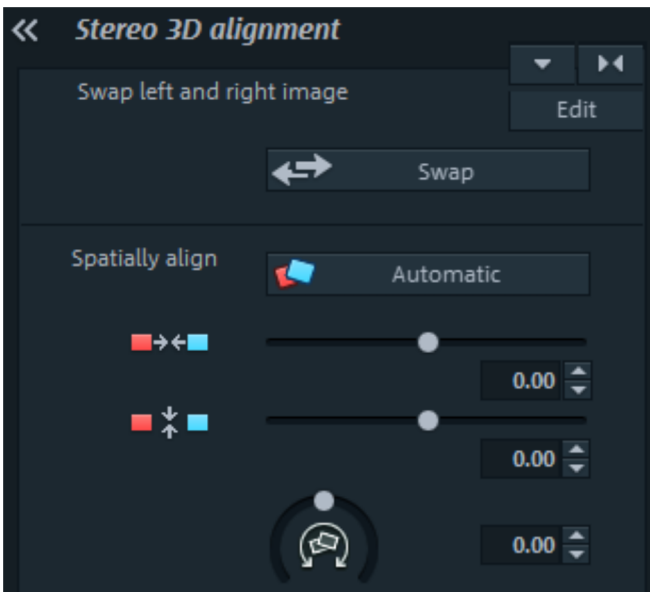
Align videos and images for 3D

Anaglyph display is recommended for this and can be set in the video monitor (view page 175). Precise geometric alignment of images is only possible in this mode.

Note: If you want 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 3D picture that is closest to the lenses. This forms the "center" of the 3D image and must be defined as such in MAGIX Video Pro X.

To do this, go to the Media Pool and select the option "Effects" -> "Stereo 3D" > "Alignment".



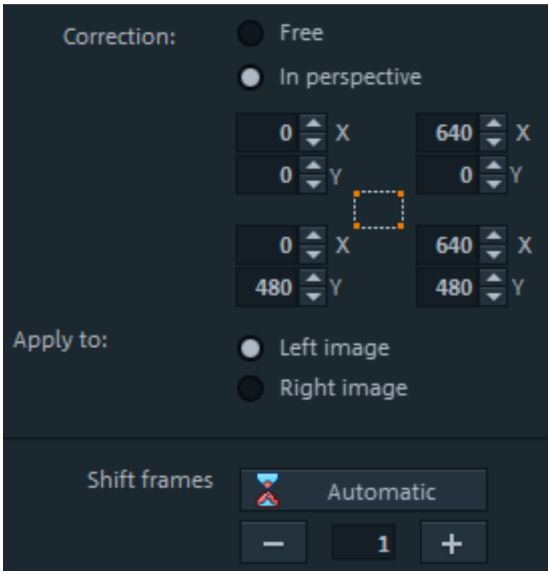
Move both images, one over the other so that the minimum point of both sides is at the same location on the screen.

You should first see whether automations for spatial adjustment and synchronization deliver the desired results. Click on the button "Automatic".

If you notice that the left and right images are on the wrong sides, click on the "Swap" button to reverse this.

If this does not produce the desired effect, proceed as follows:

- Find the minimum point in the image.
- If the images are offset vertically, they need to be balanced using the lower of the two slide controllers under "Spatial alignment".
- If the images have rotational differences, you have to adjust these with the knob.
- Try to position the minimum points of both sides precisely on top of each other 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 under "Spatial alignment".



- Use perspective correction in case the left and right image haven't been recorded in quite the right perspective in relation to each other in order to be able to join them into a single clear 3D image. Enter values into the dialog or drag on window edges in the video monitor.

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.

Export and burn 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 "Polarized filter".

- Depending on the playback device, you should set double the resolution in order to get an image in full resolution for the left and right partial image.
- Not all playback devices 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 into Side-by-Side- formats, make sure that the horizontal resolution equals the sum of both images, while the aspect ratio (such as 16:9) relates to one test image!

Only left/right side: With these settings, you won't export in 3D, but just one side of your 3D -video.

Flicker image: This way you can view 3D material without 3D glasses. The material will be shown in an alternating order, creating an impression of flickering images.

On top of each other: This export option is similar to the "Side-by-Side" option. The images will be exported not next to each other, but one over the other.

- Depending on the playback device, you should set double resolution to get an image in full resolution for the top and bottom partial image.
- Not all playback devices 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 into the one-over-the-other-formats, make sure that the vertical resolution is the sum of both images, but that the aspect ration (e. g. 16:9) relates to the partial image!

Export files/upload movies to the Internet

All file exports can be found via "File > Export movie" or "File > Online". Depending on the export format and destination, the export dialog also allows the 3D technique to be used to be selected.

Burn

When burning a Blu-ray Disc 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 .

Measuring instruments

In MAGIX Video Pro X there are four measuring instruments that can be used in various situations. The various application cases are listed in the descriptions of each measuring instrument.

The following measuring instruments are available:

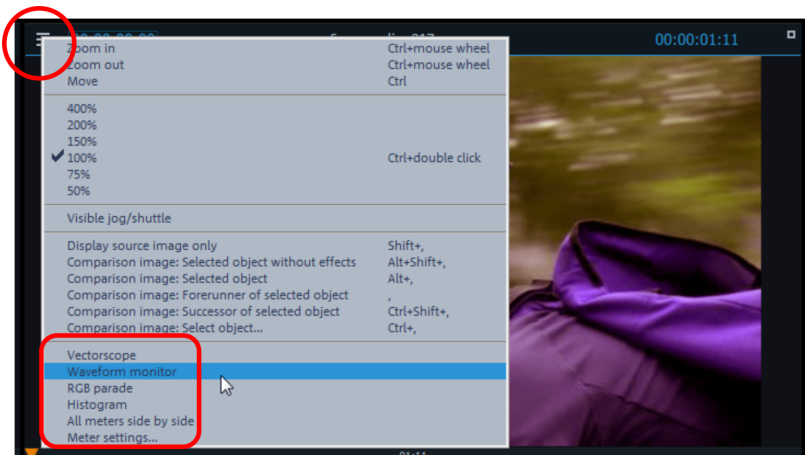
- Vectorscope
- Waveform monitor
- RGB parade
- Histogram

Operation of measuring instruments

Requirements

- The computer is equipped with a graphics card that supports DirectX 11.
- The source monitor is displayed.
- There are video or photo objects arranged in the project window.
- In Program settings > Display options > Preview in arranger > Video mode the default setting is „Standard (Hardware acceleration, Direct 3D)“.

Open measuring instruments



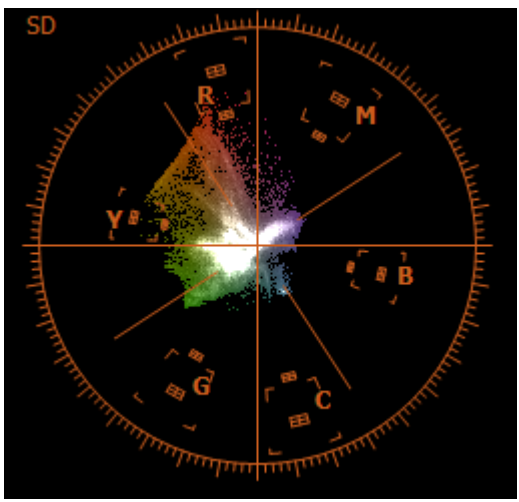
1. Use a simple mouse click to open the source monitor menu.
2. Select the entry for the desired measuring instrument:
   - Vectorscope
   - Waveform monitor
   - RGB parade
   - Histogram
   - All meters side by side

3. Place the playback marker on the desired position in the project window.
   The measuring instrument will display the measured value in realtime.

Description of measuring instruments

The measuring instruments are displayed in the source monitor and always correspond to the content on the program monitor. The measuring instruments are either shown individually or all together.

Vectorscope



- The vectorscope is a color circle with a black background.
- Only the points on the color circle that represent the colors in the video monitor image are visible.
- The vectorscope contains specified border points:
  - R – Red
  - M – Magenta
  - B – Blue
  - C – Cyan
  - G – Green
  - Y – Yellow
- The color saturation limits run between the border points.

Note: The positions of the border points depend on the settings of the measuring instrument (view page 185). MAGIX Video Pro X automatically chooses a default setting that is suitable for the material.

Functionality

- In the foreground the colors that are available in the image are displayed in the corresponding areas of the vectorscope.
- The more frequently a color appears in the image, the more intensively it will be displayed in the vectorscope.
- When a color is strongly clustered, the respective area in the vectorscope will be displayed in white.
- If a color is oversaturated, the color saturation limit can be clearly recognized. When large areas of the image are oversaturated, the corresponding color saturation limit is white.

Cases for using the vectorscope

Check image material for tinting

Tinting in the image material can be recognized when the "cloud" tends to a particular direction.

Calibrating cameras with the help of recorded test patterns

Note: The calibration has to be performed separately for each movie situation.

1. Record a calibrated test chart.
2. Transfer recorded video to MAGIX Video Pro X.
3. Make any necessary adjustments using the video effects until the color values of the test chart are correctly displayed in the vectorscope.

Detecting color oversaturation

If the image material on the video monitor is strongly oversaturated, the "cloud" will tend to form in the outer area of the color circle. When the oversaturation is strong, the color space limits will cut the "cloud" in half.

If you reduce the color saturation, the result of the effect will be updated in realtime.

Check compatibility of color values

To ensure compatibility with industry standards, the color values should not exceed the color space limits. Areas in the image with oversaturated colors can be recognized in the vectorscope at points that lie on the outside of the color space limits.

Waveform monitor

The Waveform monitor 2 displays the brightness of the video. The connection to the position on the image remains intact.

- X Axis (horizontal)
  The image position on the horizontal axis of the video monitor.
- Y Axis (vertical)
  The brightness of the video (increasing) at the corresponding image position (X-Axis).
- Brightness
  The brighter an area is displayed in the waveform monitor, the more image points there will be at this position (X-Axis) in the respective brightness area (Y-Axis)

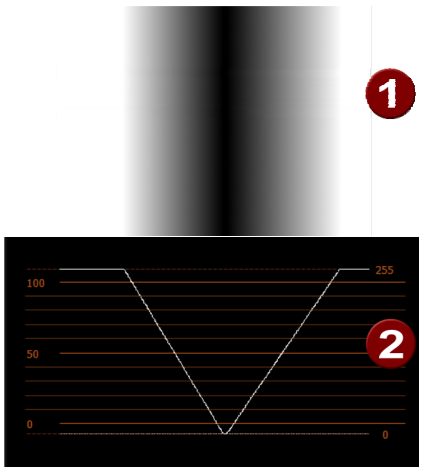


Image 1 in connection with the Waveform monitor 2

The dotted lines on the upper and lower borders of the waveform monitor correspond to the values for digital 0 (black) and digital 255 (white).

The lines 0 and 100 on the left border correspond to the limit values for analog transfer of video signals.

The intensity of the curve is determined in the measuring instrument settings (view page 185).

Cases for using the waveform monitor

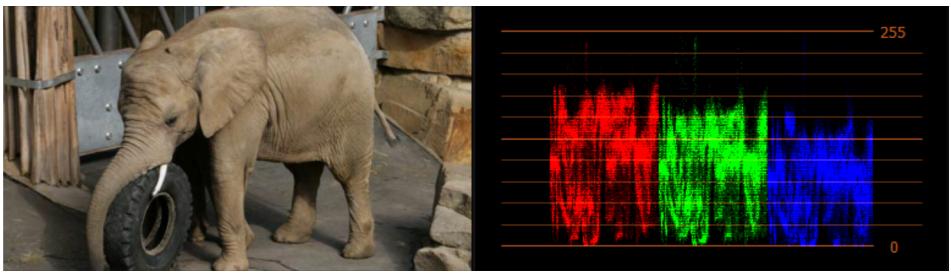
Locating areas in the image that are too dark or too light

Because the horizontal axis of the waveform monitor corresponds to the horizontal axis of the image, a connection with the image can easily be made:

- Lighter sections in the upper third of the waveform monitor:
  Very many image points in the upper brightness area.
- Lighter sections in the middle third of the waveform monitor:
  Very many image points in the middle brightness area.
- Lighter sections in the lower third of the waveform monitor:
  Very many image points in the lower brightness area.

1. Transfer the horizontal position of the too light or too dark areas to the visible image in the video monitor.
2. Locate the corresponding points on this horizontal position in the image.

RGB parade



The measuring instrument „RGB Parade“ basically functions like the waveform monitor (view page 182) but shows the brightness areas of the colors red, green and blue individually.

The example image (above) is dominated by warm colors meaning that the blue portion is lower than the green portion and much less than the red portion. It is also clear to see that the image has very few areas with high brightness.

Each color area is divided up as follows:

- X Axis (horizontal)
  The image position on the horizontal axis of the video monitor.
- Y Axis (vertical)
  The brightness of the video (increasing) at the corresponding image position (X Axis).
- Brightness
  The brighter an area is displayed in the waveform monitor, the more image points there will be at this position (X Axis) in the respective brightness area (Y Axis)

The intensity of the curve is determined in the measuring instrument settings (view page 185).

Cases for using the RGB parade

Analyze the brightness distribution of individual colors

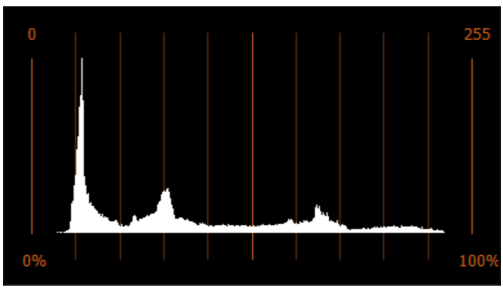
Because the horizontal axis of each color corresponds to the horizontal axis of the image, a connection with the image can easily be made:

- Lighter sections of the color in the upper third of the waveform monitor:
  Very many image points in the upper brightness area.
- Lighter sections of the color in the middle third of the waveform monitor:
  Very many image points in the middle brightness area.
- Lighter sections of the color in the lower third of the waveform monitor:
  Very many image points in the lower brightness area.

Tint detection

If a vertical movement compared to the other colors is noticed for one of the three colors, a tint is present. When you regulate the saturation using the video effects, the result is immediately visible in the "RGB Parade" measuring instrument.

Histogram



The histogram shows the brightness distribution on the image.

- X Axis (horizontal): Brightness increasing to the right
- Y Axis (vertical): Frequency increasing to the top

Cases for using the histogram

Detect and correct overexposure / underexposure

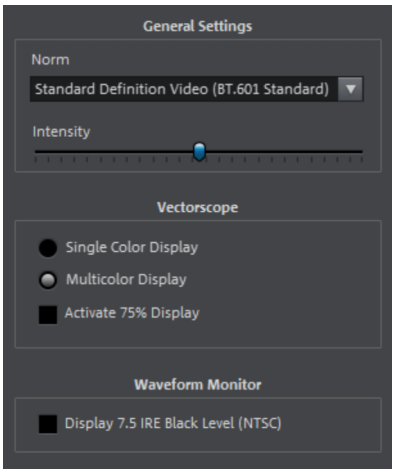
If too many white portions are present, the right border is white (100% and digital 255). If too many black portions are present, the left border is white (0% and digital 0).

Analyze and adjust use of brightness space

When partial areas of the brightness space are not being used, there will be areas on the horizontal axis with frequency value 0. No curve can be seen at these positions.

Settings

Norm



- **Automatic:** MAGIX Video Pro X makes the appropriate settings based on the Movie settings (view page 246).
- **Standard Definition Video BT.601:** This setting is used for videos with standard resolution (PAL).
  The IBU-R BT.601 deals with a standard for the coding of digital interlaced signals. The standard defines how an analog TV signal with 525 lines/60 Hz and 625 lines/50 Hz is digitalized.
- **High Definition Video BT.709:** This setting is used for videos in HD.
  The IBU-R BT.709(-5) defines all of the parameters required for HDTV.

Note: This setting affects the measuring instruments "Vectorscope", "Waveform Monitor" and "Histogram".

Intensity: The intensity determines the strength of the contrast in the measuring instruments. Lower intensity is suitable for highlighting values that occur very frequently.

Note: This setting affects the measuring instruments "Vectorscope", "Waveform Monitor" and "RGB Parade".

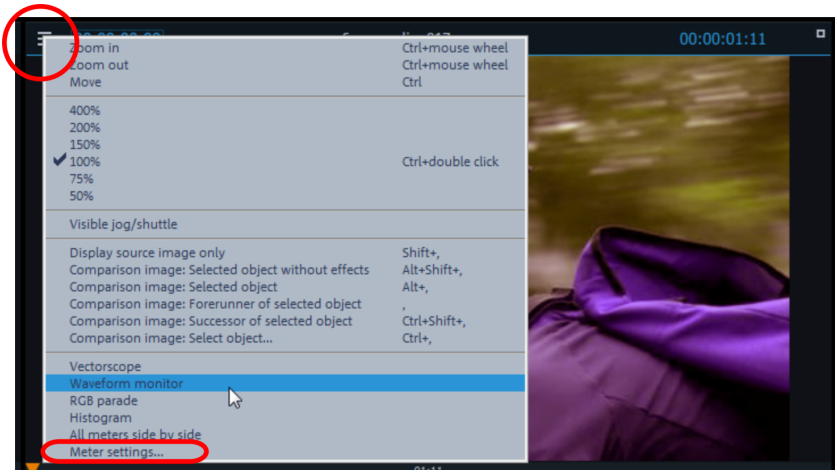
Single color display: The foreground of the vectorscope (i.e. the visual of the analyzed image) is displayed in green. This corresponds to the display on analog measuring instruments.

Multicolor display: The foreground of the vectorscope (i.e. the visual of the analyzed image) is displayed in various colors. This can make it easier to interpret the results.

Activate 75% display: The color space limits of the vectorscope are reduced to 75 % which corresponds to the values during analog image transfer.

Display 7.5 IRE black level (NTSC): The borders in the waveform monitor are adjusted for the American NTSC standard. Deactivate this option for the NTSC standard in Japan.

Change measuring instrument settings



Note: Only activate the "Norm" setting for test purposes or if the automatic detection fails.

1. Use a simple mouse click to open the source monitor menu.
2. Select the option „Meter settings ...“.
3. Apply the desired settings.
   Result: The changes have an immediate effect on the measuring instrument.
4. Click on the "X" button.
   Result: The dialog will be closed.

Audio editing

For comprehensive audio track editing that goes beyond volume level adjustment, audio must be placed on a separate track.

1. To place audio on a separate track, right-click on the desired object. The context menu will open.
2. Select "Audio and waveform display" > "Audio on separate track" or use the "Ctrl + H" shortcut. The object's audio track will then be placed on its own track directly below and can be edited.

In principle, any track in MAGIX Video Pro X can be used as a sound track. There are no specific track types. You can also place other audio objects, such as background music, on other tracks. But it is easier not to mix object types within one track.

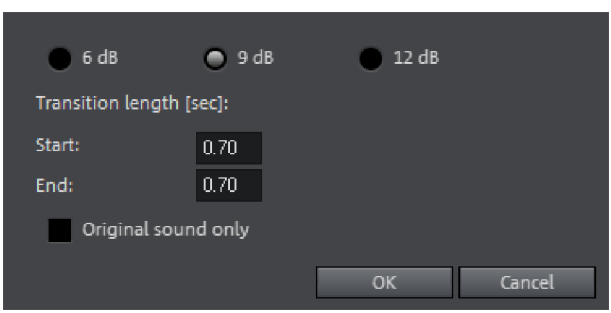
Load and edit audio files

- All importable audio files can be accessed in the Media Pool.
- Double-clicking on a file name loads it from the Media Pool into the source monitor. You can then preview them using the transport console on the source monitor.
- The files can be moved to the project window or the project folder using drag & drop. Tracks from audio CDs can also be integrated using drag & drop.
- A waveform display can be activated by right-clicking on the audio object. This shows the volume progression.
- Edits, fine positioning, volume settings, and fading in and out can all be adjusted directly in the project window using the object handles.
- Various effect curves (view page 160) can be selected for audio tracks, dynamically controlling selectable effects, volume or stereo panorama.

Audio effects

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 88) (Audio recording, advanced options).

Create mono objects

Mono recordings can leave noise on the second track, e.g. a mono microphone recording. You can deactivate the track with the noise by selecting the function "Use only left side" or "Use only right side" (but not with mono videos).

You can find this function in the audio and video object context menu under "Audio functions".

Using audio effects

Object effects

Just like with video objects, there are individually adjustable effects and effect templates for audio objects. These influence only selected objects. These can be found in the Media Pool under "Effects" > "Audio effects" or in the "Effects" menu > "Audio object effects" (view page 151).

Track effects

Track effects always apply to all audio objects of a track. They are set in the mixer (view page 188). You can open the mixer by pressing the M key on your keyboard.

Tip: You can adjust the volume of the entire track in the track header.

Audio effect plug-ins

MAGIX Video Pro X supports VST effect plug-ins. These are usually effect modules such as reverb, equalizer, dynamics compression, etc.

Installation

The relative plug-ins must be installed before before using the audio effect plug ins. The installation of the plug-ins is carried out depending on the type of plug-in that is used. VST plug-ins are usually stored in a certain folder.

In MAGIX Video Pro X, you need to enter the folder for the VST plug-ins in their path settings (view page 252). After the path has been indicated, MAGIX Video Pro X scans it for working plug-ins and makes them available for use.

Using plug-ins



Two so-called slots for effect plug-ins are located in the channel strip of the mixer for the corresponding track as well as in the FX tracks.

1. Click on the small triangle.
   A list of the plug-ins that were found will appear.
2. Select the desired plug-in from the list.
   The selected plug-in will be loaded in the track slot.

   Note: "Non effect" removes a plug-in from the slot.
3. Right clicking on the plug-in slot opens the user interface for the plug-in.

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 installed in the Mixer window. The MAGIX Mastering Suite is also available to help produce 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 191) 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 X 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.

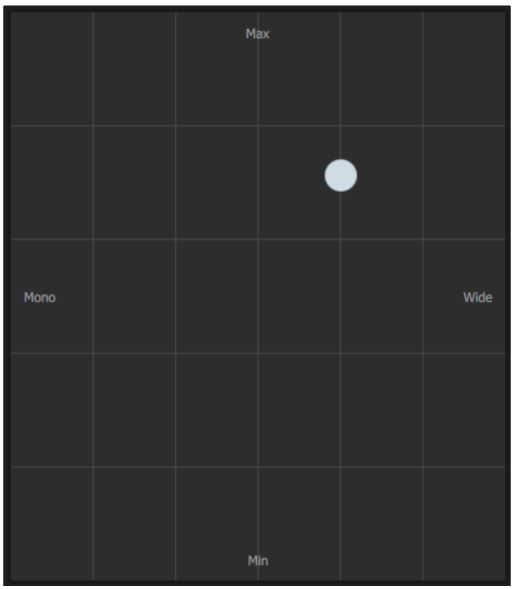
Audio effect dialogs

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.

Effect devices controls

Some effect options (e.g. options from the "Echo/Reverb" or "Time stretching" effects menu) open a graphic interface that recreates an audio studio effect.

These virtual effects are controlled in the conventional way by using slider controls, turning knobs, or buttons, or alternatively using the graphic sensor fields.



Sensor fields: You can control sensor fields intuitively with mouse movements. The graphics and the respective effect setting change in response to each other.



Power switch: Each effect device in the rack can 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.



Every effect has a reset button that restores the effect device's initial default settings. In this starting point, no computing power is required and no effect is added to the sound



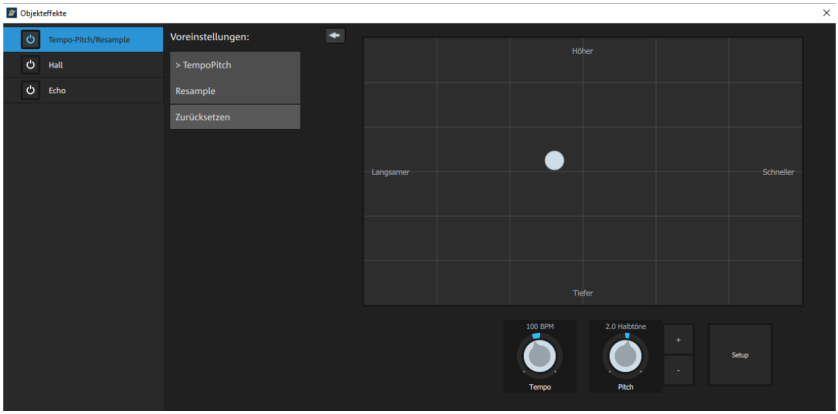
Each effect device features a selection of presets that can be selected via the drop-down menu.



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 examples only and differ according to effects device.

Timestretch/resample



This option opens an effect device with which you can change the speed and/or pitch of the object.

Pitch: This control changes the pitch independently from the object's speed ("pitchshifting").

Tempo: This control changes the speed independently from the pitch ("timestretching"). The object acts as if it were compressed or stretched on the track.

Tones/BPM: These fields serve for numerical alteration of pitch and speed. Only MAGIX soundpool files are suitable for numeric entries because they are equipped with information regarding pitch and speed.

Setup: This button opens a setup dialog, where you can choose between various pitchshifting and timestretching processes.

- **Standard:** Timestretching and pitchshifting in standard quality. The method is suitable for audio material without a pronounced beat. Existing beat markers are evaluated to improve audio quality.
- **Smoothed:** Timestretching and pitchshifting for audio material without impulse-like components. The method is suitable for several voice orchestra instruments, surfaces, speech and singing. Beat markers will not be evaluated. A complicated algorithm is used here, which results in a higher processor load. Material can also be edited using very large factors (0.2...50), without large artifacts. For this, material will be somewhat "smoothed", which will be manifested in a softer sound and an altered phase length. This smoothing is hardly audible, e.g. with speech, singing, or solo instrumentation. For complex spectra, such as mixes of different instruments and finished mixes, this can lead to problems.
- **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 can be generated in realtime (automatically) or read out from the source file, as long as they are available (patched). A patch tool is

available in MAGIX Music Editor which lets the user set own markers. The algorithm is suitable for rhythmic material that can be divided into individual beats or notes. For this, the levels before and after the individual notes or beats should be low.

- **Beat marker stretching**: Beat-synchronized timestretching and pitchshifting in high audio quality. The material is stretched between beat markers positions so that the impacts or attacks at the beat markers positions are not impaired by stretching. The markers can be generated in real time from the audio material (automatically), provided they are present (patched). The method is suitable for rhythmic material which is not separated into individual beats or notes because the beats or notes overlap.
- **Beat marker stretching (smoothed):** Beat-synchronous timestretching and pitchshifting in high audio quality, even with extreme timestretching. Beat markers are used at the beats or transients. The markers can be generated in real time from the audio material (automatically), or read out from the wave file, provided they are present (patched). The method is suitable for rhythmic material which is not separated into individual beats or notes because the beats or notes overlap. This method results in relatively high CPU loads, and should be used carefully on less powerful systems.
- **Universal HQ**: Universal method timestretching and pitchshifting in very high audio quality. Suitable for all types of audio material. Existing beat markers are evaluated to improve audio quality. This method requires so much processing time, that a realtime application is recommended only in exceptional situations. For this reason, we recommend to use the apply function.
- **Monophonic voice:** Time-stretching and pitch-shifting for vocal solos, speech or solo instruments. The material may contain no background noise, and even strong reverb can reduce the usefulness of this method. With suitable material the audio quality is very high. Additionally, formats are kept after pitchshifting. Beat markers are not evaluated.
- **Resampling:** Pitch shift and tempo can not be changed individually. This method requires comparably little CPU time.

Reverb

You can control the sound of the reverb effect using the following parameters:

Room size: Defines the size of the room (or the system for the plate and spring). The larger a room, the longer the sound travels between walls or objects. 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.

Tone quality: You can manipulate the sound characteristics of the effect to an extent. The effect of this controller depends on the preset used. In rooms, "Color" controls the dampening of the highs in the reverb (from dark to bright) as well as pre-filtering of the signal. With plate and spring presets, this fader determines the dampening of the basses as well.

Reverberation time: With this knob you can adjust the reverberation time and determine how much of it will be absorbed and, simultaneously, the reverb's decay.

Pre-delay: The reverb portion ("Mix") and the early reflections play a big role in the spatial perception of the sound. Here the time required for the perception of the early reflection is know as "Pre-delay". For sound sources that are close, the reverb portion is usually low and the early reflections reach the ear noticeably later than the direct sound. In contrast, sound sources that are far away usually have a high reverb portion and the early reflections reach the ear almost simultaneously with the direct sound. The length of the pre-delay can be used to influence the perceived "distance" between the sound source and the listener.

Mix: This controller sets the mix ratio between the original and the edited signal. For rooms, you can move a signal further into the room by increasing the effect share. The last four presets are intended for use in an AUX channel of the mixer and are set to 100%.

Presets

The presets represent the basic settings for the various room algorithms, which can be still be varied along with the other parameters. Hence, they are more than just simply parameter sets.

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).

Audio effects in the mixer

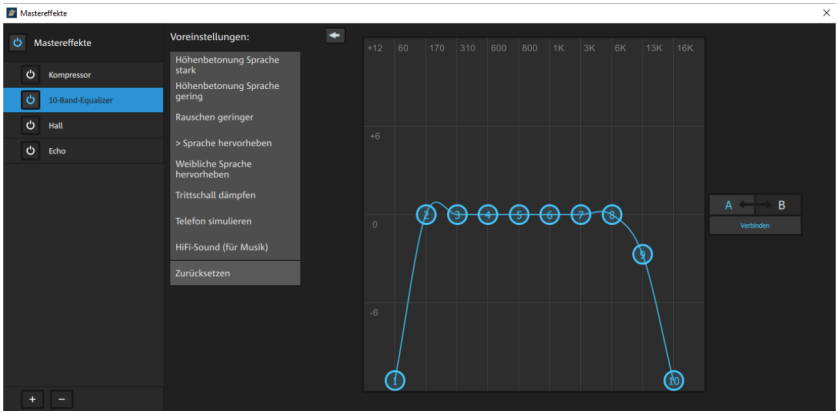


You can open audio effect devices in the mixer using the "FX" button found in each track or in the right master area.

Under "Mastering" you will also find MAGIX Mastering Suite.

"Reset" resets all effect settings to original values.

Equalizer



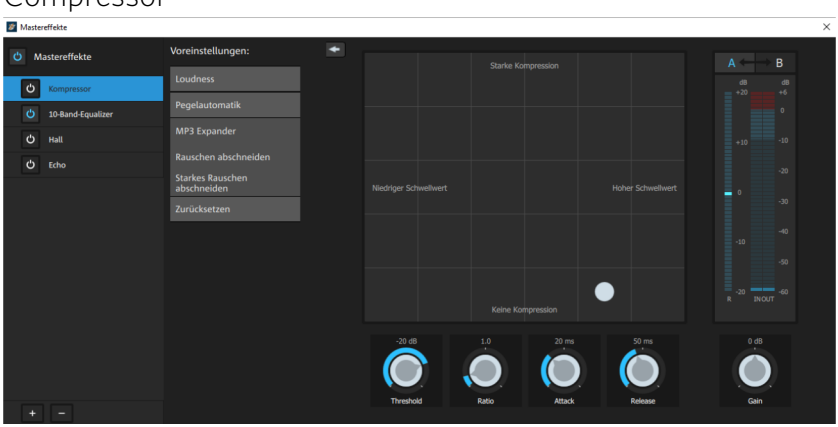
The 10-band equalizer subdivides the frequency spectrum into ten areas ('bands') and equips them with separate volume controls. This way it is possible to create many impressive effects, from a simple boosting of the bass to complete elimination of a certain range of frequencies. Note: If low frequencies 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.

Threshold: Set the volume threshold, below and above which compression is applied.

Ratio: This parameter controls the amount of compression.

Attack: Sets the algorithm's reaction speed to increasing sound levels.

Release: Sets the algorithm's reaction speed to falling sound levels.

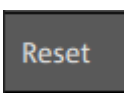
Gain: The gain controller amplifies the compressed signal.

MAGIX Mastering Suite

MAGIX Mastering Suite is a special effects rack for use with the mixer master channel. The effects in the Mastering Suite are used as part of the mastering process, in which the mixed music piece is given a final polishing.



The **On/Off switches** switch the effects on and off individually. Each effect has a range of presets that can be selected from a list along the lower border of the effect.

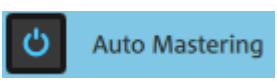


Each effect can be reset by pressing the "**Reset**" button.

Note: 5.1 Surround mode only provides the compressor (view page 197) and parametric equalizer devices in this case.

Auto Mastering

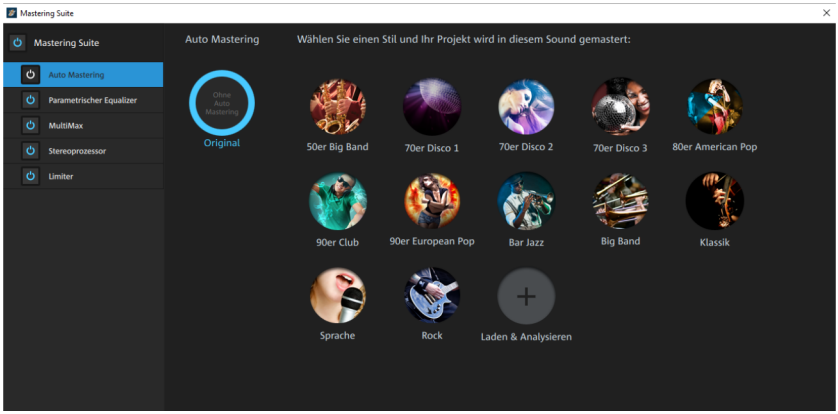
The Auto Mastering feature enables you to automatically apply the sound of typical musical styles from the past and present (e.g. 70s disco, 90s club, jazz etc.). The sound of the source material is analyzed and appropriate equalizer and dynamic effects are applied.



1. Activate the Auto Mastering Wizard.

2. Now choose a musical style.
MAGIX Video Pro X will analyze the audio material in the project. The settings that are used to achieve the optimal sound for a particular musical style depend on the audio properties of the source material.

Use the "Original" interface in order to compare the original with the edited version.



Parametric 6-band equalizer

The parametric equalizer has six filter bands that you can use to shape the sound of the music track. Each band is a filter with a typical "bell shape". You can increase or reduce the signal level **gain** within a specific frequency range around an adjustable middle **frequency** . 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 boosting or cutting specific frequency ranges (low Q value) to give it more "depth" (lower mids 200-600 Hz) or more "air" (Highs 10Khz). You can also decrease very specific frequencies (high Q-value) to remove unwanted noise.





Sensor field: The sensor field displays the resulting frequency response of the equalizer. The frequency is displayed horizontally and the increase or decrease of the respective frequency is displayed vertically.

The **blue bullets 1-6** symbolize the six frequency bands. You can move them around with the mouse until you find the frequency response you want. The bandwidth (Q value) can be adjusted using the mouse wheel.

The faders under the filter graphic display the parameters of the currently selected band.



You can use the knobs to set the values for each band more precisely. There is also a numeric field for each parameter where values can be entered.

Gain: This controller allows you to raise or lower the filter. Setting the controller to 0 deactivates the filter so it does not use any processing time.

Freq: The center frequency of the individual filters can be set between 10 Hz and 24 kHz with the frequency controller. The freedom to select frequency enables you to set multiple filters to the same frequency in order to have a greater effect.

Q (Bandwidth)**:** Here you can set the bandwidth of the individual filters to between 10 Hz and 10 kHz.

Bands 1 and 6 are special: Their **Filter Curves** can be edited in three different modes. The four editing points in the graphic have different functions in each mode.



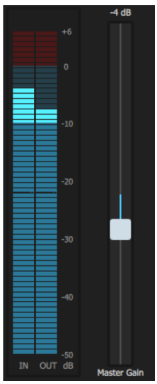
Peaking: Here the effect curve is brought closer to the working point (which represents the peak of the curve) from both sides simultaneously.



Shelving (Basic setting): Here the working point displays the beginning of the filter curve. From this point on there is a gentle increase or decrease in the frequency.



High or **Low Pass:**In Band 1 the working point displays the frequency which is filtered out of particularly high or low frequencies.



You can control the output level of the equalizer with the **Peak Meter** . The **output amplification** beside it lets you offset the level changes resulting from EQ adjustments.

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, it can prevent a peak in the bass range from suppressing the entire signal.

Multiband technology also lets you specifically edit individual frequency ranges.

Setting the frequency bands: The settings of the frequency bands are changed directly in the graphic. Simply click on the separator lines and move them.

Lows/mids/highs: These knobs control the level of compression for each frequency band.

Link: When this button is activated and a fader is adjusted, all other faders are changed proportionally. However, the way the dynamics are edited is not affected.

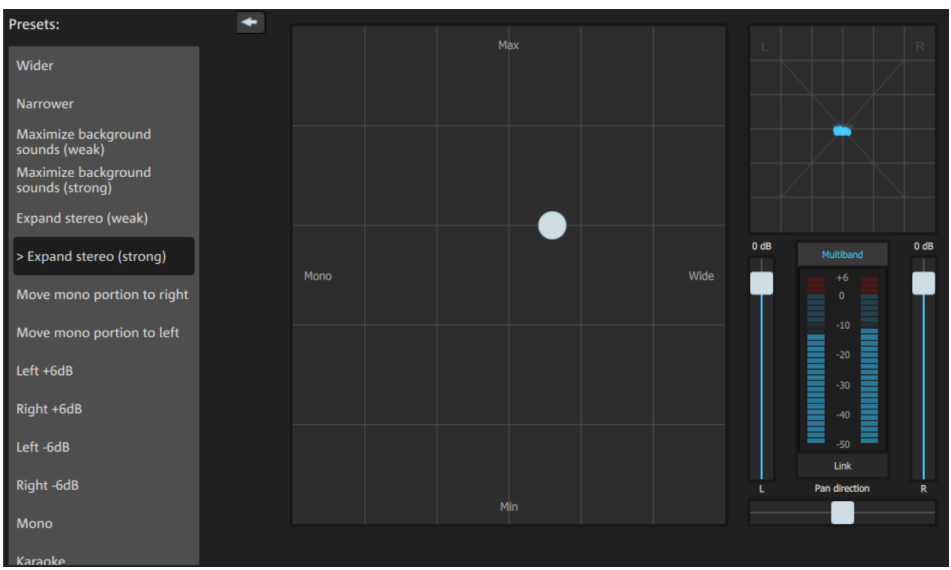
Presets: In MultiMax, you can use Presets 2 to open further special features:

- **Cassette NR-B decoder**: MAGIX Video Pro X 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 and dull if played back without the corresponding Dolby.
- **De-esser**: These special presets help to remove overstressed hissing sounds from speech recordings.

Enhancer

The Enhancer enables the justification of the audio material in the stereo panorama to be adjusted. If the stereo recordings sound unfocused and undifferentiated, an extension of the stereo base-width can often provide better transparency.

Use the maximize function to move the echo and improve the stereo picture, for example, into the foreground.



Volume controller: Adjusts the volume of every single channel to adjust the complete panorama. The reduction of left and right levels is displayed under the control buttons.

Pan-direction: Use this controller to move the sound source from the middle into stereo panorama. The signals at the outer edges of the sound picture remain unchanged.

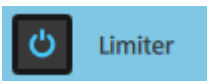
Multiband: This option switches from "Stereo FX" to "Multiband" mode. Stereo editing only applies to the middle frequency, the bass and highs remain unchanged.

Bandwidth/maximize sensor field: Adjusts the base width between mono (extreme left), unchanged base width (normal stereo), and maximum base width (wide, extreme right). Raising the bandwidth (values over 100) diminishes the mono compatibility. This means that recordings edited this way sound hollow when listened to in mono.

Maximize strengthens the spatial component of the recording, which also increases the stereo transparency without influencing the mono compatibility.

Stereo meter (correlation gauge): This provides a graphical 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. To maintain mono-compatibility, the "cloud" shown should always be higher than it is wide.

Limiter



The limiter prevents clipping by automatically lowering the level if it is too high. Quiet parts remain unaffected. In contrast to the compressor it tries to leave the basic sound as unaffected as possible.

Audio CDs

Loading an audio CD works just like loading of any other files into the arrangement.

- Place an audio CD into the drive.
- Find the drive in your Media Pool The individual CD titles appear in the file list.
- Double click on the song to preview.
- 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 (this can be indicated in "File" > "Settings" > "Program" > "Folder").

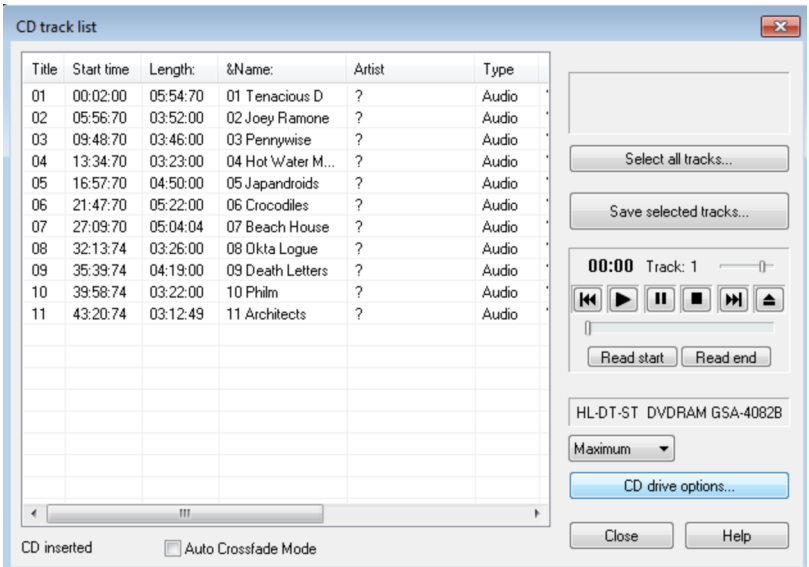
The audio object appears in the track and can be played back or edited immediately.

Import audio CD tracks

There is also a custom option for audio CDs in "File" > "Import audio-CD track(s)", which allows simple import with additional options.

This option opens the CD Manager where you can select tracks from Audio CDs and partially or fully import them into the arrangement. Audio tracks are imported in WAV format, saved in a selectable directory and imported into the arrangement.

The tracklist dialog



Tracks can be selected from the list with a mouse click or with the key combination Shift + arrow or Ctrl + mouse click.

Transport control in the dialog activates the preview function. The playback arrow starts audio playback of the first selected track.

Select all tracks: This option selects all audio tracks in order to copy the complete CD.

Save selected tracks: This button opens dialog to save selected tracks. You can either place all files into a single WAV file or create a separate WAV file for each track. A new object will be created in the arrangement for each track in either case.

Options CD drive: With this option you can access the "CD-/DVD drive list".

Mixer



The Mixer can be opened by pressing the "M" key or via the button bar in the main window (also: "View" > "Mixer").

Mixer channels

In the mixer, every project window track is represented by a corresponding mixer channel. The mixer channel offers a series of options for regulating the audio signals of objects in the track.



FX: Opens (view page 196) the audio effects rack for the corresponding track.

Auto: Activates the volume and panorama automation (view page 207) of the corresponding track.



Plug-ins: Click the triangle button to access theaudio plug-ins (view page 188) installed on your PC.



Volume: You can set the volume of a track using the large fader.

The fader can be fine-tuned in the following way:

- Press the Shift key while setting the fader.
  This makes the control range of the fader ten times larger.
- While setting the fader, move the mouse away from the fader horizontally. The control range of the fader will increase in accordance with how far the mouse is from the fader.



Stereo panorama: Use the knob to define the stereo position of each track.

Note: Double-clicking on the volume or panorama control resets it to its default passive setting in which no processor output is required. Double-clicking again sets it back to its former position.



Solo/Mute: The "Solo" button switches a track to solo mode, i.e. sound playback for all tracks which have not been switched to solo mode will be deactivated. "Mute" mutes the track.

Effect channels

In addition to normal mixer channels that correspond to the tracks in the arrangement, you can create two separate effect channels. The principle behind them: You can take a partial signal from a normal channel into an effect channel, where the partial signal is then processed with additional effects. This is a common process used in professional audio production.



In each mixer channel there are two FX-Send knobs (FX 1 and FX2) under plug-in slots.

Here you can determine the strength of the signal from the track that is routed into both available effect channels.

The FX tracks are usually hidden in the mixer. When an FX-Send is used, they will appear to the left next to the master section.



An effect channel is a complete additional mixer channel with volume and panorama controls, an effect rack and two plug-in slots.

Reverb is activated in the first effect channel by default because this is the most important application of send effects.

The volume control regulates the strength of the effect channel and corresponds to an AUX return control. The"Mute" button is used to switch the FX function on and off. By activating "solo", you can listen to the effect channel separately. Track peakmeters that send to the FX track appear greyed out.

Master channel

The master channel is to the right of the individual channels. It controls the overall sound and offers all editing options: volume, panorama, plug-ins and effects.

The FX buttons and the plug-in slots work just like in the other channels. The FX button opens the master audio effect rack. With "Reset" you can rest all mixer settings, including effect channels.

Mastering: Here you can open the MAGIX Mastering Suite.

5.1 Surround: This button switches the mixer into Surround mode (view page 210).

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 volume and panorama for a track. This means that during playback you can record the movements of the sliders on the track. This way, for instance, you can simulate the movement of a sound source from left to right and make volume adjustment instantly during playback.



As long as the **auto**button for a track is activated, all movements of the volume and panorama sliders will be recorded.

The automation is displayed as a curve in the project window and can be edited later with the mouse.

Note: The mixer's automation curves relate to a track, which means that they are independent of the objects contained on it.

5.1 Surround

MAGIX Video Pro X supports playback and export in genuine 5.1 Surround sound.

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).

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.

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 drivers, the loudspeaker settings normally have to be changed to 5.1 playback in the control panel. On most systems the program does this automatically while using DirectSound.

Importing and exporting surround audio files

Import

When importing MPEG-2 files with Surround Sound Stereo/5.1 (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 want to export the Surround Sound without editing 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 (view page 209). This mode allows you to change the Surround mix.

In MAGIX Video Pro X the import of Surround Sound Stereo/5.1 is always executed as a mixdown. MAGIX Video Pro X can also import interleaved wave files (multi-channel wave files), multi-channel Windows Media Audio and MP3Surround 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 Surround Sound Stereo/5.1 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 using 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 Surround Sound using Smart Copy

You can also burn original material with Surround Sound to DVD again without the need for the codec or you can export the corresponding MPEG files while keeping 5.1 Surround Sound. To do this, use the "Smart Rendering" option which transfers the unprocessed parts of the original material to the destination file without renewed encoding. Read more on this in the MPEG encoder settings section General settings.

Note: The import has to be executed as a mixdown; the audio material cannot be changed (no fades, no audio cleaning, no volume adjustment). Hard cuts, e.g. to remove commercials, are allowed but in some cases they may only occur at the borders of the GOP and not frame-precise.

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.

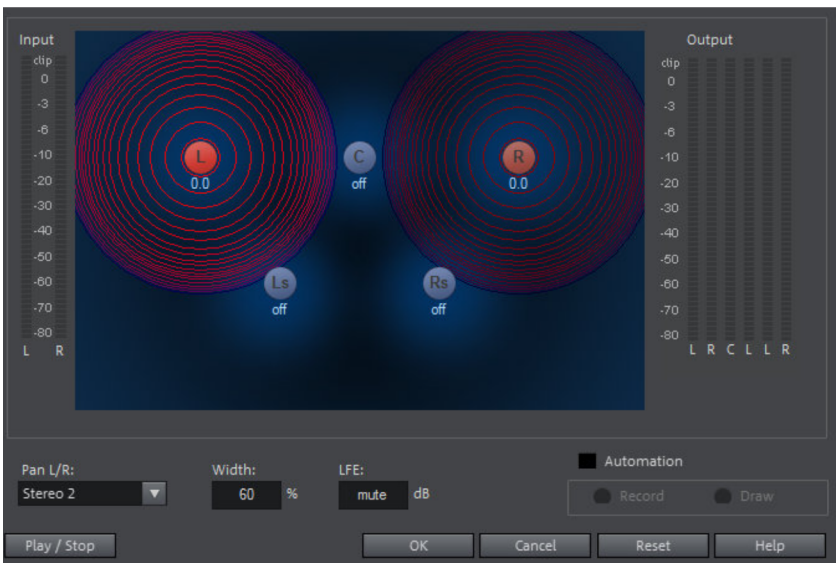
The surround sound editor is also available to the effects tracks. For example, you can send the original track to the front **L/R speakers**, the FX track however will remain at the rear **L/R speakers**.

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 (**L**ow **F**requency **E**ffect) 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 X

Note: In order to be able to use Samplitude/Sequoia parallel to MAGIX Video Pro X, the programs will have to be synchronized with each other. Read more about the topic "Synchronizing Samplitude/Sequoia with MAGIX Video Pro X".

Existing surround tracks are transferred directly to MAGIX Video Pro X from Samplitude/Sequoia. Set a playback marker first in MAGIX Video Pro X at the starting position of the movie – the wave file will be added at the position of this marker.

Note: In MAGIX Video Pro X, 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 X" 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 X. 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:

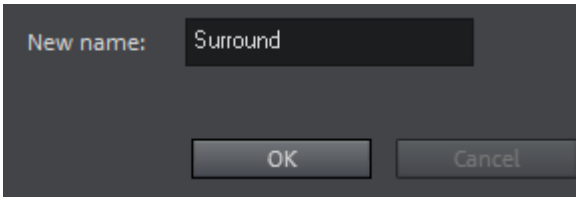
- Creating audio tracks for different languages
- Mixing stereo and Surround audio separately

These two applications can be combined, since MAGIX Video Pro X features up to 8 separate multi-sound tracks.

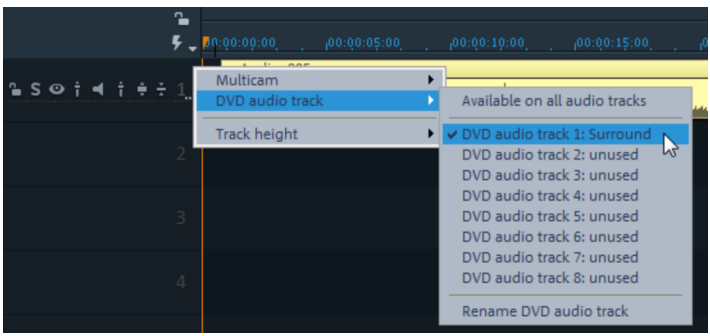
Workflow

In the context menu of the track header, each track can be defined as a "DVD audio track".

- Right-click on the the track header.
- Select the option "DVD Audio track" > "DVD Audio track: unused". A dialog will appear where the track can be renamed.

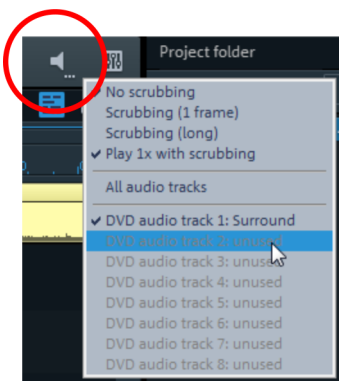


- Give the track a descriptive name. The name entered here will later appear in the menu of the burned disc.



Now you can assign this DVD audio track to other tracks in the project window. To do this, check the box in the context menu of the track header. The default setting is "Apply to all audio tracks". This ensures that the audio material on the track can be heard on all tracks.

Normally several DVD audio tracks should not be played back together. For this reason you can right click on the loudspeaker button to select the DVD audio track that should be played back in the project window.



Tip: The multi-audio track concept is very useful for offering a selection of languages. First define a corresponding multiple audio track for each language and assign all of the tracks that should belong to the respective language tracks.

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 downmix to stereo sound in place of 5.1 Surround when it is required.

If you still wish to create a disc that contains a 5.1 Surround track as well as a regular stereo track, proceed as follows:

- Select the "Stereo" DVD audio track.
- Open the mixer and proceed with normal stereo mixdown.
- Close the mixer.
- Select the "Surround" DVD audio track.
- Open the mixer and activate 5.1 Surround mode. Conduct the Surround mixdown.

Set formats of individual multi-sound tracks

Next, make the necessary changes to the formats of the multi-sound tracks. This takes place in the MPEG encoder settings, which can be opened form the burn dialog.

The simplified settings dialog displays an additional section for the multi-sound tracks. From the flip menu, select the DVD audio track to be set. Now, you can assign each track to the desired format.

Click "Edit" to open the advanced audio settings dialog for the MPEG encoder. Now you can define which format the selected DVD audio track should have. For more information, read the "Audio settings" section in the "MPEG encoder settings" (view page 355) chapter.

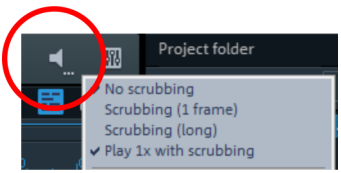
Note: Even if you create all multi-audio tracks in 5.1 Surround, you must make this setting for each separately.
Sound tracks which feature the setting "Apply to all multi-sound tracks" will always be mixed with the other multi-sound tracks, although these will be created using the format set for them.

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 47)" mouse mode.

Activate scrubbing



Scrubbing can be activated by right clicking the speaker button.

Scrubbing: Modes

No scrubbing: Scrubbing is inactive. If the playback marker is set or moved, then sound will not be played.

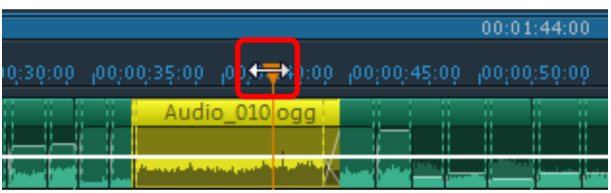
Scrubbing (1 frame): Scrubbing is active and samples are only 1 (video) frame in length. The speed is 25 fps, i.e. 1/25 second. This mode is suitable for positioning the playback marker exactly.

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 with scrubbing: If this option is active, the current position will be played one time. If it is inactive, then it will be repeated.

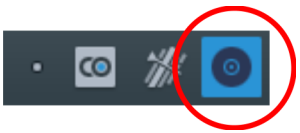
Using "Scrubbing"

If scrubbing mode is selected, set the playback marker to a certain location in the timeline using the mouse. Hold the mouse key and move the playback marker to various locations in the arrangement.



Scrubbing may be used also by employing the jog and shuttle wheel on the video monitor, as well as through various hardware controllers, which gives the software the feel of an analog video editing system!

Edit disc menu



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

Here you can adjust the disc menu before burning and burn your movies with a menu to a CD, DVD or Blu-ray disc.

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 294).

Note: For screen resolutions 1280 x 1024 pixels or higher, the program display will be different. 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 X provides two different modes for designing and previewing the disc menu.



"Preview" mode simulates the behavior of a playback device, e.g. DVD player or Blu-ray player.
You can select a template for the menu and burn the disc.

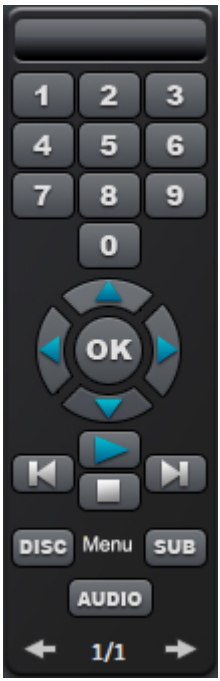


In "Editing" mode, you may adjust many features of the disc menu. Templates are also available here that may be flexibly adjusted to suit your needs.

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 221), 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.

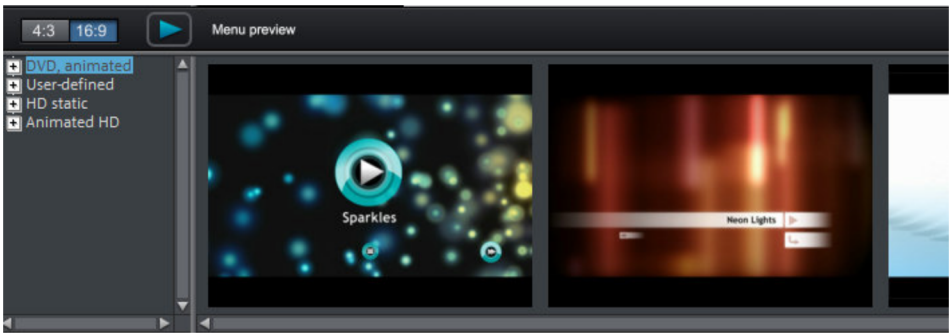
Sub: Switches to the chapter menu (if available) for the currently selected film.

Menu

The selection menu is also burned to disc and appears when inserted into your player. Just like with a store-bought DVD or Blu-ray Disc, you may easily select your movies with the help of preview pictures, or access particular chapters within a movie.

Templates

You will find the menu templates below.



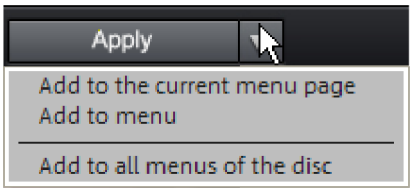
To the left, you will see a tree structure for selecting various menu templates. At the top, you should first select whether you would like to use templates in ratio "16"9" or "4:3".

- **Animated (DVD):** These templates contain background and introductory videos as well as music. The control elements are displayed in various modes. The templates can be used only for mini DVDs, DVDs and AVCHD discs.
- **Static (4:3 only, DVD):** Here you will find templates made up of regular background pictures and control elements.
- **Custom:** These templates adjust to your disc project; the movies and scenes you use are integrated directly into the menu.
- **HD static (16:9 only, DVD, Blu-ray, AVCHD, WMV HD):** These templates contain super-sharp, high-res background images that are particularly noticeable on HD TV devices.
- **Movie templates (only 16:9):** Here you will find menu templates that are specially made for movie templates (view page 285) found in the Media Pool.

Note: These menus require "Film menu" and "Chapter menu" to be activated in the "Edit" screen under "Disc options".

If you've selected one of the menu templates, you can use the horizontal scroll bar to view all the others available. There are lots of options when using the templates:

- To apply a template to all menu pages, double-click the desired template. The complete template will then be applied.
- You can also combine various elements from different templates with each other. To do so, you must first switch into Editing mode. If, for example, you wish to combine the text format of a template with the background of another one, double-click on the template containing the background first. Then click on the "Font" tab and select a template for the font.
- You can load the layout (or individual layout elements) for the current menu (movie or scenes) as well as for all menus.



Note: Some menu templates include intro videos with a smooth transition to the menu page!

Edit disc menu



To edit individual menu elements and the menu structure, activate the "Edit" button.

Edit menu elements

Hold down the left mouse button and drag text boxes or graphical elements to the desired position. You can adjust the size by dragging out the corners and edges of the frame.



Undo: This command allows you to undo the last changes made.



Redo: This function undoes the previous "Undo" function.



Lock aspect ratio: To avoid distortion, use this button to lock the aspect ratio for the menu elements.



Group: Menu elements are moved or resized simultaneously as a group, including the description text and number.



Fade in TV display area in the preview monitor: This option displays the image borders of the television (view page 170) as lines in the preview monitor.



Grid: This button shows a grid to help position frames exactly next to each other as required. Using the small arrow next to the button you can open a dialog to fine tune the grid settings.

Export import PSD



Import PSD: With this option you can import a menu template created in PSD format (for example, in Xara Xtreme Pro, Photoshop,...)

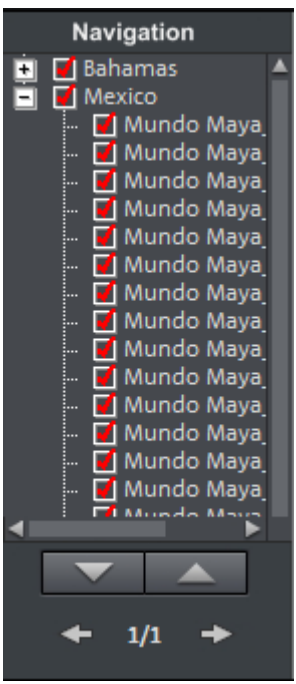


Export PSD: With this option, you can export your menu as a PSD file (for example for Xara Xtreme Pro, Photoshop,...)

Note: With the help of these two options, you can quickly adjust your menu to your individual wishes. Simply export the menu, edit it in a graphics program, save it and import the same file back into the program. To find out more, read the Edit DVD menus in Xara Xtreme Pro or Photoshop (view page 226) section in the PDF manual!

Navigation

Using navigation links above you can reach the structure of the menu entries.



- All movies are listed as first entries. The corresponding menu level is the **film menu**.
- All scenes are listed as second entries next to it to the right. The corresponding menu level is the **chapter** menu.

Removing the red check deactivates the corresponding entry in the chapter menu. The scenes are still displayed of course, but you can no longer select them directly from the menu.

- You can open the movie menu for further editing by clicking on the movie above it.
- If you click on one of the chapters, the chapter menu in the preview will be opened for editing.

Disc options

Here you can activate or deactivate certain elements or even complete menus.

Intro video: Press this button to load videos to be used as introductions to your discs. The following formats are supported: "*.avi", "*.mpg", "*.mxv", "*.vob". 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, and audio 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 utilizes the chapter markers in a movie as menu entries. More information about this is available in "Chapter markers (view page 115)".

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.

Audio menu: If your project features multiple DVD audio tracks, then a menu will be added to the disc for the user to select an audio track.

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

You can edit the existing menu background or create a new one from scratch.



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 background movie will be set as the menu background automatically after pressing "Save".

Tip: If you would like to design a new menu background, simply delete all existing objects from the menu project and load new ones.

Design page

Edit: This provides three options for setting the background of a menu page. You may either set a certain "color value" for the background or you can select an image file from your hard drive. You may also select a certain frame from a video in your project.

In external editor: A PSD file (view page 219) is sent directly to the program that has been selected in the program settings as the menu editor (view page 254).

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:

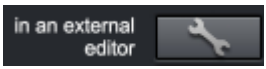
- **Create animated menu buttons**: The preview images for individual movies in the movie menu are shown as small movie samples. Set the start point and length of the animation using the sequence options faders.
- **Use video's audio track**: The audio track of the background video is used with the menu.
- **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.

Create a button design

MAGIX Video Pro X enables easy editing of all buttons together with their menu entries.



You can edit menu entries that you created using this button or with a double click on the menu. The dialog with the properties of the menu entries (view page 224) will open.



Edit in MAGIX Photo Designer: You can open MAGIX Photo Designer for additional editing of elected menu elements.



Apply to all objects: Applies the properties of the selected button to all remaining buttons.

New menu entries may also be added or irrelevant pages may be removed.



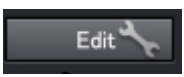
Adds a new menu entry.



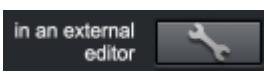
Removes the selected menu entry.

Tip: If you would simply like to deactivate unused menu entries, this may be done via the navigation (view page 220).

Note: The chapter menu is formed via chapter markers (view page 115) and can be influenced in detail with these.

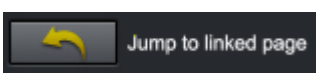


Pressing this button or double-clicking the menu entries allows menu entries you have created to be edited. The dialog with the properties of the menu entries (view page 224) will open.



These buttons open MAGIX Photo Designer for further editing of your background pictures or the selected menu elements.

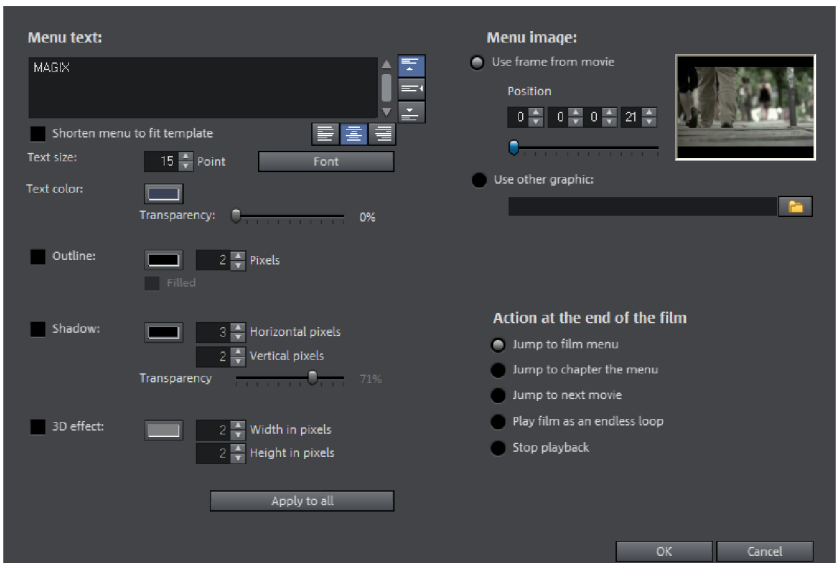
Jump to linked page



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

Note: This function is available only in the deluxe version.

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.

Edit DVD menus with Xara Xtreme Pro or Photoshop

Besides the option of editing the menu template directly in the preview (view page 219), menu templates may also be exported as a Photoshop file (*.psd) and edited in an external graphics program. There you have complete control of menu appearance, including complex text effects and highlighted state management.

Export menu

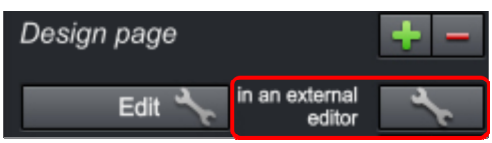
The transfer of the menu templates to the graphics program takes place in one of two ways:



If a complex, longer edit is required or if you have created a menu without a template, then use the PSD import/export (view page 219) 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 254). 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 X 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 X 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 Pro:

In Xara Xtreme Pro you must first open the object gallery 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 the 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 Pro:

In Xara Xtreme Pro, 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 X, generated layers can also be deleted, so that button graphics can really be replaced.

Xara Xtreme Pro:

In Xara Xtreme Pro, 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.

Import menu back into MAGIX Video Pro X

After editing, a PSD file is created, which is imported into MAGIX Video Pro X again and must then be assigned to a menu page as a template.



If access takes place through "Edit externally" see "Export menu" (view page 226), 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 X can only use bitmap layers from the menu PSD file. Text layers are read as a bitmap (graphic) so that MAGIX Video Pro X cannot make any changes to the text. Layer effects, etc. cannot be read by MAGIX Video Pro X. 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 X 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 226) 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 X 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 X 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.

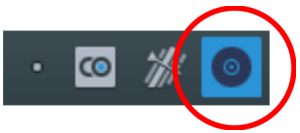
All other layers will be combined into a frame bitmap.

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 X. 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 X 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 a disc



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

Here you can burn your movies to CD, DVD, or Blu-ray Disc including selection menus.

All movies loaded into the project will be included. If you want to remove some of the loaded films, switch to the "Edit" screen again and delete the unwanted movies from the project there. To do this, switch to the movie, open the "File" menu and select "Manage movies -> Remove from project" (view page 294).

Note

When you try to burn your first Blu-ray disc a notice will appear to inform you that a free audio expansion package must first be downloaded and installed. Click on "OK" to proceed and wait until the audio encoder for Blu-ray discs is installed.

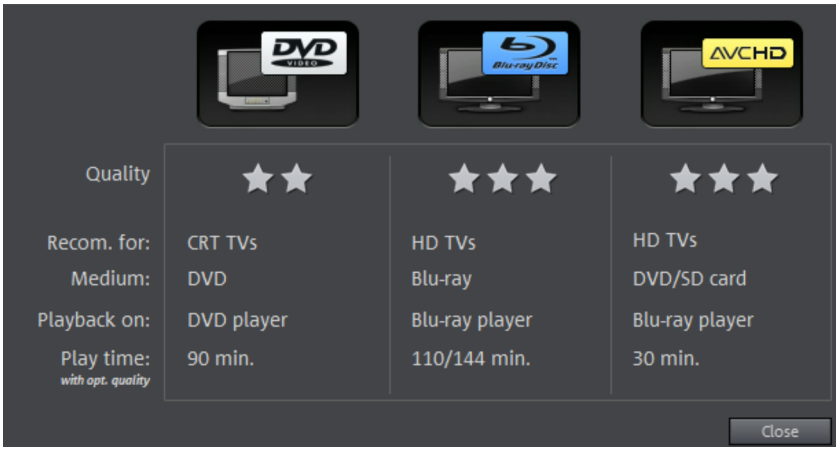
With a screen resolution of 1280 x 1024, the program display changes. This makes the program more manageable and easier to use. The work steps remain the same despite the different display.

If the current project contains data in the BDMV/MVC (Stereo-3D) format, the burn process cannot proceed. Due to licensing stipulations of the Blu-ray Disc Association, files in BDMV/MVC (Stereo-3D) format cannot be burned to blank optical media.

Burning wizard



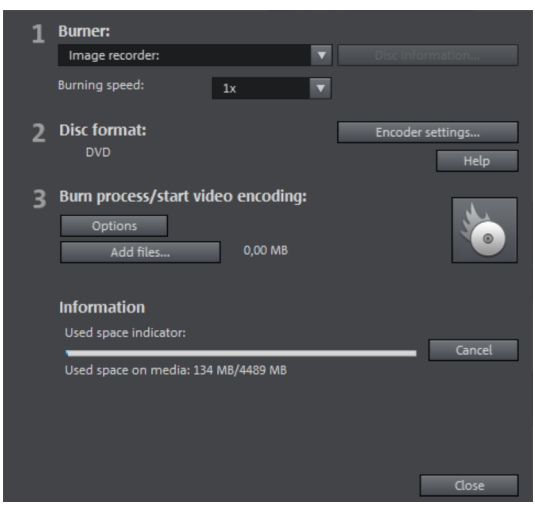
Click "Burn" to open the dialog for creating DVDs, Blu-ray discs, AVCHD and other video media including a menu.



Select what kind of disc you would like to create.

The burn dialog

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 363, view page 358) 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.

Activate buffer underrun protection: Many burners support techniques that prevent the much-feared "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.

Shut down 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 you don't have to wait for the process to finish to switch off your computer.

Burn standard video DVD onto same disc: You can use this option with a WMV HD disc to burn an additional normal DVD video. This ensures that your discs can also be played back on standalone DVD players. See Multi disc.

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.

Check data after burning disc: The finished disc will be checked for any mistakes after burning.

CD/DVD title: This is the title of the DVD as it will appear on the PC. The disc project name is displayed here by default.

Memory

Disc type	Storage media	Menu	Quality:	Length (optimal quality)
DVD	DVD	Yes	***	98 min.
Blu-Ray disc (view page 352)	Blu-Ray disc	Yes	*****	110 min.
AVCHD (view page 352)	DVD/Blu-ray Disc	Yes	*****	30 min./DVD 160 min./Blu-ray Disc

* The display time for some DVD players can be determined in this menu. The amount of image material that can be put onto a CD or DVD depends on the sizes of the picture files.

It is difficult to acquire reliable information regarding required memory, especially with the MPEG-2 encoder. 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.

In the MAGIX Video Pro X burn dialog there is a display of remaining capacity, which estimates directly how much space remains on the selected disc type with current settings. As soon as you change Encoder settings (view page 238), the capacity display will be updated.

Tip: The capacity display is only an estimate. For this reason, always make sure that you never completely fill the disc space. Instead, leave a buffer in case the files end up being larger than the provided estimate.

If you cannot save your disc project on a single blank CD, you will have to divide it up into various parts.

Note: Further information on MPEG compression and formats can be found in the chapter PDF manual in the chapter "Video and data formats" (view page 349).

Separate project onto multiple discs

Automatically: If the disc project requires more memory than is available on the disc, 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 as everything is automatic and all you have to do is insert a new blank CD when required.

Case 1: If several movies do not fit on a single disc:

In this case, switch back to the “Edit” interface and delete as many movies as necessary 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: If a long movie doesn’t fit on 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 playback marker to the position where you want to divide the movie. In the "Edit" menu, select "Cut -> Separate movie".
- All passages behind the playback marker will be removed from the overly long movie and made into a separate movie. Both movies can be controlled in the movie tab in the Project window. Save both of them separately to your hard disk (“File > Manage movies > Export movie file” menu option, for example, as “Part 1” and “Part 2”).
- Remove one of the two movies (for example, "Part 2") from the disc project ("File" > "Manage movies" -> "Remove from project (view page 294)" 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 “Edit” view and load it into the second film (“Part 2”).
- Switch to the "Burn" interface and burn the second movie to ("Part 2") 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: Here you will find useful presets for the selected disc type. Here are some of the presets for a DVD:

Longplay DVD Video	DVD with extra-long playing time. The bit rate is reduced, which compromises image quality.
Longplay music DVD	DVD with extra-long playing time 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: For all settings, you can choose between NTSC (USA and Japan) (Europe).

Bitrate: Bitrate determines the size on the disk that the finished video will take up. The greater 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: With Smart Rendering you can significantly reduce the encoding effort 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: Activate this option only for playback on a TV screen, where it reduces horizontal flickering around fine details.

Calculate video effects on GPU: To accelerate exporting, you can let video effects be calculated on the graphics card. At this time this applies to brightness, gamma, contrast, color, saturation, image size, cropping and position effects as well as various fades and mixes. Please note that external effect plugins and elaborate artistic effects must be processed on the CPU and for this reason using this function will not yield any speed advantage.

Note: This function is specifically optimized for NVIDIA graphics cards. You can, however, experience acceleration with other types of graphics cards, too.

3D mode: If you have 3D material in your project which has been edited with Stereo3D, you can select here in which mode it should be burned to disc here. 3D is switched off by default.

To return to the standard settings, press the **Reset** button.

Via **"Advanced"** you can reach the "Advanced settings" dialog. Here you can make changes to all MPEG encoder settings. Read the \ "MPEG-1/2 encoder-settings" appendix (view page 355) and "MPEG-4 encoder settings" (view page 363, view page 358) in the PDF manual or program help.

Create label and CD cover



MAGIX Video Pro X contains an easy-to-use print center. Here, you can design and print track listings, CD covers, CD booklets, and circular CD labels. You can find additional information in internal program help opened using F1.

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).

Formats that support Deep Color will additionally show the scheme for color subsampling and bits per color channel. These are partially adjustable, if this is supported.

Colorspace: Here you can indicate a colorspace that should be kept during file playback. BT.709 (sometimes also called Rec.709) is the latest norm and is the default setting. Change this setting if the video should adhere to other norms and set a more precise color output.

Other

- Export selected range only
- Apply anti-interlace filter (suppresses flickering)
- Shut down PC automatically after successful export
- Calculate video effects on GPU

Play 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).

Notice: Burning a disc takes place on the the "Burn" screen (view page 72) . Read more on this in the chapter "Burning a disc" (view page 234).

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 349) as well.

Keyboard shortcut: Ctrl + Alt + A

Video as DV-AVI

This option exports the video as a DV encoded AVI. The arrangement can be easily transferred to a connected camera using a FireWire interface.

The dialog will provide further information on all available options. You can access it via **"Advanced"** in the export dialog. You will also be asked for which video standard you want to export the DV data - PAL (Europe) or NTSC (USA).

Shortcut: Ctrl + Alt + D

Video as MPEG video

MPEG stands for "Motion Picture Experts Group" and is a high-performance compression format for audio and video files.

We recommend finding a fitting preset from the list first, since there are many various devices and applications for this format. You will also find, for example, intra-frame presets (starting with "Intra422") for video playback in professional studio environments.

Details about settings for the MPEG encoder are provided in the program's "Help" file in the "MPEG encoder settings (view page 355)" appendix.

Keyboard shortcut: Ctrl + Alt + P

Video as MAGIX video

Exports the project in MAGIX video format.

This format is used for video recording by MAGIX Video Pro X video software and is optimized for digitally editing high quality video material.

Keyboard shortcut: Ctrl + Alt + M

Video as QuickTime movie

Exports the project in QuickTime Movie format. This format enables streaming playback of audio or video files via the Internet.

Note: The Apple QuickTime Library must be installed for QuickTime files (*.mov).

Keyboard shortcut: "Ctrl + Alt + Q"

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!

Keyboard shortcut: Ctrl + Alt + U

Video as MotionJPEG AVI

Opens the export dialog for AVI video in MotionJPEG format. This format is supported by digital picture frames, for example.

Keyboard 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".

Keyboard shortcut: Ctrl + Alt + E

Windows Media Export

Exports the arrangement in the Windows Media format. This is a universal audio/video format from Microsoft. Accordingly, the settings options in the "**Advanced**" dialog are very complex.

Manual configuration

Audio/video codec: Various codecs corresponding to the various Windows Media versions (7, 8, 9) are possible. Should compatibility problems arise on playback, try an older codec with a lower version number.

Bit rate mode: Constant and variable bit rates are possible, most devices and streaming applications require constant bit rates. For VBR two pass modes the movie is compressed in two passes in order to optimally use the bandwidth for highly-compressed movies for the Internet.

Bit rate/quality/audio format: The bit rate is decisive in defining the display/audio quality. The higher this is set, the better the 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. Either the quality value may be set between 1-100 or, for two-pass encoding, an average or maximum bit rate. For audio, the bit rate is set additionally by the audio format.

Import: For the most common applications (other than for playback on mobile devices, for which you should use the supplied presets) like Internet streaming, Microsoft provides diverse system profiles to choose from. If you have the Windows Media Encoder 9 installed, which is available from Microsoft as a free download, you can edit the profiles or create your own. These may be loaded by pressing the "**Import**" button.

"**Clip info**" enables the title and artist names, copyright details, and descriptions to be entered.

Keyboard shortcut: "Ctrl + Alt + V"

Video as MPEG-4 video

MPEG-4 is actually a collection of highly efficient codecs for video and audio based on the MPEG standard. Compared to MPEG-2, the same quality can be achieved with smaller file size.

Recommendation: Check the presets that the program offers to find the right preset for each application and the right playback device. These presets are optimized for typical applications.

Advanced users can make specific adjustments to these three areas using the advanced settings. For more information about the MPEG-4 encoder read the "MPEG-4 encoder settings" (view page 363, view page 358).

In the presets there are also various 4K presets for exporting very high resolution material.

Keyboard shortcut: Ctrl + Alt + G

Export video as HEVC

HEVC is the sucessor format to MPEG-4. HEVC (view page 361)allows for the same image quality across file sizes, even when smaller file sizes are used. The improved image quality can be clearly seen, especially at lower bitrates.

Shortcut: Ctrl + Alt + I

Video as ProRes

ProRes is an HD-enabled video format high quality in spite of low data rates. The format supports high-quality color spaces (4:2:2, 4:4:4), alpha channels and Deep Color color spaces with 10 and 12 bit.

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 (view page 209)" 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.

Keyboard shortcut: Ctrl + Alt + W

Export as transition...

The movie is exported as an alpha transition in the MXV format. The brightness value of the movie depends on how the transition functions. The option "Export the selected range only" also specifies that only a small part specified beforehand via the in and out points will be exported.

If you do not change the save location, you will locate the saved transition in the Media Pool under "Transitions -> Standard".

Keyboard shortcut: Ctrl + Alt + T

Single frame as BMP file

Exports the image located at the playback marker and displayed in the video monitor as a bitmap (*.BMP) file.

Keyboard shortcut: Ctrl + Alt + B

Single frame as JPG

Exports the image located at the playback marker and displayed in the video monitor as a JPEG (*.JPG) file.

Keyboard shortcut: Ctrl + Alt + J

Settings for and management of video projectors

Movie and project 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'll discuss the various settings included in MAGIX Video Pro X for your movies and projects.

All settings dialogs may be accessed via "File -> Settings".

Movie settings

Open the movie settings via "File -> Settings -> Movie..."

Movie settings

Play movie in loop mode: The movie will be played back endlessly. Playback starts at the playback marker and after reaching the end of the project will restart at its beginning.

Use current settings as presets for new movies: If this option is activated, all new movies will receive the settings that you have chosen in this dialog.

Crop 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: Here you can change the number of tracks.

Audio sample rate: The preset sample rate is 48 kHz. This sample rate is used for all recordings and is also the standard setting for DVD audio tracks. This setting guarantees optimal sound quality. Audio material at different sample rates (e.g. CD audio with 44 kHz) is automatically converted when loaded (resampling). Only change this value if you want to use audio with a different sample rate or if your sound card does not support this sample rate.

Note: The audio sample rate can only be changed in empty projects. When an object is added to the project, this setting is locked.

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. Make sure that the entries for aspect ratio and frame rate correspond to your target format so that your finished

movie will play smoothly on the intended screen, no undesired black strips are seen, and all video/image objects are in their correct positions. You'll also find various settings for 4K videos ("Ultra HDTV").

Note: MPEG encoding requires a width/height ratio that is divisible by 8.

Synchronization

Note: A description for all the synchronization dialog's control elements is provided here. A description of how the synchronization is set can be found under "Synchronization with external devices" (view page 262).

Input synchronization active
MAGIX Video Pro X is configured as a slave and follows the MIDI-timecode, which is received from the set MIDI device.

Device: The driver on which the MAGIX Video Pro X receives MIDI-timecodes is set here. If you use a MIDI interface with an SMPTE input, set the port of the SMPTE input.

Frame rate: Specify here the corresponding SMPTE frame rate, e. g. 24 for cinematic films, 25 for PAL video and audio synchronization, 29.97 drop/non drop, or 30 for NTSC video.

Pre-roll: Here you can enter a frame number that MAGIX Video Pro X will ignore before synchronization starts. This takes into account the fact that analog devices normally require a certain amount of time before they reach the correct speed. In order to prevent synchronization of MAGIX Video Pro X to an invalid time, this can be skipped by means of preroll frames.

Output synchronization active
MAGIX Video Pro X is configured as the Master and sends the MIDI-timecode on the selected MIDI device.

Device: The driver on which the MAGIX Video Pro X sends MIDI timecodes is set here. If you use a MIDI interface with an SMPTE output, set the port of the SMPTE output.

Start offset (SMPTE): Here you can specify a period in milliseconds or in SMPTE frames to be deducted from the incoming MIDI-timecode before the time is applied for synchronization. With an offset of 60:00:00 (1 hour), you can therefore synchronize a tape with an SMPTE code that starts at 1 hour, MAGIX Video Pro X however still starts at the tape beginning at 0.

MIDI Machine Control

The synchronization window provides settings for remote control via MIDI Machine Control. MAGIX Video Pro X supports the control of external devices or through external devices through MMC.

Send/receive MMC fullframe: With activated output synchronization (MAGIX Video Pro X is the Master), additional MMC commands are sent. If the input synchronization option (MAGIX Video Pro X is slave) is activated, MAGIX Video Pro X receives MMC commands.

Movie information

This option opens an information window:

Name: Here you can enter the name of the current movie.

Date of creation: Displays the time the movie was created.

Last changed: Displays the time of the last save.

Number of objects used: Displays the number of all objects in the movie.

Used files: All files used in the movie are listed here.

Project settings

You can change project settings here. A project can consist of multiple movies and is saved as an MVP file.

Name and path: Displays the name of the movie and the location where it is stored on the computer.

Description: Here you can give your project a description - perhaps a few statements about the state of the editing progress, e tc. This is something like a notepad function.

Date: Here you can assign your project a specific date. You can choose between a date - e. g. "Dec. 25, 2010" - or a written description - e. g. "Christmas 2010".

Preview: This is the preview in a file manager such as Windows Explorer. You can use the automatic selection for the preview image or choose an image from your hard drive. You can also use a preview image from movie project.

Select preview image automatically: MAGIX Video Pro X uses an automatically-selected preview image.

Use image file

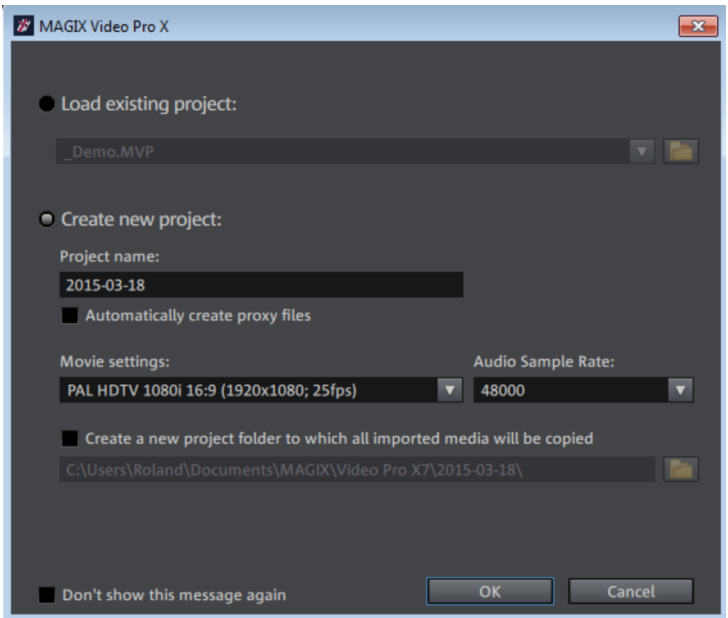
Clicking the folder button opens a dialog to load image files. In this dialog, you can navigate to the directory where the image file is found and select it by double clicking.

Use preview image from movie

Use the controller to select a frame from the corresponding directory.

Start dialog

A start dialog will open when the program is started or a new project is loaded. Here you can make important presets for the project. You can change these settings at any time by going to "File" > "Settings" > "Movie".



Load existing project: Here you can select and load an already added project as well as restore, further edit and correctly save the last unsaved project.

Create new project: Here you can assign a name to your new project.

Automatically create proxy files: If performance deteriorates and playback becomes shaky due to hardware limitations, hi-res source material or very complex projects, it is recommended to use proxy files for editing (view page 265). Lower resolution copies of the original file in a format that is better for playback are created and used for the editing process.

When this function is active and if you import videos from a GoPro camera, the LRV files (**L**ow **R**esolution **V**ideo) created by the camera are used as proxy files.

Movie settings: Here you can set the movie's target format (display norm, resolution, frame rate). This setting has no effect on the internal processing quality and can be changed at any time by going to "File > Settings > Movie".

Audio sample rate: Here you can set the audio track's audio sample rate.

Create new project folder: Here you can set the path for the project folder where all project files should be saved.

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 X 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 + S

Program settings

All basic settings for MAGIX Video Pro X are made in program settings.

Open program settings from the menu tab "File > Settings > Program" or use the shortcut by pressing "Y".

Playback

Audio playback

Driver selection Here you can specify whether the Windows Wave driver or the DirectSound driver will be used for audio playback.

- DirectSound is a component of DirectX and, if necessary, is installed together with MAGIX Video Pro X. DirectSound has the advantage that the sound output (for all modern sound cards or onboard soundchips) can also be used by other programs open simultaneously.
- WAV drivers are recommended if the CPU load is higher, as the larger buffers allow better handling of the load peaks (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 you have multiple sound cards installed on your computer, e.g. "onboard sound" as well as an additional sound card.

Audio buffer: In order to allow smooth playback of a complex project, MAGIX Video Pro X creates a RAM data buffer into which the current data is loaded. This allows for step-by-step preprocessing instead of preprocessing for the entire project.

- **Number of buffers:** Here you can specify how many buffers should be used. More buffers increase reliability and improve playback performance, but they also increase the memory requirements. When playback goes through DirectSound, only one buffer is used automatically.

Note: As a rule, if response and loading times are too slow, reduce the number and size of the buffers. Otherwise, increase the buffer size if you are still having problems with playback performance. Since error-free playback is usually more important than fast reaction times, the buffer size should be raised to 16384 or 32768 to avoid drop-outs. The possible number of used buffer updates is between 2 and 10.

- **Multitrack size/Preview size**: Specify the buffer size used to play the entire project or for previewing waves in the file manager.

Video playback

Overload prevention for realtime playback: Here you can activate or deactivate overload prevention during realtime playback of the project. This feature is particularly suitable for lower performance PCs.

Instant cache refresh in Multicam Mode: Activate this mode to empty the cache in short intervals which will make the preview for multicam editing immediately visible in the preview monitor. This may result in juddering during playback.

Number of tracks for parallel track optimization: It makes sense to limit the number of tracks when the program is running low on disk space and the project has multiple videos in parallel.

Project window

Autoscroll during playback: If autoscroll is activated, the screen view automatically shifts when the playback marker reaches the right edge of the screen, which is useful for longer arrangements. You can select the size of the scrolling steps from either "Fast" (whole pages) or "Slow" (half pages).

Attention: Scrolling requires constant recalculation of the screen view which may lead to interrupted playback if system RAM is too low. If this happens, simply deactivate the autoscroll feature.

Update in background: The update of the object display after move and zoom operations in the project window is performed in the background in order to let you work smoothly.

Spacebar function: You can set whether the playback marker returns to its original position or stays at its current place when playback is stopped with the spacebar.

Image 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). Keep in mind that this function requires more processing power.

Load images in background: Images will be loaded in the background to save computing power.

Folder

Here you can set the path where

- you want to save your projects (**Projects**)
- where files are exported (**Export**) or imported (**Import**), and recordings (**Recordings**) are saved,
- **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 or using the "Burn" button
- where editors for audio, image and menu editing are found, which should be opened by default
- and where the VST-plugins were installed.

Video/Audio

In the "Video/Audio" tab you will find all settings options concerning video and audio files.

Video standards

PAL is used in Europe; the United States, Canada, 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. This does not influence the quality of exported videos.

Automatic interlace processing: MAGIX Video Pro X usually automatically detects whether the loaded video files were recorded using interlace or progressive method; for interlace videos, the half-frame sequence is also recognized. In case automatic detection fails, you can deactivate it here and set the object properties (view page 323) of video objects to the correct process.

Options

Automatic preview of exported clips: This option plays the clip directly after export to check the result.

Extract sound from video: If a video file contains video as well as audio files, you can also import the audio file of the video if this option is selected. 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: This determines whether a dialog will appear for each imported file during VOB import (VTS_01_1.vob) where you can give your film a name (box checked) or whether an automatically generated name should be assigned (box unchecked).

Adjust small deviations from 4:3 aspect ratio during bitmap import: This option automatically adjusts photos that have nearly a 4:3 aspect ratio to the 4:3 TV format. The pictures are therefore easily stretched or compressed. This inevitably brings about distortions in the picture. If this option is deactivated, black bars appear along the sides.

Load effects from JPX file automatically for images: If the images were edited with other MAGIX programs (e. g. MAGIX Photo Manager), description files with jpx extensions have ben created for each, containing certain effects and image titles.. This option adds that information into your editing process.

Apply image effects during export to MAGIX Online Services: If this option has been activated, all image effects will be calculated into the sent file.

GPU acceleration for standard transitions: Here you can (de)activate hardware acceleration of your graphics card for 3D effects. More information can be found in the 3D transitions (view page 107) chapter.

Automatically create frame table during import: 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: Resolution fro image files will be reduced during playback to conserve resources. This requires less computing power than playback in full resolution; full resolution is always calculated during export.

Outsource memory for bitmaps in other process: If this option is activated, your bitmaps become easier to handle because they are edited in a different process.

System

Program interface

Reactivate dialogs: When newly installed, MAGIX Video Pro X 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 X to be deactivated, and the screen can also be set to darken when dialogs are displayed.

Undo/Redo

Here you can set the maximum number of steps the "Undo" function can have. Please note that memory requirement increases with the number of steps the program must save.

Other

Automatic preview when changing transitions: When this option is activated, a short preview of the transition effect will be quickly played between the two objects you selected.

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 automatically moves the playback marker to the beginning of the selected object.

Activate mobile sync: Mobile sync is necessary for transferring Movie Edit Touch projects to MAGIX Video Pro X. When this option is activated, you can transfer projects created with Movie Edit Touch directly to MAGIX Video Pro X to continue editing them.

Save automatically

Here you can set up an automatic backup function, which saves the project as a backup file with an "MV_" (instead of the normal project file "MVD") in the project folder. You can choose whether or not your project should be backed up and at what intervals this will take place.

Display options

Video output to external device

Activate video output: With this option, you can display your project on an additional monitor. You can play a preview to see how the material looks at the end without any additional hardware.

Preview in the Arranger and preview window and playback in video recorder/analog recording

You can set the playback mode separately for the project window (including all preview windows and effects dialogs) and the preview monitors during recording and in the video recorder.

Always use DirectX9: Normally DirectX11 is activated for the preview in the arranger. DirectX9 can be activated for Windows XP and graphics cards that don't support DirectX11. You can also activate it if you are having general problems.

Video mode:

The default setting is "hardware acceleration (Direct3D)", which you should keep as is as a rule to achieve the best results. If you encounter problems, such as the image is black, you can try if other modes bring improvement. The "Compatibility mode (VideoForWindows)" completely turns off hardware acceleration, and should therefore work best. It is also the slowest mode, so the project probably will not play back smoothly. These options are irrelevant for file export or burning discs.

Notice: Only change the video mode when there are problems with the presets, e.g. judders or lengthy screen distortion.

Compatibility mode (video for Windows): This is the standard mode that functions on all systems.

Standard mode (Direct3D, hardware acceleration): This mode offers 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 is not used during export. If you activate this mode and have multiple graphics cards installed, you can also select the desired graphics card to be used.

Warning: To use this mode the graphics card must posses at least 128 MB 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 X checks the corresponding properties when this mode is selected, and switches it off if necessary.

Alternative mode 2 (Video Mixing Renderer9): 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.

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. This option is only selectable in compatibility mode (video for Windows).

Warning: Because of the necessary waiting time on the next VBI, this process adds significant computational time!

For digital displays like the TFT monitors you can deactivate the option.

Output on monitors with higher bit depth: If this option has been activated, you can display video material with higher bit depth (view page 266) on appropriate monitors in higher bit depth. Most monitors don't yet support this output in higher bit depth, and this option is deactivated by default.

Using dithering for display: Dithering improves output of color grades and reduces typical display errors (color bands) that appear when bit depth is reduced. In other words: Only dithering retains the advantages of higher bit depth recordings in a regular 8-bit output. Therefore, deactivate this option only in case problems arise.

De-interlacing: In the DirectShow modes "Overlay Mixer" and "Video Mixing Renderer 9", you can activate hardware de-interlacing with your graphics card. For general information on de-interlacing and the options "Top/Bottom Field first", please read the corresponding article "De-interlacing". De-interlacing (view page 375) of the PDF 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.

Import/Export

GPU hardware acceleration

Hardware acceleration for output, if possible: Here you can activate hardware acceleration during playback if your system supports it.

Hardware encoding during export, if available: Here you can activate Hardware acceleration during export if your system supports it.

Others

Automatically preview exported clips: This option starts the clip immediately after exporting for verification.

Import Formats

File formats that you never use can be de-selected here. Once de-selected they will no longer be imported. Please keep in mind that several import modules exist for some file types (AVI, WMA); MAGIX Video Pro X uses the fastest one in each case. If you experience problems when importing certain files, you can experiment with

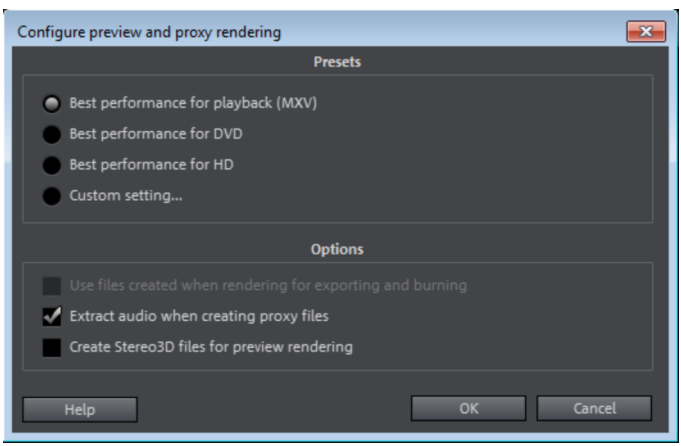
deactivation of certain import modules and therefore force MAGIX Video Pro X to use the slower but more compatible import module.

Proxy and preview rendering

The proxy/preview rendering settings affect the way in which MAGIX Video Pro X renders selected ranges in the project window. This dialog can be accessed through "File" -> "Settings" -> "Proxy and preview rendering".

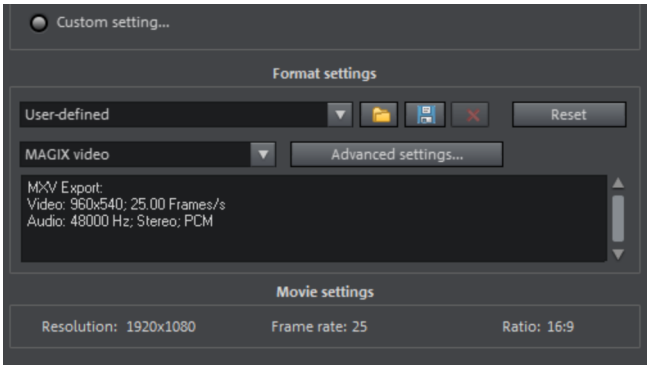
Keyboard shortcut: Alt + R

Info: The proxy and preview rendering function enables smooth preview playback by rendering complicated passages in the project in advance. You can start this function in the context menu of the marker bar. More details are available in the "Preview rendering" (view page 267) section.



Presets: Choose a preset that is suitable for your project. The rendered files will have a correspondingly higher or lower quality, and the quality of the preview will be determined.

- **Playback:** The lowest quality. Preview rendering should only be used for improved performance during playback in the program and not during export or burning. This is the default setting.
- **DVD export:** Playback in the program will be smoother and writing standard video DVDs will be faster.
- **HD export:** Playback in the program will be smoother and writing Blu-ray/AVCHD will be faster.
- **Custom setting:** The dialog is extended:



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. Your own custom presets can be saved for future projects.

Options

- **Use files created during rendering for export and burning:** If the resolution of the rendered files is sufficient for the finished movie, you can use them for the final export. This shortens the time required for creating the movie.
  This function is set as default when you select presets for DVD or HD export, since quality is also optimized for export.
  You cannot select this setting if you have activated the option "Best Performance during Playback".
- **Extract audio when creating proxy files:** In addition to the proxy files for videos, separate audio files (*.wav) are created in order to improve playback performance.
- **Create Stereo3D files for preview rendering:** You can also view the preview in 3D.

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 X 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 X also features DV logging. Large DV-AVI and audio files no longer need to be backed up, since MAGIX Video Pro X 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 X for editing.

Select the option "**Restore image files only**" and only the original image files contained on the disc will be restored.

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 X. It is important in this case that the folder structure remains unchanged. During importing into MAGIX Video Pro X, 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.

Keyboard 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 X. 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.

Synchronization with external devices

MAGIX Video Pro X supports MIDI timecode (MTC). This allows MAGIX Video Pro X to be synchronized from external sources and lets it synchronize external sources.

With a virtual MIDI cable (e.g. "LoopBe1") it is also possible to synchronize MAGIX Video Pro X with Samplitude or Sequoia. A requirement for this is that a virtual VIDI cable has been successfully installed.

MAGIX Video Pro X as the Master

If MAGIX Video Pro X should synchronize external programs or sources, then proceed as follows:

1. Open the synchronization options (view page 247).
2. Activate "Output synchronization".
3. Set the corresponding MIDI output under "Device" on which the MIDI timecode should be output.

Tip: If you want to synchronize another program (e. g. Samplitude or Sequoia) using a virtual MIDI cable with MAGIX Video Pro X, pay attention that the corresponding MIDI device is set in both programs. The program to be synchronized must also support MIDI timecode (MTC) and be configured as a Slave.
Example: If in MAGIX Video Pro X the device "LoopBe Internal MIDI" is set as the MIDI output, "LoopBe Internal MIDI" must be set in the MTC input in the program to be synchronized.

MAGIX Video Pro X as the Slave

MAGIX Video Pro X set as the slave causes the program to follow an external source or another program during playback.

1. Open the synchronization dialog (view page 247).
2. Activate "input synchronization".
3. Set the MIDI input under "device" where the MIDI timecode is located

   Result: MAGIX Video Pro X will be synchronized on this MIDI timecode.

Note: If MAGIX Video Pro X should be synchronized by another program (e.g. Samplitude or Sequoia) using a virtual MIDI cable MAGIX Video Pro X, pay attention 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".
Example: If you want to use "LoopBe Internal MIDI" as the MIDI input, "LoopBe Internal MIDI" must also be set in the Master as the MIDI-output for the MIDI timecode.

Synchronizing Samplitude/Sequoia with MAGIX Video Pro X

This section should help you synchronize MAGIX Video Pro X with Samplitude/Sequoia for Surround productions.

The introduction featured here provides a single example. In this case, MAGIX Video Pro X is the Slave and also follows the time information from Samplitude/Sequoia. In this way, it is possible to continue working in MAGIX Video Pro X while Samplitude/Sequoia runs synchronously.

The chapter "Transferring a Surround project to MAGIX Video Pro X (view page 212)" explains how completed Surround projects are transferred from Samplitude/Sequoia to MAGIX Video Pro X and how they are processed.

Requirements

Since synchronization occurs via MTC (MIDI time code), a virtual MIDI driver must be installed. An example of this is "LoopBe1".

If you want to create surround projects, you require a surround-capable surround card with 6 channels.

Setting up MAGIX Video Pro X

1. Open the synchronization dialog
2. Activate the box "Output synchronization active".
3. Enter the virtual MIDI interface under "Device" (e.g. "LoopBe Internal MIDI").
4. Enter the same frame rate under "frame rate" as is set in the Slave.
5. Activate the option "MMC Fullframe send/receive".
6. Click "OK" to close the dialog.
   MAGIX Video Pro X sends the MIDI timecode on the set MIDI device.

Setting up Samplitude/Sequoia

1. Start Samplitude/Sequoia; MAGIX Video Pro X can remain open.
2. Open the Samplitude/Sequoia synchronization dialog. Right click the "Sync" button on the transport console, or select the entry "Synchronization options" in the "Options" menu.
3. Activate the box "MTC input active".
4. Set the virtual MIDI interface under "Device" (e.g. "LoopBe Internal MIDI").
5. Open the "MIDI Machine Control (MMC)" settings.
6. Make the following settings:
   - MMC command: "MMC receiving active"
   - Under MIDI Device: set "(Use MTC Device)".
   - Activate "Cursor Position (Full Frame)".
   - Activate "Play, Stop, FFW, RW".

- Deactivate all other options.

7. Click "OK" to close the dialog.
8. Make sure that the "Sync" button is activate on the transport console of Samplitude/Sequoia.

Now you can easily edit and customize your videos in MAGIX Video Pro X while Sampltude/Sequoia runs the playback synchronous to MAGIX Video Pro X.

Note: Make a certain pre-roll time available for synchronization. It could take a few seconds after starting playback until Master and Slave playback in synch.

Special functions and wizards

In this chapter, we will introduce you to some of the especially useful special functions.

Proxy editing

If performance deteriorates and playback becomes shaky due to hardware limitations, hi-res source material or very complex projects, it is recommended to use proxy files for editing. Lower resolution copies of the original file in a format that is better for playback are created and used for the editing process. The original files in a higher resolution are then used for the export process by default.

You can activate the "Create proxy files automatically" function directly in the start dialog or at a later time in "File" > "Settings" > "Movie..." > "General movie settings". By default this option is not selected.

When this option is activated, proxy files will automatically be created for all video files imported to the arranger or the project folder.

Note: Make sure there is sufficient memory available if proxy files are going to be created.

You can set the quality of the proxy files in the dialog (view page 257) "Configure proxy and preview rendering" > "Presets". (Shortcut: Alt + R). The rendering process can be cancelled by pressing the "ESC" key. Proxy files will not be created if the quality settings for them are higher than the quality of the source material.

- It is not possible to create proxy files on an FAT file system (such as on an SD card) so the source material for proxy files should be saved on an NTFS drive (Windows standard).

Proxy files are not created for the preview on the source monitor. The conversion only takes place when the material is moved from the source monitor to the project folder. Now editing can be done more smoothly on the source monitor.

Tip: You can activate or deactivate proxy files using the Quick function (view page 71) for a smoother playback. This is useful during proxy editing if you want to quickly check how an effect will look on the original material.

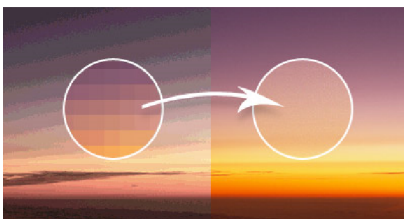
Use proxy files during rendering: If you want to burn your HD material to DVD, you can reduce the rendering time. Activate the settings „Best performance for DVD“ in the dialog (view page 257) „Configure proxy and preview rendering“ **before** the proxy files are created. This will ensure that the quality of the proxy files is sufficient for output on DVD. You should also activate the option "Use files created during rendering for export and burning" to use the proxy files during export.

Introduction to 16-bit Deep Color processing

The new Deep Color support in MAGIX Video Pro X expands the color depth for internal processing from 8-bit to 16-bit for each color channel, theoretically making more than 281 billion color grades possible.

Background information:

The color depth is determined by the number of color nuances that it is possible to represent. The number of shades is measured in the digital world in bits and determines the color depth of an image. The more gradations or bits there are, the more brightness levels, or color variants, can be represented. An elevation reduces the step-effect in color gradations.



8-bit processing is currently the general standard in video editing and DVDs, Blu-rays and most TVs and monitors. Everything above was hardly possible to implement until recently due to technical limitations, such as missing cameras and corresponding playback devices for home and semiprofessional use.

In addition, many video codecs and image standards use color subsampling to reduce file size. There are different ways to do this, using different omissions when sampling color signals. The perceived quality loss is minimal in the process.

The first processes of the internal Color Grading workflow in MAGIX Video Pro X have already been switched from 8to 16-bit Deep Color. Step by step, all internal processes are being switched to 16-bit. Effects such as TimeStretch, DoFlip, Saturation, Fade and Crossfade are already supported. In addition to resolution and framerate, color depth can be set for the finished video in export settings. The result is more natural and brilliant images, without any bothersome gradations in color gradients.

In practice, this means:

Professional codecs such as HEVC and ProRes work with high resolution formats of up to 10-bit. Here you can profit from deep color support, since high resolution video material with high color depth is now processed without quality limitations. In addition, under ProRes color subsampling can now be deactivated by setting it to 4:4:4.

Notes:

- If you have a modern computer and complete numerous image processing tasks, 16-bit is worth it.
- 16-bit is more processing-intensive.

- Additional color depth pays off especially for material with very similar color hues and saturation.
- To properly represent the hues of Deep Color, everything should fit: From the source to the connecting cables to the display device, everything should support 16-bit Deep Color!

Supported formats with Deep Color support in MAGIX Video Pro X

Import

Video: AVC, HEVC and PRORES up to 10 bit

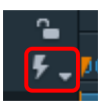
Photo: TGA, PSD, TIFF and RAW up to 16 bit

Export:

Video: HEVC and PRORES up to 10 bit

Preview rendering

With MAGIX Video Pro X you can pre-render specific sections of your movie. This is especially useful if smooth 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.



Preview rendering is available in timeline mode and multicam mode.

Note about multicam mode: Only the source tracks will be rendered, not the target tracks.

MAGIX Video Pro X offers two options:

- It can automatically indicate all sections that can be rendered.
- Or, alternatively, you can indicate the section that should be pre-rendered manually.

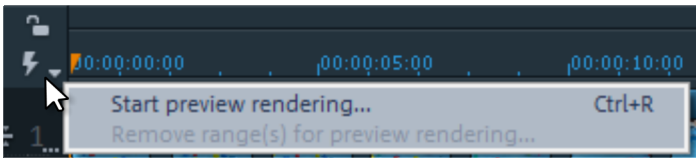
Note: The format that is used to render can be set via "File" > "Settings" > "Proxy and preview renderings" (view page 257).

Automatic preview rendering

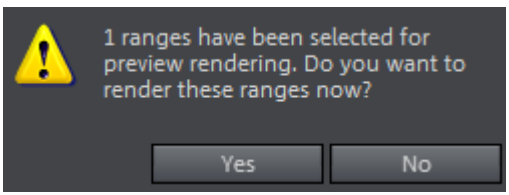
When using automatic preview rendering, you don't have to think about which sections could be affected. MAGIX Video Pro X analyzes your computer's performance and determines which sections can be considered for preview rendering.

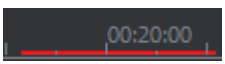
To perform automatic preview rendering, proceed as follows:

Step 1: Click on preview rendering button above the track header next to the timeline.



MAGIX Video Pro X will then analyze which sections should be pre-rendered. A dialog will appear, indicating how many areas have been located.





These sections will be additionally marked in the MAGIX Video Pro X timeline using red bars.

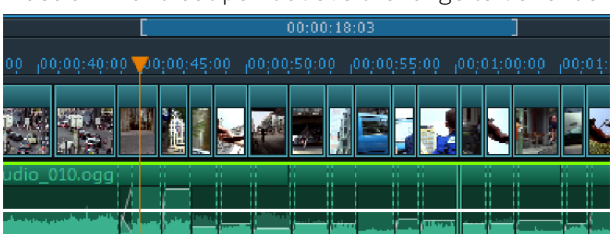
Step 2: Select "Yes" in the dialog to start preview rendering. If you choose "No" instead, you can still conduct preview rendering later.

The red bars will appear green after preview rendering is over. If you make changes in the pre-rendered section, it will appear red again and will have to be updated (view page 269).

Manual preview rendering

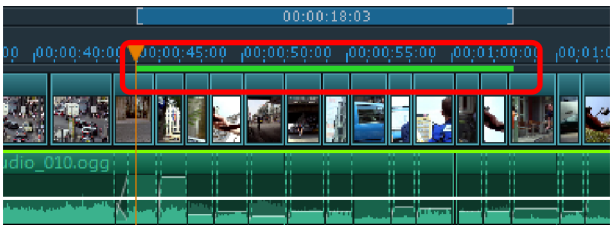
In manual preview rendering you first have to identify the section with potential problems.

1. Place an in and out point above the range to be rendered.



2. Finally, click on the "Preview rendering" button.
   A preview rendering dialog will appear.
3. Selected "Section".
   The preselected range will now be rendered.

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



The section will remain green as long as no further changes are made to it. The green line will then turn red and can be updated again.

Update preview rendering

Preview rendering is effective only as long as no changes are made to the pre-rendered area. You can recognize a prerendered area from the green bars appearing above it on the timeline. As soon as an object in the section has been edited, the green bar will turn red. You can update this section at any time.

1. To do this, place the playback marker inside the section to be updated.
2. Click on the "Preview rendering" button: 
3. In the preview rendering dialog select "Section" in order to update just the section selected by the playback marker. If you select "All", all non-rendered (red) sections will be rendered.

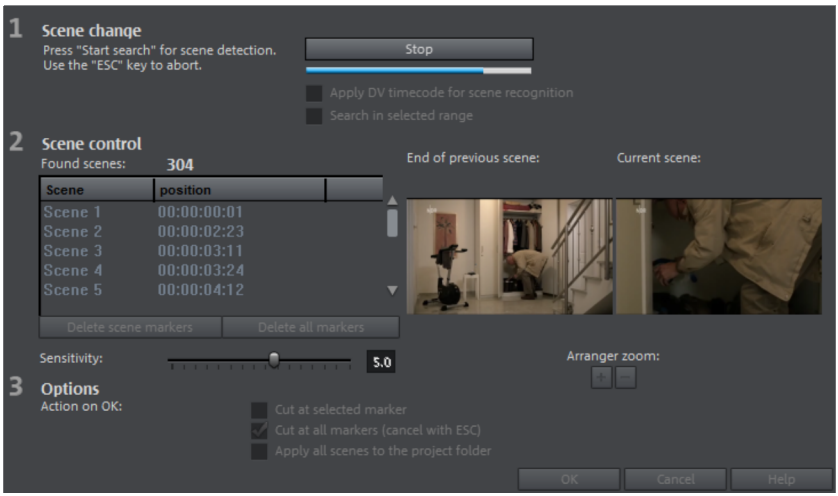
Load backup project...

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: Ctrl + Shift + O

Tip: Under "File -> Settings -> Program...", you can determine how often an automatic backup will be created in the "System" tab under "Automatic backup".

Automatic scene detection



In the "Effects" menu automatic scene recognition can be opened. The scene recognition function analyzes the film for scene transitions and scans for drastic changes in the brightness and color distribution within the picture.

Digital Video “time stamps” (points in time at which the device was switched on and off) are also recognized as separate scenes.

1. First select "Start" from the "Search scene change" box. The search for possible scene transitions will then start. If you have a large amount of material, this can 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, the scene transitions found are immediately displayed. If you are still not happy with the resulting scene partitioning, simply repeat and correct where necessary.
2. 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, the scene may have been falsly recognized. In this cases 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, so that different scene changes can be found depending on the setting.

With "Action on OK" you can 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 in the project folder.

Import a Movie Edit Touch project

You can import projects from the Windows 8 app MAGIX Movie Edit Touch into MAGIX Video Pro X for further detailed editing.

Note: Exporting the project back into MAGIX Movie Edit Touch is not possible.

Step 1: Save your project in MAGIX Movie Edit Touch using the "Save project" function. This function can be accessed in the app bar. If you are using MAGIX Movie Edit Touch on a different system than MAGIX Video Pro X (e.g. on a tablet PC), you can save the project on an external data storage device, e.g. a USB flash drive.

In this case a dialog appears where you are asked if the individual media files should be saved together with the project. Confirm this option by selecting "Yes".

Step 2: If necessary, connect the external storage device to computer that has MAGIX Video Pro X installed. Now select the option "File" > "Open..." in MAGIX Video Pro X. Navigate to the project file from MAGIX Movie Edit Touch. This will be in the format "*.mxpl". Double-click on the project file.

If a movie is already open in MAGIX Video Pro X, you will be asked if it should be closed.

Clicking on "Close" closes the current movie so that only the Movie Edit Touch project is open.

"Do not close" creates a new movie that can be selected in the the Movie tab (view page 21).

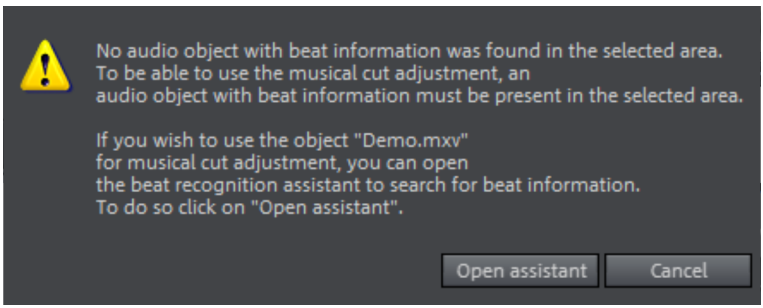
Musical cut adjustment

Behind the "Adjust cuts to music" function in the "Edit" menu hides the option to adjust the rhythm of an existing arrangement with cut scenes to a song in order to transform the movie into a music video. Requisite is that the song contains information about rhythm and beat.

- Place the arrangement with video sequences on the top track (track 1), which should be used for the musical edit adjustment. If possible, the arrangement should have the same length as the song and contain many cuts.

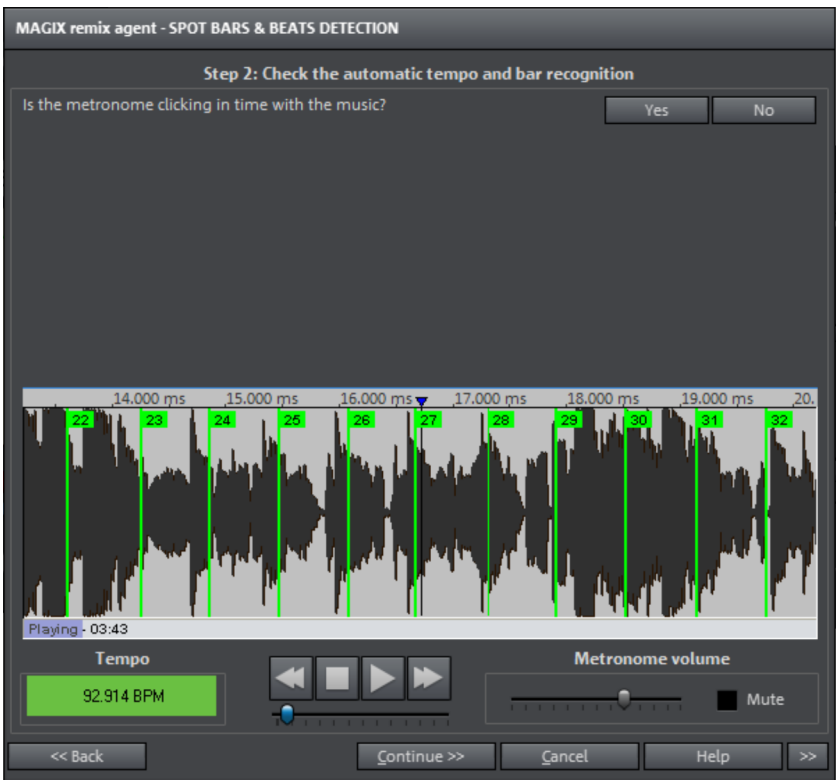
- Load the song, on which the cuts should be based, onto the track below.
- Select "Edit" > "Musical cut adjustment".

Normally, an info dialog will appear, stating that no beat information exists for the selected audio object.



- Select the "Open assistants" option in the dialog.

This opens the "MAGIX Remix Agent" beat recognition assistant. This tool can analyze the song's rhythm.



After the song's BPM value (= beats per minute) has been found, the music will be separated into short, similar passages (remix objects). The individual objects that result

in (However, nothing prevents you from doing just that. To do so, click on "Ungroup".)

The resulting object borders are important for editing. Because all objects always "snap to grid" on their edges, videos can be arranged in such a way so that they are cut exactly to the rhythm of the music: the positions on the track where the videos will snap lie on the positions of the beat.

Checking the automatic tempo and bar recognition

The analysis takes place in four steps:

Step 1: Checking the start marker

Step 2: Tempo recognition

Step 3: Specifying beat starts

Step 4: Application of BPM and beat recognition

Step 1: Checking the start marker

Before you start the analysis you should set the start marker at the position where the rhythmic music begins. This means that if the song has a long ambient intro, the start marker should be set after the intro. If the wizard can't detect any rhythm it will ask if the start marker has been set after the intro. If not, you can move it to a better position in the dialog.

If the beginning of the song does not have a definite rhythm, you will be asked if you want to move the start marker.

Step 2: Checking the automatic tempo recognition

The Remix Agent will analyze the audio material and try to determine the tempo. The object is played back while a metronome click can be heard and numbered green beat lines appear in the waveform.

Under the waveform on the left side the established tempo is displayed in BPM. There is a small transport console in the middle to make navigating easier. The slider serves as a position controller. To set the metronome volume, an additional fader and mute button are provided on the right-hand side.

The automatic tempo recognition doesn't always work right away. If you don't hear the metronome clicking in time with the music, click the "No" button in the upper section of the dialog in order to access the manual tempo input dialog.

To correct the metronome speed and any timeshift that may occur between the metronome clicks you can use the tempo correction as well as the "Tap tempo" button:

Tempo correction: The Remix Agent offers various speed settings. The most probable tempo detected by the Remix Agent is preset. If this tempo isn't correct, you can choose another one from the list. The next time you play back the song it should be in sync with the metronome.

On/Off beat correction: Now it may happen that the tempo is right, but the beats have been displaced. "On/off beat correction" provides a number of alternatives for moving the beats according to the complexity of the rhythm. Try out various alternatives until the metronome clicks are in sync with the beat.

Tap tempo: Instead of selecting the tempo under "Change Tempo", you can click rhythmically on the "Tap tempo" button or press the **"T" key**. Additional blue lines are displayed in the wave display. After at least four taps, the Remix Agent attempts to select the correct tempo from the list in "Tempo correction". The display next to the "Tap tempo" button displays the current status. Keep tapping until the red display showing "Unlocked" changes to the green "Locked" setting.

Use the **"0" key** to manually set the quarter beats while the music plays. Surrounding markers will automatically be removed to ensure that the set tempo remains intact.

You can move the markers with the mouse. If you hold down the "Ctrl" key simultaneously, the subsequent markers are also moved.

If the metronome clicks now correspond with the music, you can continue to the next step.

Step 3: Determining the start of a bar:

Next you can set the time signature. The default setting is 4/4 but you can adjust this if necessary. The beat at the start of the bar should coincide with the high sound of the metronome, or the red line in the waveform display.

It can now be corrected in one step: If the start of the bar can be heard, click on **"Tap One"** once using the mouse or press the**"T" key** on the keyboard.

Alternatively, select how many quarter notes the "One" is to be moved back.

Use the **"0" key** to manually tap the position of the beginnings of the bars during playback. This allows you to correct the beginnings of the bars in longer sections.

Continue to the last step if the starts of the bars are now correct.

Step 4: Applying BPM and bar recognition

Select which action should take place:

- **Create remix objects mode:** The object is positioned in the remix object according to bar length. What "Audio Quantization" is activated, remix objects are precisely

arranged on the bar grid. The remix objects can then be re-organized in a different rhythmic sequence, mixed with loops or remix objects from other tracks etc.
- **Tempo adjustment:** If the object and arrangement tempo are to be aligned, you can either adapt the object tempo to that of the arrangement via timestretching or, vice versa, you can change the arrangement tempo to that of the object. As most music has slight tempo fluctuations, the time synchronization is often not perfect: After some time the arrangement and the music "drift" apart. If the object tempo is to match the arrangement tempo, this can be prevented using audio quantization.
- **Save only tempo and beat information:** Tempo and beat information will be added to the audio material, object and VIP are unchanged. The images on track 1 will be repositioned according to this information.

MAGIX Soundtrack Maker

MAGIX Soundtrack Maker automatically generates music tracks that correspond to the indicated mood. Even mood changes are possible.

You can open MAGIX Soundtrack Maker by going to "Edit" > "Assistants (view page 304)".

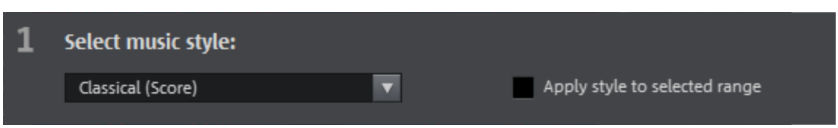
Select music style

Choose a musical style first.

The option "Apply to selected range only" limits the length of the background music you want to create.

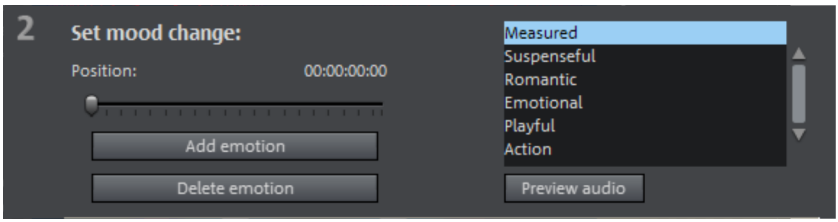
Note: The "Apply to selected range only" function will only work if an emotion has not been set outside of the selected area. Otherwise, the soundtrack will be used up to the point where the selected emotion is in place, so that there are no gaps in the soundtrack.

Range start and end (view page 116) 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 audio: 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.

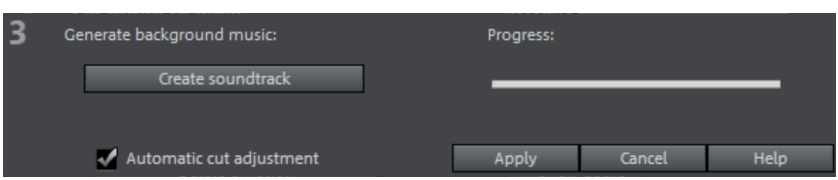
Add emotion: This button inserts the selected mood at the current position. MAGIX Soundtrack Maker will then suggest a new position for the next emotion by repositioning the position slider. Of course, you may also position this elsewhere to insert further moods.

Delete emotion: Removes the currently set.

Generate background music

Clicking "Create soundtrack" creates a new soundtrack. "Progress" shows the current status.

Note: Soundtracks you create are beat-based. In most cases the length of the soundtrack will not match the marker positions, so that the track can play. These are frame-based and as such, can be set to a more precise grid than a beat-based soundtrack.



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 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). Then

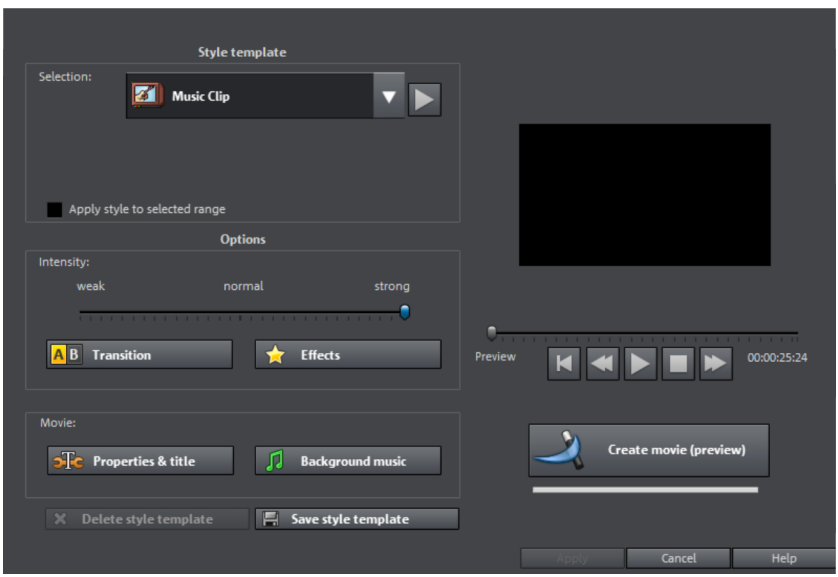
activate the option "Vary only selected emotions". Now click on "Create variation".

Automatic cut adjustment: This option re-arranges the video and photo objects in your project to match the music. Make sure to deactivate this option if you do not want this function.

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.



This button plays a sample slideshow with the selected style template.

Intensity

Controls the portion of video and image objects that feature effects. With "Normal" you will see a balanced amount, whereas with "Weak" or "Strong", correspondingly fewer or more effects.

Transitions

Transitions can be individually activated or deactivated using this button.

The slider in the transitions dialog can be used to adjust the amount of each type of transition.

Transition duration: Set the length of the transitions in seconds.

3D transitions use Stereo 3D mode: If this option is activated, 3D transitions use Stereo 3D mode.

Random transitions: The transitions are set to random values.

The "play" button below the preview monitor plays a preview.

Effects

Various effects can be individually activated or deactivated using this button.

The slider in the dialog controls the amount of each effect type.

Random effects: The faders that control the amount of effects are set randomly.

Treat special image formats intelligently

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 and unselected in the detail view.
If this option is not selected, then these images will use the same effects as all other images.

You can turn effects and transitions belonging to each category on or off using the list symbol. The arrow below the preview monitor plays a preview.

Properties & titles



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 279) 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 123, view page 123) 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 date/time below thru black: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 date/time below 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 X 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: Music objects, located on the 5th track will be listed and used together with audio objects for background music.

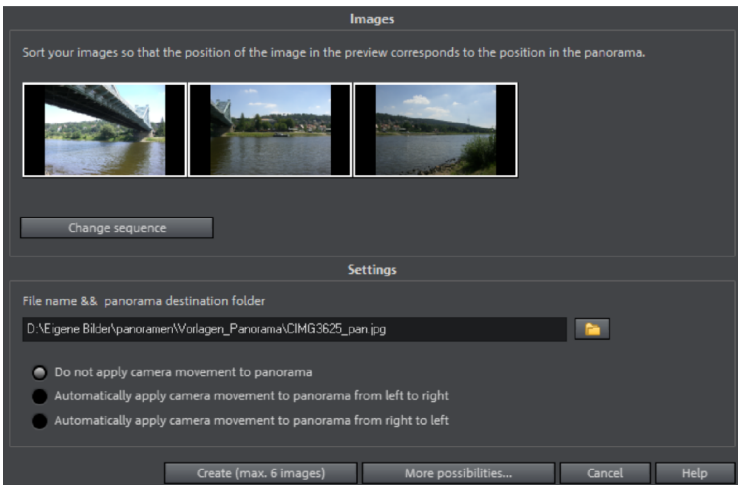
Produce panorama pictures

This special feature can be applied to selected photos by going to "Effects" > "Video object effects" > "Create panorama". Using it, you can combine several photos into a wide panorama photo.

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 "Create panorama" from the context menu "Effects" (view page 308) > "Video object effects".



Invert image sequence for panorama image

Sometimes photos are accidentally loaded in the wrong sequence. To sort the photos properly, click on the "Invert sequence" button.

Calculating the panorama image

If you click on "Create" the panorama image will be processed. Depending on the resolution and number of original images this may take some time. The original photos are replaced in your slideshow with the panorama image in the movie. The original files on your hard disk are not affected.

Note: You can use up to six images to create a panorama image. Click on "More options", to find out more about 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.

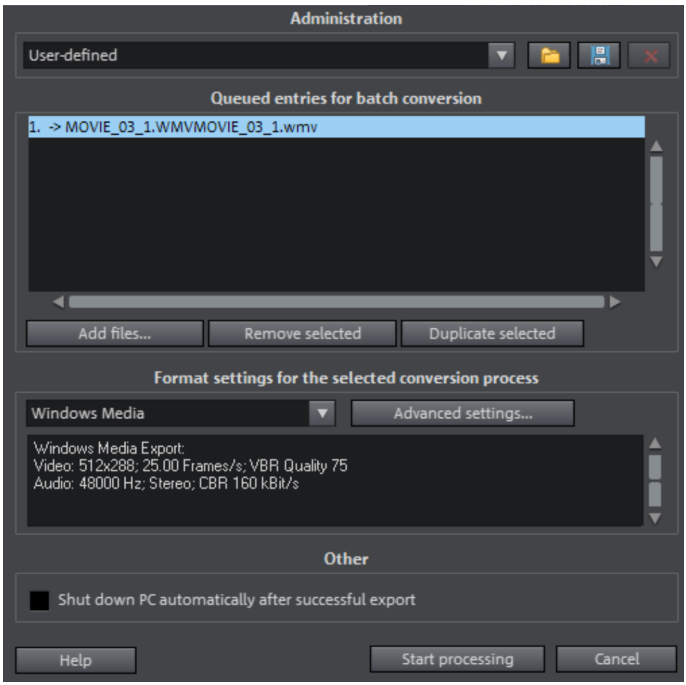
Open batch conversion

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 (view page 53): 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.

Batch conversion dialog



Presets: 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.

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: 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 computer 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.

Blackmagic Design video cards

MAGIX Video Pro X supports the display and recording of screens and monitors that are connected through certain Blackmagic Design video cards such as DeckLink and Intensity.

Fullscreen preview monitor

The image from the video monitor will be displayed on an external monitor, which is connected to the card output. Activate this in the "Program settings > Display options > Video output to external device > Activate video output" and select the connected device.

The display on the external monitor is dependent on the settings of the current movie (resolution / frame rate / interlace properties). This makes a very precise preview of the movie possible during editing.

Recording

These cards can also be used to record various signals, such as HDMI. Some DSLR cameras output preview images through an HDMI. These images can be recorded directly into a high-quality and editing-friendly format if the camera's internal image compression is bypassed.

HDMI capture can also be useful for creating presentations with applications requiring high computing power. An image from a PC with an HDMI out can be recorded by a second PC with an HDMI in.

Use movie templates

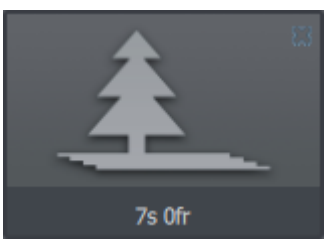
Use movie templates in order to tell a whole story using just a few mouse clicks.

Opening movie templates

All movie templates in the Media Pool can be found under **Import** > **Movie templates**. Select the movie template according to the desired length of the movie. Double clicking on a movie template opens it for filling.

Insert your own material

Manual filling



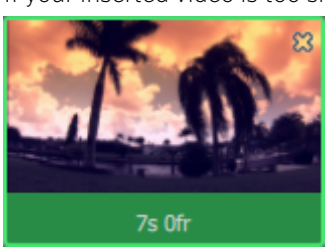
You can insert your content anywhere you see a media placeholder (see illustration).

The specified length will be displayed on the media placeholder. The length cannot be changed.

The placeholder icons indicate which type of material should be inserted here (e. g. group shot, landscape, close up).

1. Drag the desired image or video from the Media Pool or the project temp folder in front of the placeholder to be replaced.

   If your inserted video is too short, it will be rejected by MAGIX Video Pro X.

   Images always have the length of the controlled media placeholder.
2. If the video is too long for the media placeholder, move the position of the video in the editing area.



Automatic filling

To add content quickly, use automatic filling.

Select multiple media items in the Media Pool or in the project temp folder and drag them over the movie template. A field will appear where you collect your media. The movie template will now be automatically filled. The order of the media items in the template determines the date of the files; the sections are selected at random.

Note: Depending on the template, either the entire template will be filled with the video footage or individual placeholders will each be filled with a video from the selection.

If you do not like the compilation, click on "Reapply" and the program will select new video sections.

Design title

- To customize the text, click on the corresponding placeholder and enter the desired text to the right of the editing area in the text field.

Manually editing a movie template



Click this button if you want to customize the movie template in detail. The movie template will be transferred to the known edit screen and every object, every transition, every music title, etc. can be customized.

Note: You cannot return to the movie template wizard.

360° videos

360° videos are videos, in which video is recorded in all directions simultaneously. Special cameras are used for this, consisting of several normal cameras that record in different directions. In the simplest case, they're two cameras with super wide angle lenses that record in two directions; better models use six or more cameras.

The result is that the viewer can view "around" him or herself by determining the view direction. To do so, drag the mouse during playback on PC. On mobile devices, the built-in orientation sensor can be used: The view direction follows the device's rotation. In combination with VR glasses or a smartphone attachment such as Samsung Gear VR or Google Cardboard, it is possible to be completely submerged in a virtual environment with a 360° video.

360° videos are supported by the most important video platforms like YouTube, Vimeo and Facebook.

Technically, 360° videos are regular, two-dimensional videos. The images of the sphere surface around the camera are displayed distorted, similarly to how the Earth's surface is projected onto flat maps of the world. This results is relatively large videos in order to provide enough resolution along the strongly distorted edges after rectification.

360° editing

There are two ways to work with 360° in MAGIX Video Pro X:

1. Creating a 360° video from your 360° output material and adding content (videos, images and titles) and effects to it, or
2. adding your 360° content to a normal video and specifying the display section and direction of view.

The editing features for both scenarios are available under **360° video** under the "Effects" tab in the media pool. The editing mode which makes the most sense for the application scenario in question is automatically displayed under **360° editing**.

Creating a 360° video

MAGIX Video Pro X automatically switches to 360° mode when you load 360° material (a prompt will appear). The program will also automatically perform any necessary stitching (see below).



For these types of videos, the video monitor is switched to a special 360° mode which straightens the image and allows you to move the direction of view using your mouse. (You can get to 360° mode by going to the menu located in the upper left-hand corner of the program monitor (view page 68).)

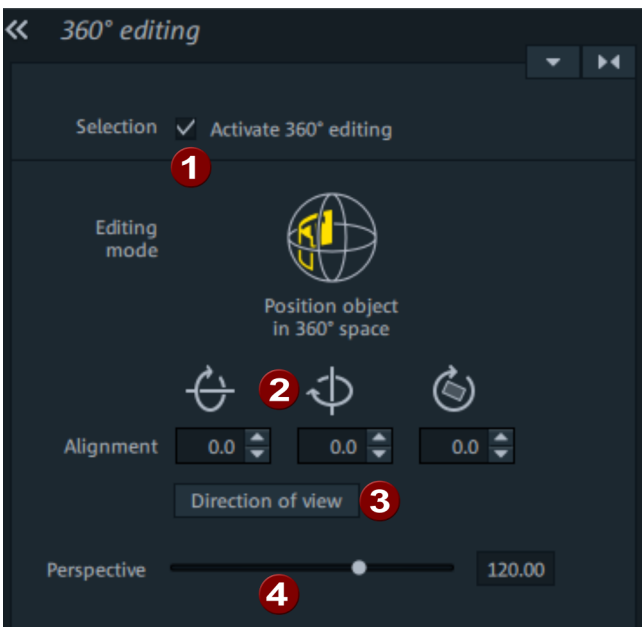
If Video Pro X does not automatically recognize your 360° video material as such, you can manually switch to 360° mode by going to the movie settings and selecting a corresponding video preset (360°...) at the bottom of the list.

You can cut this video and apply effects as you would a normal video in MAGIX Video Pro X. But bear in mind that most effects in the View/Animation section will remove the 360° effect.

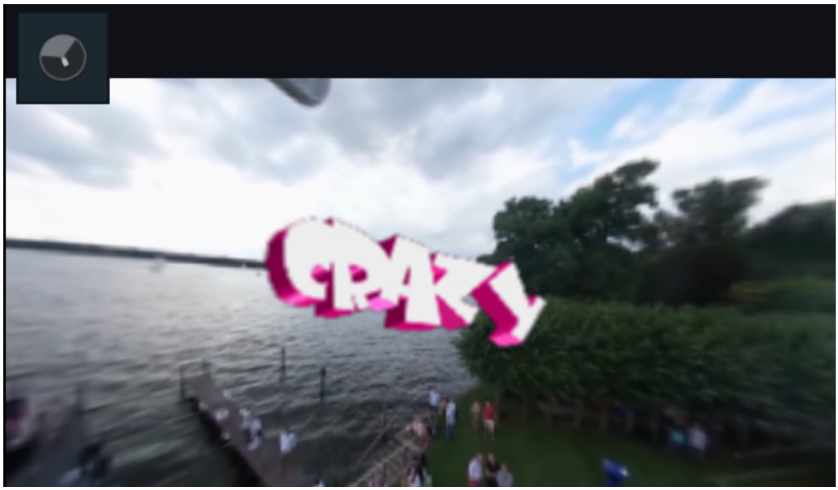
Note: Automatic recognition currently only works for Ricoh (Theta m15, S and SC) and Samsung Gear 360 models and for 360° projects you have exported yourself.

Adding content to 360° Videos — "Position object in 360° space" editing mode

To add content to a 360° video (e.g. floating titles), proceed as follows:



1. Place the play cursor where you want the title object to appear.
2. Create a title object (view page 123, view page 123).
3. Select the object and switch to the 360° editing effect in the media pool.
4. Activate 360° editing (**1**)
5. In the video monitor in 360° mode, use the mouse to set the view to the position where you want the title to appear.
6. Click "Orient to perspective" (**3**) to place the title precisely in the direction of view. Use perspective (**4**) to specify the distance between the title object and the viewer.
7. To make the title fly in and out, you can apply a keyframe animation (view page 156) to the perspective and orientation parameter (**2**).



Video monitor in 360° mode, with a 3D title object added to a 360° video

Adding 360° content to other videos — "Select section from panorama" editing mode

To add 360° videos or photos to a normal video, proceed as follows:



1. Load the 360° video or photo. If a message appears asking if you want to switch to 360° mode, select "No" — we do not want to create a 360° video, we simply want to add 360° footage to a normal video.
2. Select the object and activate 360° editing (**1**).
3. Use "Orientation" (**2**) to define the direction of view. It's also possible to simulate a camera pan through three-dimensional space by animating these parameters and the viewing angle (**4**) using keyframes (view page 156).
4. The "Camera angle" (**3**) is preset to 360° for 360° videos; for panorama photos with a lower camera angle, you can check the box and set the camera angle to a different value. You can try to get close to the "exact" value by eyeballing the effect and adjusting the angle correspondingly.
5. "Perspective" (**4**) specifies how much you want to zoom in or out.
6. The remaining parameters can be used to correct distortion: "Super wide angle" (**5**) widens the perspective beyond the maximum permitted angle of 180° all the way up to 360°. This lets you turn panoramas into eye-catching mini-planets. The fisheye lens ("fisheye"**6**) distorts the perspective. If an image already contains distortion as a result of a wide-angle shot, the fisheye effect can be used to correct this. For instance, a curved horizon can be "straightened".

360° scene rotation

This effect rotates the entire 360° scene along all three spatial axes. This allows you to make corrections if the 360° camera was upside down or crooked during filming.

Preprocessing / Stitching

Stitching describes the process of combining images from individual cameras to create one, large image and projecting the spherical image onto the rectangular surface of the video. While more advanced cameras can perform their own stitching, most simple cameras with only two lenses create a video which needs to be stitched together to create a true 360° video.



Unstitched video image from two 180° fisheye lenses on a 360° camera

These cameras often include stitching software, but the more elegant solution is to perform stitching directly in MAGIX Video Pro X. The stitching feature is located under the Effects tab in the 360° video section of the media pool.

Select the video object and effect, then click "Apply effect". The video should look like this in the video monitor:



For standard 360° cameras with two lenses, there are presets located in the list field above. For other camera models, you can change the parameters below.

Note: Video Pro X normally recognizes 360° video material in need of stitching and automatically applies the effect.

Menus

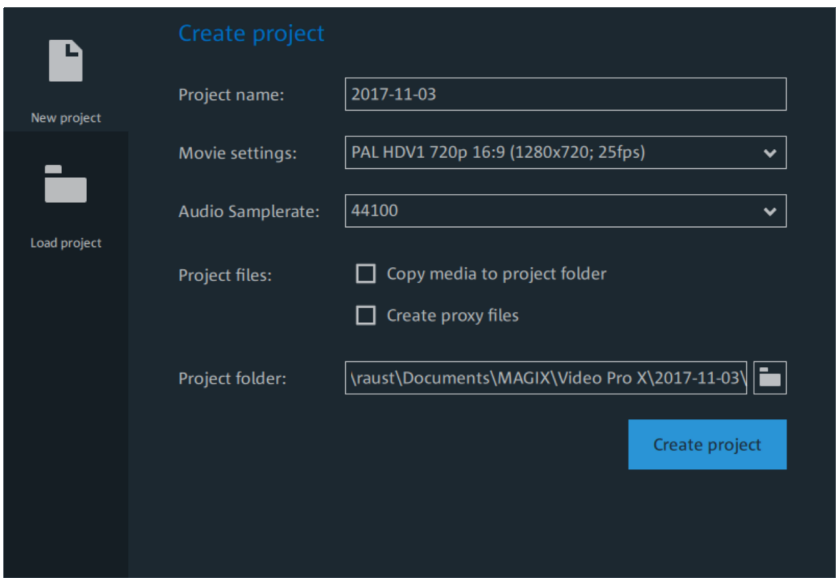
Certain menu items are not available on the "Record" and "Burn" screens. The menu reference describes the full menu as found on the "Edit" screen.

New project



Creates a new MAGIX Video Pro X project. The Start dialog will appear.

Here you can make important presets for the project. You can change these settings at any time by going to "File" > "Settings" > "Movie".



New project tab

Project name: Here you can assign a name to your new project.

Movie settings: Here you can set the movie's target format (display norm, resolution, frame rate). This setting has no effect on the internal processing quality and can be changed at any time by going to "File > Settings > Movie".

Audio Sample Rate: Here you can set the audio track's audio sample rate.

Project files:

Copy media to project folder: Creates a project folder and saves a copy of all the files associated with the movie to it. The copies are then used for editing. This option is meant to keep things centralized when files from various media devices (e.g. hard

drives, USB flash drives, SD cards) are being used in the same project. The internal hard drive is the best option for working on projects in MAGIX Video Pro X because it allows faster access to files compared to external storage devices. If files stored on external devices are used, it can lead to delays and stutters during project editing.

Create proxy file: The original material is already converted to a suitable target format during import, which can save a lot of time when editing and exporting. For more information, see Proxy editing (view page 265).

Project folder: Here you can set the path for the project folder where all project files should be saved.

Load existing project tab

Here you can select and load a previously saved project.

Shortcut: Ctrl + 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 X 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

Recently opened projects

Project that you have recently opened in MAGIX Video Pro X are listed and can quickly be opened with a click.

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 + S

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.

Keyboard shortcut: Ctrl + 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

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 X will search for all used sounds and video files in the folders in which they were located when the movie was saved.



You can use the tabs to switch from one movie to another.

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 X. 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 258)".

Keyboard shortcut: Ctrl + Alt + L

Export movie

This provides all export formats supported by MAGIX Video Pro X that aren't covered by burning. Refer to "Exporting (view page 240)" for more information.

Project temp folder

Import media files into project folder

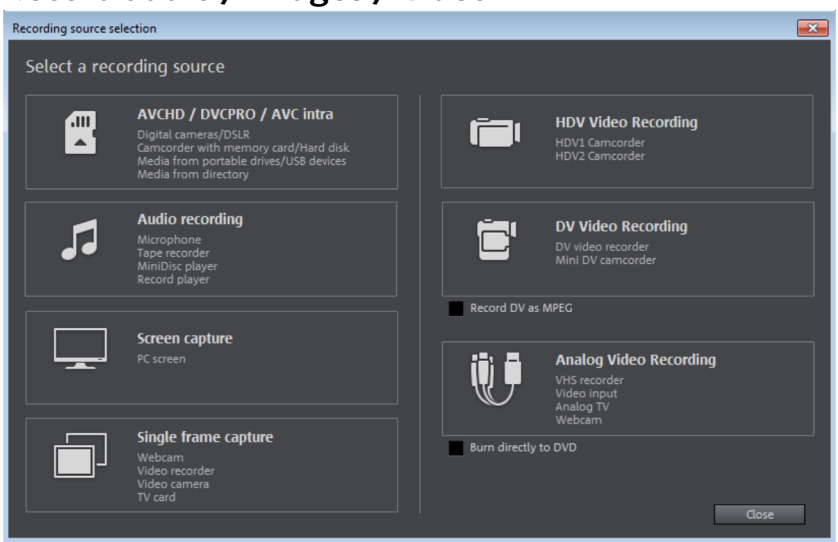
The files selected in the Media Pool (view page 53) will be imported into the project folder (view page 63).

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.

Keyboard 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".

Import edit list (EDL)

Import cut lists in EDL format (view page 260) may be opened via this menu.

Keyboard shortcut: Ctrl + D

Output to device

This command opens the dialog for exporting finished video or its soundtrack to analog or digital VCR/camcorder or various mobile devices such as smartphones and tablets.

Please read the chapter "Output audio/video".

Shortcut: H

Batch conversion

This menu item accesses the batch processing (view page 282) function. This quickly and efficiently converts multiple files, movies, or projects into various video formats.

Keyboard 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.

Keyboard 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 (view page 73)".

Burn copy of an already created video disc

All necessary files, menus, and encoded video files needed to burn a disc will be temporarily stored on your hard drive as an image. After your disc is burned, these are

not automatically deleted. You can use 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 MAGIX Speed burnR burning software.

Tip: For more information on using MAGIX Speed burnR, read the program's help file.

Vimeo

Upload current movie as video: Once you login to Vimeo, the upload dialog will open. Enter the title, description, and keywords and select whether you want your film to be public or private. "OK" uploads the current film.

Upload selected media in Media Pool: Once you login to Vimeo, the upload dialog will open. Enter the title, description, and keywords and select whether you want your media to be public or private. "OK" uploads the selected media.

Online

Quick access to MAGIX Online World.

Receive data with Send Anywhere

With Send Anywhere, you can now receive and send media, movies or whole projects from anywhere.

If you have received a 6-digit key, select one of the following two options in "File">"Receive via Send Anywhere":

Receive media: The downloaded media will be saved and marked under "Downloads" in "Media Pool > Import".

Receive project: The downloaded project will be saved and marked under "Downloads" in "Media Pool > Import".

If you wish to send data via Send Anywhere, select "Share" > "Send with Send Anywhere".

Youtube / Vimeo

This is a direct connection between MAGIX and various online communities.

Youtube / Facebook

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 X 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.

Catooh

Catooh offers you with the option of finding and purchasing more media and templates. Via the "media backup" option, you can import already purchased media that are saved on your computer to MAGIX Video Pro X.

Note: For more information about MAGIX Online World select the menu item "File" > "Online" > "Find out more about MAGIX Online World...".

Manage your login details

In this dialog you can enter and manage your login details (email address and password) for all services accessible from MAGIX Video Pro X. You therefore do not have to login every time, for example, when exporting to Facebook (view page 297) or in the MAGIX Online Album (view page 298).

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 258) section in the "Wizards and special functions" (view page 265) 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: Ctrl + Shift + O

Cleaning 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.

Keyboard shortcut: Ctrl + Shift + Y

For detailed information, read the "Cleaning Wizard" (view page 260) section in the Wizards and special functions" (view page 265) chapter.

Settings

Movie settings

Opens the movie settings of the currently selected movie.

Program...

Opens program settings.

Shortcut: Y

Keyboard shortcuts...

This menu entry opens a dialog for editing keyboard shortcuts (view page 348); this enables you to adjust MAGIX Video Pro X however you like.

Keyboard shortcut: Ctrl + Shift + U

Preview rendering

This menu opens the dialog for the preview rendering (view page 257) settings

Keyboard shortcut: Alt + R

Reset program settings to defaults.

Use this function to reset all program settings you made in MAGIX Video Pro X to their original settings.

Exit

Closes MAGIX Video Pro X.

Keyboard shortcut: Alt + F4

Edit Menu

Undo



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 you don't like the result, you can always revert to the previous state 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. A general rule: The longer the list, the more RAM is used.

Restore



This function undoes the previous "Undo" function.

Clicking on the arrow next to the button opens a list of revoked changes made until now, allowing you to restore several "undo steps".

Empty undo and cache memory

Using this function, you can empty undo and cache memory in order to be better able to conduct memory-intense processes such as exporting

Cut objects

This function extracts the marked scene and copies it to the clipboard. You can then use the "Paste" command to copy it into any movie.

Copy objects

This function copies the selected scene (or the selected object in the Timeline-mode) to the clipboard. You can then use the "Paste" command to place it into any movie.

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.

Keyboard shortcut: D

Delete objects



This command deletes the selected scene (or the selected object in Timeline-mode).

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.

Keyboard shortcut: U

Remove scene



If you want to cut a scene on track 1 out of a movie in the timeline mode at a later stage, this option automatically moves objects, titles, and transitions on all tracks forward so that no gaps are created in the film.

Objects on other tracks which extend into the area of the scene in question will not be moved automatically; they will remain in their current positions.

Shortcut: Ctrl + Del

Split movie



This command divides the movie into two individual movies at the position of the playback marker.

The current project window retains the portion that is located in front of the playback marker. The latter part will be removed from the current project window and placed as a new film. You can find this movie by going to 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.

Keyboard shortcut: Ctrl + Shift + H

Range

MAGIX Video Pro X provides object-based functions as well as "band-oriented" editing functions. These always refer to the whole arrangement from the first to the last track as well as to the area between the start and end marker.

Cut

The section between the in and out points is cut from the current arrangement and placed on the clipboard. It can, for example, be pasted in again at a different position.

Shortcut: Alt + X, Shift + Del

Copy

The section between the in and out points is copied from the current arrangement to the clipboard. If can be pasted back at another location.

Keyboard shortcut: 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: Alt + Del

Insert

The contents of the clipboard are inserted at the current arrangement's position of the in point.

Keyboard shortcut: 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.

Shortcut: Shift + X

Insert blank space

An empty section the length of the period between the start and end marker will be added to the first visible track. The objects following this will be moved.

Note: This function only applies to the first visible track. Therefore, it is necessary to scroll through the arranger to bring the track you want up to the line at the top.

Keyboard shortcut: C

Group objects



All selected objects are assigned to a group which may then be selected and edited jointly by clicking the mouse.

Shortcut: G

Ungroup objects



This command splits an object group into separate objects.

Shortcut: Shift + G

Wizards

Slideshow Maker

Opens the Slideshow Maker (view page 277)

Keyboard shortcut: Ctrl + M

Soundtrack Maker

This command opens MAGIX Soundtrack Maker.

Keyboard shortcut: Ctrl + Shift + S

Travel route animation

This menu entry opens the separate Travel route animation 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.

Audio mixdown

This option joins all audio objects in one audio file. Afterwards, the audio material will only occupy one track and take up hardly any RAM (does however take up space on the hard drive [ca. 10 MB/min in stereo]). This way you get a clear overview of further objects and space for them.

MAGIX Video Pro X 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 down function is very helpful if you want to go on using the mix down object.

Tip: Instead of using the mixdown function, use the various options found in the "Export movie" submenu of the **"File"** to create the final *.avi or *.wav (or another multimedia) file.

Keyboard shortcut: Shift + D

Audio and video mixdown

In addition to the "Combine audio" function (see above), all video objects including effects, transitions, and edits are combined in a single MAGIX video file (view page 241). If your computer starts to approach its limits, this enables you to free resources for further editing.

Keyboard shortcut: Shift + M

Start preview rendering

You can render a pre-defined area for the preview or automatically search the material for critical areas. See "Preview rendering (view page 267)".

Shortcut: Ctrl + R

Remove areas for preview rendering

All rendered previews will be discarded; the video material will be rendered again via the arrangement in real time and played back.

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 113)".

Keyboard shortcut: Ctrl + Enter

Delete project marker

Deletes the selected project marker (view page 113). Project markers can be deleted and renamed via the context menu.

Snap markers

Set snap marker: To set a snap marker, select an object and place the playback marker at the position where you would like the snap marker to be. You can set as many snap markers as you like per object.

You can move a snap marker with the mouse using drag & drop. Or use the "Align objects to grid markers" function.

Keyboard shortcut: Ctrl + P

A snap marker will be set where the playback marker is located in the selected object.

#

Set snap markers (advanced): Open the snap markers section in the Media Pool under "Effects".

Align objects on snap grid: Aligns the objects so that they snap to the snap markers.

Delete all snap markers: This deletes all snap markers for all objects in a film.

Show or hide snap markers: You can hide snap markers if required and show them again later.

Set chapter markers



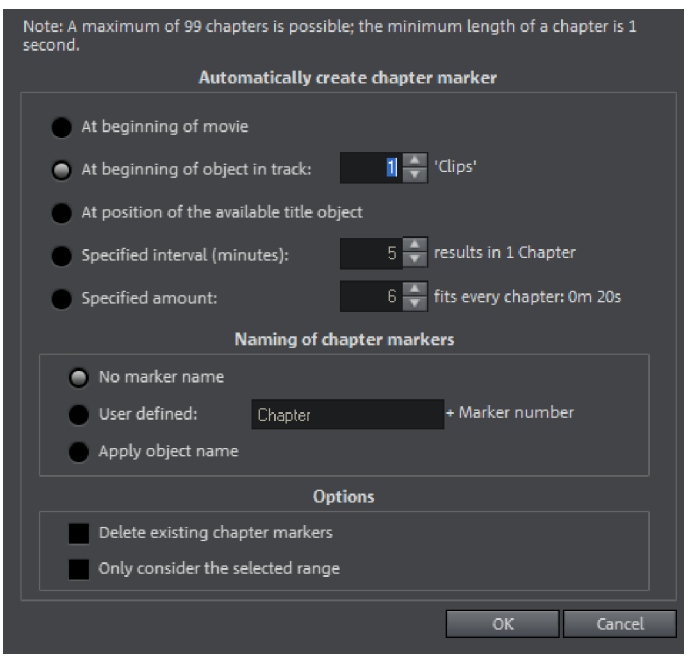
Places a chapter marker at the position of the playback marker. This creates a chapter entry in the disc menu in case the movie is being burned to disc.

You can rename the chapter markers by right clicking and selecting "Rename" in the context menu. The new name will also appear in the chapter menu (view page 217).

Set chapter markers automatically

This option automatically sets chapter markers in the project according to specific rules that will then appear as chapters in the film menu of a disc. This is useful if you need to burn a disc immediately after recording.

Keyboard shortcut: Shift + Alt + Return



Automatically create chapter marker

- **At the beginning of a movie:** The movie contains only one chapter
- **At object starts in 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.

Naming chapter markers

- **No marker name:** Marker name and marker number are not specified.
- **Custom:** You can use a custom name. A sequential marker number will be attached to it.
- **Apply object name:** The marker name is taken from the object name and the text in the text object. **No sequential marker number** is specified.

Options

- **Delete existing chapter markers:** Deletes chapter markers that have already been set.
- **Only take the selected area into account:** The chapter marker is automatically set to the area between the start and end markers only.

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.

Keyboard shortcut: Ctrl + Alt + 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.

Keyboard shortcut: Shift + I/O

Range above blank space

If you set the playback marker in a empty range in the first visible track, this function will create an area over the length of the range.

Alternatively, you can find this function in the context menu of the empty range.

Note: This function only applies to the first visible track. Therefore, it is necessary to scroll through the arranger to bring the track you want up to the line at the top.

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", "Project window". (view page 340)

Search for gaps

MAGIX Video Pro X 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 gap as range: Spans a section over the selected gap.

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

Keyboard Shortcut: Ctrl + Shift + C

Multicam

This command switches to Multicam mode.

Mute audio tracks (Multicam)

As soon as you switch into multicam mode, all audio files in the source tracks will be muted. You will hear only the audio track of the final movie.

If you would like to deactivate this function, uncheck the box. You can now mute audio tracks one by one in the track boxes.

Effects Menu

Master effects

This menu item accesses the movie's effect settings (view page 169). The settings affected here apply to the entire movie.

Keyboard 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

Select which image stabilization you want to use. In the Media Pool, you can choose between the normal image stabilization dialog (view page 168)and proDAD Mercalli 2.0. Both will allow you to correct blurry footage. Try both to see which one gets you better results.

Image stabilitaion keyboard shortcut: CTRL + L

Edit in external editor

Graphics files (BMPs or JPEGs) can be edited retroactively with an external graphics program within the project window. The selected image file will be loaded automatically and used in MAGIX Video Pro X in place of the original material automatically. MAGIX Video Pro X 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 X (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

Here you can find adjustable effects for video and photo objects. The effects can be set only after selecting an object in the respective effects dialog. For more information, go to the "Video effects in the Media Pool" (view page 131) section in the "Effects" 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" chapter, section "Movement effects in Media Pool" (view page 145).

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.

Section

Places video objects in a particular part of the screen. Please read the "Video effects" chapter for more details.

Stereo3D

This accesses the program's Stereo 3D functionality. Please read the corresponding chapter "Stereo 3D" (view page 172).

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 310) 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. The material will be reset to the state it was in before you applied the effect.

Shortcut: Ctrl+ Alt + -

Copy video effects

Effects settings for an object may be copied to the clipboard to add (view page 311) them to other objects.

Keyboard shortcut: -

Insert video effects

Video effects may be inserted into the selected object from other objects. The settings must be copied (view page 311) beforehand into the clipboard.

Keyboard 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 (maximum level)

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).

Keyboard shortcut: Shift + N

Normalize (EBU R128)

EBU R128 is a transceiver standard that normalizes the audio signal to -23 LUFS (loudness units relative to the digital full level). Unlike normalizing to the maximum level, this provides enough upward space for temporarily loud signals. This is used, for example, by cinema productions and classical recordings.

Adjust loudness of selected objects

Regardless of the standard level, the sound levels of the selected objects are compared with each other with respect to volume. The clicked object is used as the reference.

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 project window.

Automatic track damping

Please see Reduce volume (view page 187) in the audio effects chapter.

Keyboard shortcut: Alt + L

Audio cleaning

Opens the "Audio Cleaning (More information can be found in the section "Sound optimization" on page 189)" dialog.

Keyboard 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 (view page 194).

Keyboard shortcut: Ctrl + Q

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.

Keyboard shortcut: Ctrl + +

Save audio effects

This command saves the current effects combination for each object separately.

Keyboard shortcut: Shift + +

Reset audio effects

This option allows you to deactivate all currently used effects entirely if you want to undo the changes.

Keyboard shortcut: Ctrl + Alt + +

BPM Wizard

Read the section concerning the Tempo and beat recognition in the chapter "Audio" for more about this.

Keyboard shortcut: Alt + Shift + K

Edit wave files externally

This opens the audio track or audio object in the included audio editor MAGIX Music Editor.

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 151)", where it may also be animated.

Keyboard shortcut: Ctrl + Shift + V

Title Effects

Title Editor



Opens the Title editor (More information can be found in the section "Title editor" on page 123) for the selected photo, video, or title object.

Keyboard shortcut: Ctrl + T

Load title template

Use this command to load previously saved title effects for the current object.

Shortcut: Alt + Shift + T

Save title template

You can save the current effect combination for each title object separately and apply it to other title objects later.

Shortcut: Alt + T

Design elements

Picture-in-picture: Here you will find various presets for picture nestling.

Collages: work similarly to regular picture-in-picture effects, but employ multiple objects. Depending on the collage, arrange the selected objects one after the other and drag the collage onto the first object.

Test images: Professional test images for calibrating your system are included.

Backgrounds: Here you can find static and animated photo and video backgrounds. Video backgrounds are capable of being looped, meaning that their length can be extended by duplication. The special "User" template opens a color selection dialog where you can choose the desired color.

Image objects: Here you will find various image objects such as black bars, thought bubbles for cartoons and others.

You can find additional information in "Effects (view page 152)" chapter, in the section "Design element in Media Pool".

Effects library

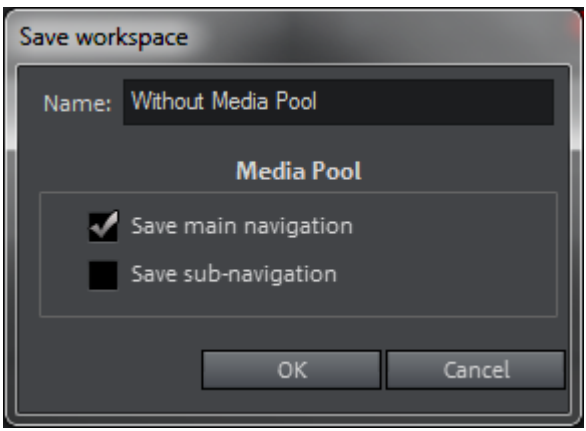
Using these menu choices, you can control the corresponding directories in the Media Pool (view page 53).

Windows Menu

Window arrangement

Switch between the classic Movie Edit Pro screen with a single monitor or the normal MAGIX Video Pro X view. More information can be found in the chapter "Notes for MAGIX Movie Edit Pro users (view page 18)".

Movie Edit Pro and Video Pro X each have default window arrangements. However, you can save any other arrangement and combination of visible windows. You can then easily switch between them using menus. Us the "Save..." menu..



At the top you can select a name for the window arrangement.

In "Media Pool" you can additionally determine whether selected tabs (main navigation) and sections (subnavigation) should also be saved.

Keyboard shortcuts F10, F11 and F12 are automatically assigned to the first three window arrangements; by going to "File" > "Settings" > "Shortcuts..." every other arrangement can be assigned a keyboard shortcut (view page 348).

Each user-defined window arrangement can also be deleted. You can select the arrangement to be deleted in the dialog found under "Window arrangement" . "Delete" and then press the "Delete" button.

Edit mode

In MAGIX Video Pro X you have a choice of 2 Editing modes (view page 34): the simplified Basic mode (view page 35) and the Standard mode (view page 34).

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") (view page 103)" 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") (view page 103).

Keyboard shortcut: Shift + N

Mixer

With this option you can open and close the real-time mixer. Further information can be found in the Mixer (view page 205) chapter.

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.

Shortcut: B

Mastering Suite

This opens the Mastering Suite.

Program monitor

Hides or shows the program monitor.

Keyboard shortcut: Shift + V

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 117)".

Show Media Pool...

This option hides or displays the Media Pool.

Shortcut: Shift + P

Project

Shows/Hides the project window

Project folder

Hides or shows the project folder.

Keyboard shortcut: Shift + B

Activate next window

You can switch between the various program windows (screen areas) back and forth.

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 project window.

Keyboard 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.

Keyboard 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.

Remove all movies from project

All movies are removed from the open project.

If you want to use these movies with the current changes such as effects and titles again, export these movies first via "File > Manage movie > Export". This saves the

movie's editing state, but not the original material. If you were to delete the source material, the editing state won't be restored.

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 X's functions.

Keyboard shortcut: F1

Context help

The mouse cursor will turn into an arrow with a question mark.

Click on any button of the main screen, to open program help which will describe the control element in question.

Shortcut: Alt + F1

PDF manual

Opens the manual in PDF format. Similar to the Help feature that can be accessed by pressing F1, this manual contains all of the important information about the program.

Show introduction video online...

The online introduction video is a great way to quickly familiarize yourself with MAGIX Video Pro X.

Display tooltips

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.

Open magix.info

Directly from within the program you'll be able to access magix.info, the Multimedia Community from MAGIX. You'll find answers to all the most frequently asked questions about MAGIX products and multimedia in general. Were you unable to find a solution to your particular problem? No problem, just ask the question yourself.

Finding the software course

This opens a MAGIX webpage with offers for software courses for MAGIX applications.

Online tutorials

Interesting tutorials and useful tips for working with MAGIX Video Pro X can be found on the MAGIX website.
An online connection is required.

Register online

This option opens the MAGIX homepage for online registration where you can register as a MAGIX user.

Registration grants you access to the MAGIX support website where various program updates and help programs can be downloaded.

Online Update

Connects directly to the online update page where you can get the latest version of your program.

Install extra content

This opens a dialogue where you can install additional Codecs and extra content.

Deactivate Program

This menu item deactivates MAGIX Video Pro X with immediate effect. After deactivation, it is possible to immediately install and activate MAGIX Video Pro X on another computer

About MAGIX Video Pro X

Displays copyright info and version number of MAGIX Video Pro X.

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

Audio functions

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.

Video/audio on one track

Video material and the corresponding audio material (original sound) will be displayed as one object on one track. Using the top object handle you can adjust the video's opacity. The lower object handle adjusts the object's volume.

Video/audio in separate tracks

Audio material will be displayed on a separate track below the corresponding video material. This makes it easier to make advanced adjustments to audio material that go beyond changing the soundtrack's volume.

Remove audio object

When you no longer need the audio object, remove it.

If you decide that you need the original sound after all, you can "Restore audio object".

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.

Image stabilization

Select which image stabilization you want to use. In the Media Pool, you can choose between the normal image stabilization dialog (view page 168)and proDAD Mercalli

2.0. Both will allow you to correct blurry footage. Try both to see which one gets you better results.

Image stabilitaion keyboard shortcut: CTRL + L

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") (view page 103)" 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") (view page 103).

Keyboard shortcut: Shift + N

Snap markers

Set snap marker: To set a snap marker, select an object and place the playback marker at the position where you would like the snap marker to be. You can set as many snap markers as you like per object.

You can move a snap marker with the mouse using drag & drop. Or use the "Align objects to grid markers" function.

Keyboard shortcut: Ctrl + P

A snap marker will be set where the playback marker is located in the selected object.

#

Set snap markers (advanced): Open the snap markers section in the Media Pool under "Effects".

Align objects on snap grid: Aligns the objects so that they snap to the snap markers.

Delete all snap markers: This deletes all snap markers for all objects in a film.

Show or hide snap markers: You can hide snap markers if required and show them again later.

Insert still image at the playback marker

MAGIX Video Pro X can create a still frame of an object at the playback marker position. This is inserted for the length of the standard display time (Program settings > Video/Audio > Standard display time) in the original object.

Motion

Lets you move video objects on the screen. See "Movement" in the "Video effects" chapter.

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 166)".

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

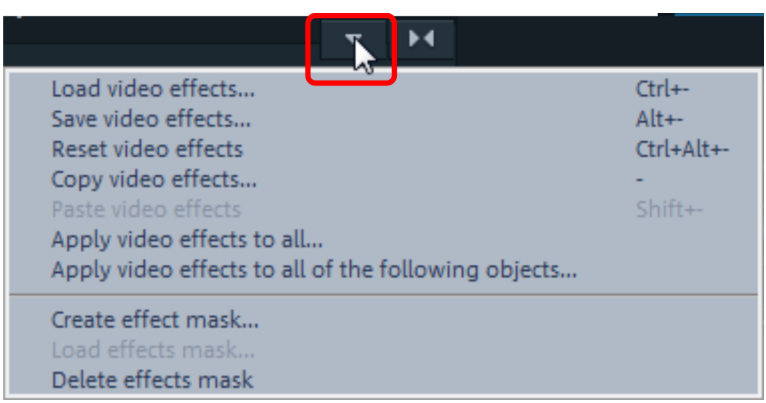
Choose this option for still pictures with detailed structures and high contrast. This filter reduces line flickering during TV playback.

Border cropping adjustment:

Select this option if the edges are cropped during playback on your television. Values stored in "Movie effects settings (view page 170)" ("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 X is also able to insert the time and date into the image material. To do this, select the option "Show date as title" in the video object's context menu.

If a DV-AVI file is involved (e.g. a digital recording from a camcorder), then the recording date for the selected position will be used. If another type of file is involved, then the creation date of the file will be used as the timecode. Following this, the title editor will appear to adjust the information.

The context menu of the program monitor also features the option "Show playing time". This also creates a timecode.

Object properties

This dialog delivers information and some settings for the selected object. Depending on the type of object, you will find tabs **Audio**, **Video** and/or **Image**, the tab **General** is found for every object.



All information regarding the object may be copied as text to the clipboard using this button.

General

The top section **Object** shows the name, length and color of the object. The **Name** of t he object corresponds to the file name of the media file, but can be changed here as you wish. Clicking on the color field of the object color, you can select a color different from the default.

In the **File** you will find information about the file that the object is linked to. Additional information is also displayed about which file the selected object points to, its name, date, size and location. You can also leave a comment there.

Video

AT the top under **Properties** you will find the properties of the video material, such as resultion, color depth, color sampling and color profile. You can change a wrongly determined aspect ratio can be corrected in the list field. Indicating the used import module is helpful in case certain file formats cause errors. You can deactivate certain import modules in the Program settings (view page 250) ImportExport tab. You can load lookup tables for specific cameras under Camera Lookup Tables, Lookup Tables (LUT) (view page 153).

In the **intermediate image processing** below, deinterlace (view page 375)processing may be changes if necessary. In **"No interlace-processing"** If "No interlace processing" is set, then it is assumed that the source material contains full frames. (The default for modern video formats).

For the **"Automatic interlace processing" setting** a list field with two possible options for field order appears, where the right option will be automatically selected according to the video material used. You may be able to correct older video material with errors, but you should normally avoid making any changes here. **Interpolate intermediate images:** Activate this function to create soft movements during playback in order to get a smoother image.

Audio

In the top section are the audio sample properties: Samplerate (may be changed here), bit resolution and determined original tempo (e.g. for Soundpool samples). In the realtime tempo or pitch adjustment sections below you'll find information about tempo and pitch changes.

Image

Under properties you will find resolution, aspect ration and used import module.

Image objects

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.

Snap markers

Objects, object edges, markers or the playback marker will spring automatically to particular "Key positions", when you move them close enough with the mouse. This is called "snapping". This helps to position objects exactly, even if the project is zoomed out. One snap point per object may now be placed in order to mark where other objects should snap to within that object. This can be helpful, for instance, if you want a title to be shown at a specific position in a video object.

- To set a snap marker, select an object and place the playback marker at the position where you want to place the snap marker.
- With the "Set snap point" option, which you can find in the menu "Edit" >"Edit snap points", a snap point will be set. "Delete snap point" deletes a snap point. If in the object the "Set snap point" option is selected at another position, the snap point will be moved.
- "Delete all snap markers" This deletes all snap markers for all objects in a film.

Shortcut for "Set snap point": Ctrl + P

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 166)".

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

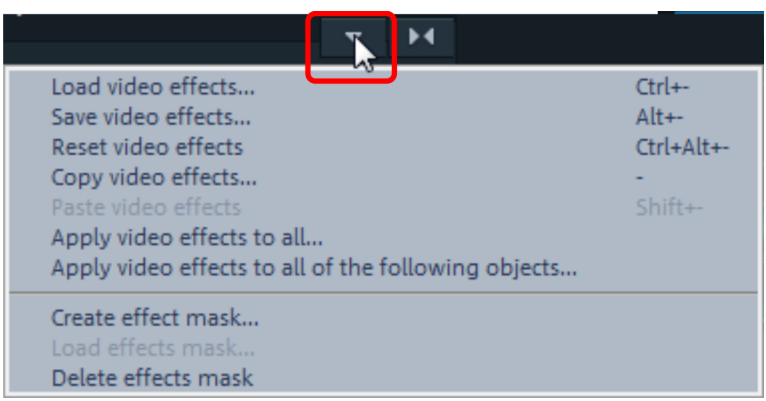
Choose this option for still pictures with detailed structures and high contrast. This filter reduces line flickering during TV playback.

Border cropping adjustment:

Select this option if the edges are cropped during playback on your television. Values stored in "Movie effects settings (view page 170)" ("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.

Transitions



The context menu for transitions can be accessed via the A/B button on each background object. Along with the various transitions you will find the following options:

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") (view page 103)" chapter for more details.

Keyboard shortcut: N

Audio objects

The options in the context menu for audio objects correspond to the menu options "Effects" > "Audio effects" and the "Edit" menu with the following exceptions:

Snap markers

Objects, object edges, markers or the playback marker will spring automatically to particular "Key positions", when you move them close enough with the mouse. This is called "snapping". This helps to position objects exactly, even if the project is zoomed out. One snap point per object may now be placed in order to mark where other objects should snap to within that object. This can be helpful, for instance, if you want a title to be shown at a specific position in a video object.

- To set a snap marker, select an object and place the playback marker at the position where you want to place the snap marker.
- With the "Set snap point" option, which you can find in the menu "Edit" >"Edit snap points", a snap point will be set. "Delete snap point" deletes a snap point. If in the object the "Set snap point" option is selected at another position, the snap point will be moved.
- "Delete all snap markers" This deletes all snap markers for all objects in a film.

Shortcut for "Set snap point": Ctrl + P

BPM Wizard

Read the section concerning the Tempo and beat recognition in the chapter "Audio" for more about this.

Keyboard shortcut: Alt + Shift + K

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 externally

Audio files in the project window can also be edited in an external wave editor. The selected audio file is loaded automatically and, once editing has been completed, is used in the MAGIX Video Pro X instead of the original material. For this purpose, MAGIX Video Pro X comes with a powerful audio editing tool: <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 151)", where it may also be animated.

Keyboard 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 122)".

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 156)".

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.

Text objects

Title Editor



Opens the Title editor (More information can be found in the section "Title editor" on page 123) for the selected photo, video, or title object.

Keyboard shortcut: Ctrl + T

Disable effects

All effects applied to the text will be deactivated.

Snap markers

Objects, object edges, markers or the playback marker will spring automatically to particular "Key positions", when you move them close enough with the mouse. This is called "snapping". This helps to position objects exactly, even if the project is zoomed out. One snap point per object may now be placed in order to mark where other objects should snap to within that object. This can be helpful, for instance, if you want a title to be shown at a specific position in a video object.

- To set a snap marker, select an object and place the playback marker at the position where you want to place the snap marker.
- With the "Set snap point" option, which you can find in the menu "Edit" >"Edit snap points", a snap point will be set. "Delete snap point" deletes a snap point. If

in the object the "Set snap point" option is selected at another position, the snap point will be moved.
- "Delete all snap markers" This deletes all snap markers for all objects in a film.

Shortcut for "Set snap point": 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 303) 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 166)".

Border cropping adjustment:

Select this option if the edges are cropped during playback on your television. Values stored in "Movie effects settings (view page 170)" ("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.

MAGIX 3D Maker objects

Edit settings...

A limited MAGIX 3D Maker version is opened to edit the selected object.

Snap markers

Objects, object edges, markers or the playback marker will spring automatically to particular "Key positions", when you move them close enough with the mouse. This is called "snapping". This helps to position objects exactly, even if the project is zoomed out. One snap point per object may now be placed in order to mark where other objects should snap to within that object. This can be helpful, for instance, if you want a title to be shown at a specific position in a video object.

- To set a snap marker, select an object and place the playback marker at the position where you want to place the snap marker.
- With the "Set snap point" option, which you can find in the menu "Edit" >"Edit snap points", a snap point will be set. "Delete snap point" deletes a snap point. If in the object the "Set snap point" option is selected at another position, the snap point will be moved.
- "Delete all snap markers" This deletes all snap markers for all objects in a film.

Shortcut for "Set snap point": Ctrl + P

Insert still image at the playback marker

MAGIX Video Pro X can create a still frame of an object at the playback marker position. This is inserted for the length of the standard display time (Program settings > Video/Audio > Standard display time) in the original object.

Motion

Lets you move video objects on the screen. See "Movement" in the "Video effects" chapter.

Section

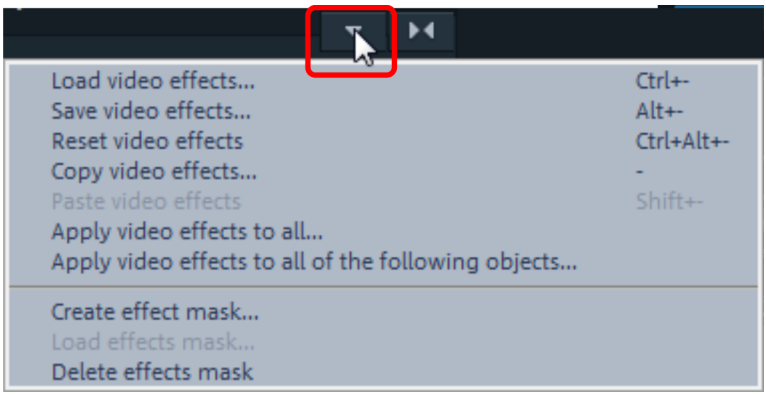
Places video objects in a particular part of the screen. Please read the "Video effects" chapter for more details.

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 166)".

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.

Project temp folder

Rename

This command allows you to rename an object in the project temp 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 temp 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".

Delete

Removes the object from the project temp folder. The associated source file (photo, video, audio, etc.) will not be deleted.

Properties

Displays the properties of the object (view page 323) in the project temp folder.

Insert into movie

Inserts the selected object into the movie.

Open in video monitor.

Displays the selected object in the source monitor.

Select associated objects in movie

An object from the project temp folder is selected in the movie. If the object is being used in more than one place in the movie, all of them will be selected.

Select associated source material in movie

All objects in the movie that correspond to this source material are selected.

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

If you set the playback marker in a empty range in the first visible track, this function will create an area over the length of the range.

Alternatively, you can find this function in the context menu of the empty range.

Note: This function only applies to the first visible track. Therefore, it is necessary to scroll through the arranger to bring the track you want up to the line at the top.

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 207)".

Shortcut: Alt + -

Reset track curves

The volume and balance track curves are reset; the automation for the corresponding mixer settings (view page 207) is removed.

Problems and solutions

File will not load

If files do not load, the following problems could be the cause:

- **Problem:** The format is not supported by MAGIX Video Pro X.
  Solution: None.
- **Problem:** You do not have the necessary user privileges.
  Solution: Check to make sure you have the necessary user privileges. You need reading and writing privileges in the source folder as well as in the project folder.
- **Problem:** There is not enough space on the hard drive.
  Solution: Check to see how much free space is available on the hard drive. If needed, delete unnecessary files to free up space or extend storage space with another storage device.
- **Problem:** The corresponding codec needs to be activated.
  Solution: Read the Import formats (view page 16) section.
- **Problem:** The codec used in the AVI file is not installed.
  Solution: Read the "General tips for AVI videos" (view page 349) section in "Appendix: Digital video and storage media".

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 X 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

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 X 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 11).

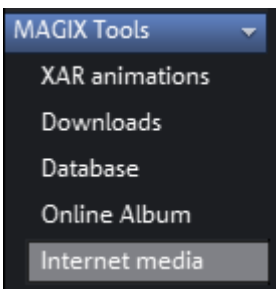
Online functions

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 ("Import" tab).

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://pro.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 123, view page 123).



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.

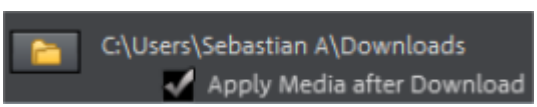
Hint: For recording from the Internet, it is important that the sound card is selected as the sound source.

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.

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

Tip: In Windows, keyboard settings are changed using the Alt + Shift key combination. Those who often use keyboard shortcuts can accidentally change their keyboard settings, so that they keys don't correspond to the pictured symbols. To prevent this, you can remove the check mark found by going to "Control panel" > "Regional and language options" > "Languages" tab > "Details" > "Keyboard" > "Change keyboard combination" under "Change input layout".

Playback functions

Start / Stop	Spacebar
Increase playback speed in stages	L Shift + L
Stop playback (playback marker is stopped at the current position)	K
Reverse playback or rewind in stages	J Shift + J
Speed up fast forward	Shift + Right arrow (Hold keys down)
Speed up rewind	Shift + Left arrow (Hold keys down)
Restart beginning at playback marker	Backspace
Playback marker back to the beginning	Home
Playback marker to end	End
1 frame back	Left arrow
1 frame forwards	Right arrow
5 frames back	Ctrl + Left arrow key
5 frames forward	Ctrl + Right arrow key
Set project marker	Ctrl + Enter key
Play from range start to range end	#
Playback at current frame	+
Activate smooth playback for preview	P

Scroll and zoom

To scroll and zoom in the project window it is recommended to work with keyboard shortcuts + the mouse wheel.

The following keyboard shortcuts are available:

- Mouse wheel: Horizontal scrolling
- Alt + Mouse wheel: Vertical scrolling
- Ctrl + Mouse wheel: Horizontal zoom
- Shift + Mouse wheel: Vertical zoom (all tracks are magnified)
- Ctrl + Alt + Mouse wheel: Move section

Monitors

Program monitor

Fullscreen video monitor	Alt + Enter key
Other resolution	Alt + G
Adjust video monitor to movie settings	Ctrl + G
Adjust video monitor to selected video	Ctrl + Shift + G
Anaglyph display	Ctrl + .
Row interlaced (left image first)	Alt + .
Standard 2D	.
Side-by-side display	Shift + .

Source monitor

Fullscreen video monitor	Alt + Enter key
Other resolution	Alt + G
Display source image only	Shift + ,
Comparison image: Selected object without effects	Alt + Shift + ,
Comparison image: Selected object	ALT + ,
Comparison image: Forerunner of selected object	,
Comparison image: Successor of selected object	Ctrl + Shift + ,
Comparison image: Select object...	Ctrl + ,

Project window view

Enlarge section	Ctrl + up arrow
	Ctrl + mouse wheel up
Shrink section	Ctrl + down arrow
	Ctrl + mouse wheel down
Play movie fullscreen	Alt + Enter key
Show/hide movie overview in the video monitor	Shift + A
Optimize movie view	Ctrl + F
Zoom 1 frame / 5 frames	Alt + 1/2
Zoom 1s / 10s / 1min	Alt + 3/4/5
Zoom 10 min	Ctrl + Alt + 6
Zoom to selected range	Alt + F
Zoom to complete movie length	F
Preview rendering	Ctrl + R

Move view and start marker

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
Scroll left by page	Page up
Scroll right by page	Page down
To scroll grid unit to left	Ctrl + Page up
To scroll grid unit to right	Ctrl + Page down
To next project marker	Ctrl + Shift + Page down
To previous project marker	Ctrl + Shift + Page up

To next snap marker	Ctrl + Alt + Page down
To previous snap marker	Ctrl + Alt + Page up
To next scene marker	Shift + Page down
To previous scene marker	Shift + Page up
To next chapter marker	Alt + Page down
To previous chapter marker	Alt + Page up
Go to right marker	W
Go to left marker	Q
To next empty range	<
To previous empty range	Shift + <
To next selected object	Shift + W
To previously selected object	Shift + Q
Select next object	Ctrl + W
Select previous object	Ctrl + 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

Mouse functions with modifier keys

Note: If the position of the object end is moved, the effect on the following object depends on the selected mouse mode.

Move object only in the tracks, position remains the same	Shift + hold mouse and drag up/down

Move object content and object end, object start remains the same	Alt + hold mouse and drag to the right/left
Move the content of the trimmed object ("roll" the content by the object)	Alt + Shift + hold mouse and drag to the right/left

Insert modes

Automatic application	1
Single-track ripple	2
Multitrack ripple	3
Exchange	4
Overwrite	5

Context Menu

Here you find some more functions among other functions of the menus:

Set Audio-Video-Offset	Alt + O
Object properties	Ctrl + E

Audio and waveform display

Create waveform display	Shift + E
Video/audio on one track	Ctrl + U
Video/audio on separate tracks	Ctrl + H

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 Motion JPEG AVI...	Ctrl + Alt + O
Video as sequence of frames...	Ctrl + Alt + E
Windows Media Export	Ctrl + Alt + V
Video as MPEG-4 video	Ctrl + Alt + G
Video as HEVC...	Ctrl + Alt + I
Audio as WAV	Ctrl + Alt + W
Export as transition...	Ctrl + Alt + T
Single frame as BMP file...	Ctrl + Alt + B
Single frame as JPEG...	Ctrl + Alt + J
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
Restore	Ctrl + Y
Cut objects	Ctrl + X
Copy Objects	Ctrl + C
Paste objects	Ctrl + V
Duplicate objects	D
Deleting objects	Del
Select all objects	Ctrl + A

"Cutting"

Split scene	T
Remove scene start	Z
Remove scene end	U
Remove scene	Ctrl + Del
Split movie	Alt + Y
Musical editing adjustment	Ctrl + Shift + M

Edit range

Cut range	Shift + Del; Alt + X
Copy range	Alt + C
Delete range	Alt + Del
Insert range	Alt + V
Extract range	Shift + X
Insert empty space into selected range	C
Group objects	G

Ungroup objects	Shift + G

Wizards

Slideshow Maker	Ctrl + M
Soundtrack Maker	Ctrl+ Shift +S
Combine audio...	Shift + D
Combine audio and video...	Shift + M
Start preview rendering...	Ctrl + R

Markers

Set project marker	Ctrl + Enter key
Set snap markers	Ctrl + P
Set chapter markers	Shift + Enter key
Set chapter markers automatically...	Alt + Shift + Enter key
Delete chapter markers	Ctrl + Shift + Enter key
Delete all chapter markers	Ctrl + Alt + Enter key
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 340)
Mute audio tracks (Multicam)	Alt + Shift + M

Effects menu

Movie effects settings	Ctrl + Shift + H

Video object effects

Scene recognition	Shift + Z
Image stabilization	Ctrl + L
Edit with MAGIX Photo Designer	Alt + Shift + D

Video effects

Brightness	Alt + Shift + H
Contrast	Alt + Shift + O
Gamma	Alt + Shift + G
Saturation	Alt + Shift + F
Color correction	"Alt + Shift + C"
Chroma key video level	Alt + Shift + B
Sharpness	Ctrl + Alt + S
Video effects plug-ins	Ctrl + Shift + P
Load video effects	Ctrl + -
Save video effects	Alt + -
&Reset video effects	Ctrl + Alt + -
Copy video effects	-
Paste video effects	Shift + -

Movement effects

Position/size	Alt + Shift + I
Section	Alt + Shift + P
Camera/zoom	Ctrl + Alt + Z
Rotation/mirror	Alt + Shift + R

Audio object effects

Normalize	Alt + N
Volume reduction	Alt + L
Audio cleaning	Alt + A
Echo/reverb	Shift + H
Timestretch/resample	Ctrl + Shift + 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

Window menu

Edit trimmer	N
Object trimmer	Shift + N
Mixer	M
Master audio effect rack	B
Program monitor	Shift + V
Media Pool	Shift + P
Project folder	Shift + B
Activate next window	Ctrl + Tab
Reset window arrangement	F9
Movie overview	Shift + A
Optimize movie view	Ctrl + F
Zoom horizontally/vertically	See project window view (view page 340)

Help menu

Help	F1
Context help	Alt + F1
Display tooltips	Ctrl + Shift + F1
About MAGIX Video Pro X	Alt + Shift + F1

Edit keyboard shortcut

In this dialog you can specify keyboard shortcuts for all menu function of MAGIX Video Pro X. 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 X.

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 X 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 X offers additional presets for those switching from other programs. These settings make it considerably easier to switch to MAGIX Video Pro X.

If you have used MAGIX Video Pro X3 and want to use its keyboard shortcuts, load Video_Pro_X3.ssc.

Warning: 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.

Annex: Digital Video and Data Storage

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 (**A**udio **V**ideo **I**nterleaved) 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 (**co**der/**dec**oder) 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 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 X 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™), 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.
Blu-Ray disc (view page 352)	Blu-Ray disc	Yes	*****	110 min.
AVCHD (view page 352)	DVD/Blu-ray Disc	Yes	*****	30 min./DVD 160 min./Blu-ray Disc

* The display time for some DVD players can be determined in this menu. The amount of image material that can be put onto a CD or DVD depends on the sizes of the picture files.

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 X 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 352), MPEG-4/AVC codec (view page 363, view page 358) 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.

For this, the playback device needs to be able to support the following formats:

- AVCHD disc: AVCHD 1.0
- AVCHD disc with 50p frames: AVCHD 2.0

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).

Activate codecs

Special encoders/decoders are needed to use and generate various file formats.

Why is activation required?

To import (decode) or export (encode) certain video and audio formats you will require a specific codec to be able to read in and export these formats. As soon as a corresponding decoder or encoder is needed, MAGIX Video Pro X will notify you and ask you if you would like to activate it.

The integration of decoders and encoders from third parties into programs usually costs the software publisher money. These codecs are therefore added to MAGIX programs via a voluntary activation, which may be free or require a charge for expensive specialist codecs. It is therefore possible for MAGIX to provide an optimum price/performance ratio for your software in the future.

Which codecs does this pertain to?

The following codes are automatically activated when needed:

- MPEG-2/MPEG-4 basic (standard)

  These codes are needed for importing and exporting MPEG-2 and MPEG-4 videos. The codecs are activated simultaneously and are free.

  Use cases:

  - MPEG-2: MPEG-2 import and export as well as burning DVDs and Blu-ray discs.
  - MPEG-4: MPEG-4 import and export as well as burning AVCHD discs.
- Audio expansion package

  This package is necessary for certain audio file formats, including but not limited to: AC3 with stereo and 5.1 Surround Sound. Activation is free.

You can also activate the following codecs:

- MPEG--2 (MainConcept)

  This codec can also be used for MPEG-2 (Standard). Activation is free.
- MPEG-4 (MainConcept)

  This codec can also be used for MPEG-4 (standard). Activation is fee-based (view page 353).

Activate MPEG-4 (MainConcept) (fee-based)

Requirement

- MAGIX Video Pro X is already registered in your name.

Note: If you have not registered MAGIX Video Pro X, you can do this at any time.

Instructions

1. Open the menu "Help" > "Install additional programs".
2. Select "MainConcept MPEG-4 codec".

   MAGIX Video Pro X will check to see if the codec has already been licensed to another MAGIX software and will use that license if this is the case.

   If the codec has not already been licensed, then the fee-based activation will continue.

   The activation dialog will appear.
3. Click on "Activate online".

   Your Internet browser will open.

   If you have not already activated MAGIX Video Pro X, a website for registering MAGIX Video Pro X will open.

   You will then be forwarded to a website where you can request the corresponding activation to be carried out.
4. Enter the requested information and complete the order.

   Normally you will receive the activation code within a few minutes. In some cases, this can take longer.

   Note: In the event the activation code does not arrive after a longer period of time, check to make sure the e-mail was not accidentally sent to your spam folder.
5. Copy the activation code from the e-mail.
6. Paste the activation code into the input field in the activation dialog.
7. Click on "Activate...".

   The codec will be activated. MAGIX Video Pro X checks the registration data, downloads the codec and installs it.

   In some cases, MAGIX Video Pro X needs to be closed and restarted in order to start using the codec.

Note: After successfully activating the MainConcept codec, you need to specify under Program settings (view page 250) that this is the preferred codec to be used.

MPEG-2 encoder settings (Standard)

In the "Advanced Settings" you can make detailed adjustments to the MPEG-2 data flow.

The advanced settings are divided into "Video", "Audio", and "Multiplexer".

Video

Tip: For more information read the MPEG glossary (view page 373). Many of the terms used here are explained in detail in the glossary.

Bit Rate Mode: The bit rate indicates how much data is saved in the video per second (at playback speed). This makes the bit rate the deciding parameter with regard to the file size and quality of the video to be encoded. A higher bit rate means better quality, but also a larger file size.

- **Constant:** The exact value entered in "Average bit rate" is applied which enables precise calculation of the video size.Constant: The exact value entered in "Average bit rate" is applied which enables precise calculation of the video size.
- **Variable:** The value entered in "Average bit rate" is used as an approximate guideline for the value applied to the video. This means that the size of the video can only be estimated.
- **Constant quantization parameter:** This parameter ensures that the video quality remains the same throughout.

Average bit rate (kbps): The bit rate entered here is used as the average rate applied to the video. The size of the video to be exported can only be approximated.

Maximum bit rate (kbps): This is the maximum bit rate for the video stream, i.e. the maximum number of bits the decoder is allowed to transfer per second. This parameter only takes effect in the "Variable" bit rate mode.

CPB (Coded Picture Buffer): The entered value specifies the maximum amount of storage space for an encoded frame. Higher values can improve quality, but might also cause problems during export. If export is aborted, lower this value. The setting "0" means that the encoder has determined the disk space.

Maximum GOP length: The maximum GOP (view page 375) length is determined here. High values mean improved compression. Lower values create stronger security protection and enable improved access to individual frames for processing the video.

Tip: A good rule of thumb is to enter the frame rate as the GOP length.

GOP structure: The GOP structure is the sequence of the various frames. At the beginning of a GOP there is an I-Frame, at the end there are several B-Frames, followed by a P-Frame (view page 377). The sequence of B-Frames und P-Frames repeats until the end of the GOP.

Example: A GOP with a length of 20 and the "IBBP" structure will look like this:

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Frame	I	B	B	P	B	B	P	B	B	P	B	B	P	B	B	P	B	B	P	B

Profile: Profiles define the encoder properties that are supported.

- **SIMPLE:** Intended to be used as the basic profile for applications with limited computational power, e.g. video conferences or mobile phone videos. This profile does not allow B-Frames, which first and foremost means more data traffic, but contributes to better reliability.
- **Main:** This profile was originally intended for the broadcast industry and for backup purposes. It has become less popular since the development of the "High Profile" for this purpose.
- **HIGH**: This profile is used for broadcast and backup applications and is also sometimes used in the HDTV industry (**H**igh **D**efinition **T**ele**v**ision). This profile is used for Blu-ray discs.

Note: You should only change this setting when there are problems playing back the generated video.

Level: MPEG 2 defines various levels. The level determines which bit rate and resolution are possible for the video. With the "Auto level" option, the encoder determines the level automatically on the basis of the set video format, the specified bit rate and the profile.

Coding quality: This is the easiest way to set the ratio between coding duration and quality. Select the setting which best suits your needs.

Hardware acceleration: MAGIX Video Pro X supports the use of "Quick Sync Video" hardware acceleration. This can noticeably speed up the encoding process.

Smart Copy: If this option is activated, unedited MPEG 2 material with hard cuts is transferred without changes. This drastically accelerates the encoding process. The transfer always takes place on the GOP borders is not frame-precise.

HRD (Hypothetical Reference Decoder): When this option is activated, a virtual decoder checks the data stream for compatibility with the video standard during the encoding process. This ensures that the generated video is compatible with various playback devices, but it also slows down the encoding process.

Audio

Sample rate (Hz): Here you can set the sample rate for audio encoding. For DVDs the standard is set to 48 kHz. If you change the settings here, it may result in not being able to play back the sound or the entire video.

Channels: Determines the number of audio channels.

- Mono: 1 channel, mono sound
- Stereo: 2 channels, one for left and one for right.
- Surround: 6 channels (5.1)

Bitrate (kBit/s): The desired bit rate is entered here.

Audio encoder: This is where you define how audio material will be coded, or whether it should be written to the exported file as an uncompressed PCM data. If PCM is used, you can no longer adjust sample rate and bit rate.

Image settings

Interlace: Specifies whether the video is coded in frames or fields (in interlaced scanning, also "Interlaced").

- **Progressive**

  The video is coded in frames.
- **Bottom field first**

  The video will be interlaced. The lower lines (Bottom field) are used for the first field and upper lines for the second.
- **Top field first**

  The video will be interlaced. The upper lines (Top field) are used for the first field and the lower lines for the second.

MPEG-4 encoder settings (standard)

In the „Advanced Settings“ you can make detailed adjustments to the MPEG-4 data flow.

The advanced settings are divided into "Video", "Audio", and "Multiplexer".

Video

Note: The preset values and status of the control element (locked/unlocked) depend on the selected export preset.

Bit Rate Mode: The bit rate indicates how much data is saved in the video per second (at playback speed). This makes the bit rate the deciding parameter with regard to the file size and quality of the video to be encoded. A higher bit rate means better quality, but also a larger file size.

- **Constant:** The exact value entered in "Average bit rate" is applied which enables precise calculation of the video size.
- **Variable:** The value entered in "Average bit rate" is used as an approximate guideline for the value applied to the video. This means that the size of the video can only be estimated.
- **Constant quantization parameter:** This parameter ensures that the video quality remains the same throughout.

Average bit rate (kbps): The bit rate entered here is used as the average rate applied to the video. The size of the video to be exported can only be approximated.

Maximum bit rate (kbps): This is the maximum bit rate for the video stream, i.e. the maximum number of bits the decoder is allowed to transfer per second. This parameter only takes effect in the "Variable" bit rate mode.

CPB (Coded Picture Buffer): The entered value specifies the maximum amount of storage space for an encoded frame. Higher values can improve quality, but might also cause problems during export. If export is aborted, lower this value.

Maximum GOP length: The maximum GOP (view page 375) length is determined here. High values mean improved compression. Lower values create stronger security protection and enable improved access to individual frames for processing the video. A general rule: The shorter the GOP, the more compatible the generated video file.

Tip: A good rule of thumb is to enter the frame rate as the GOP length.

GOP structure: The GOP structure is the sequence of the various frames. At the beginning of a GOP there is an I-Frame, at the end there are several B-Frames, followed

by a P-Frame (view page 377). The sequence of B-Frames und P-Frames repeats until the end of the GOP.

Example: A GOP with a length of 20 and the "IBBP" structure will look like this:

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Frame	I	B	B	P	B	B	P	B	B	P	B	B	P	B	B	P	B	B	P	B

Profile: Profiles define the encoder properties that are supported.

- **Main:** This profile was originally intended for the broadcast industry and for backup purposes. It became less popular when "High Profile" was developed for exactly these applications.
- **HIGH**: This profile is used for broadcast and backup applications and is also sometimes used in the HDTV industry (**H**igh **D**efinition **T**ele**v**ision). This profile is used for Blu-ray discs.

Note: You should only change this setting when there are problems playing back the generated video.

Level: H.264 defines different levels. The level determines which bit rate and resolution are possible for the video.

With the "Auto level" option, the encoder determines the level automatically on the basis of the resolution of "AVC preset" video formats, the set bit rate and the profile.

Coding quality: This is the easiest way to set the ratio between coding duration and quality. Select the setting which best suits your needs.

Hardware acceleration: MAGIX Video Pro X supports the hardware acceleration "Quick Sync Video" for AVCHD exports, AVCHD and Blu-ray discs. This can noticeably speed up the encoding process.

Smart Copy: If this option is activated, unedited AVCHD material with hard cuts is transferred without changes. This drastically accelerates the encoding process. The transfer always takes place on the GOP borders is not frame-precise.

HRD (Hypothetical Reference Decoder): When this option is activated, a virtual decoder checks the data stream for compatibility with the video standard during the encoding process. This ensures that the generated video is compatible with various playback devices, but it also slows down the encoding process.

Interlace: Specifies whether the video is coded in frames or fields (in interlaced scanning, also "Interlaced").

- **Progressive**

  The video is coded in frames.
- **Bottom field first**

The video will be interlaced. The lower lines (Bottom field) are used for the first field and upper lines for the second.

- **Top field first**

  The video will be interlaced. The upper lines (Top field) are used for the first field and the lower lines for the second.

AAC audio

Note: The preset values and status of the control element (locked/unlocked) depend on the selected export preset.

Sample rate: Here you can see the sample rate for audio encoding.

Channels: Determines the number of audio channels.

- Stereo: 2 channels, one for the left side and one for the right.
- Surround: 6 channels (5.1)

Bitrate (kBit/s): The desired bit rate is entered here.

Audio encoder: Shows which audio encoder is being used.

Image settings

Interlace:

- **Bottom field first**

  The video will be interlaced. The lower lines (Bottom field) are used for the first field and upper lines for the second.

- **Top field first**

  The video will be interlaced. The upper lines (Top field) are used for the first field and the lower lines for the second.

Multiplexer

Streamable: The generated video is suitable for live playback on websites.

HTML Start file: MAGIX Video Pro X generates an HTML file with a video player that opens the HTML file and plays it back.

HEVC encoder settings

In the "Advanced Settings" you can make detailed adjustments to the HEVC data flow.

The advanced settings are divided into "Video", "Audio", and "Multiplexer".

Below is an explanation of all the settings that can be changed.

Video

Average bit rate (kbps): The bit rate entered here is used as the average rate applied to the video. The size of the video to be exported can only be approximated.

Maximum bit rate (kbps): This is the maximum bit rate for the video stream, i.e. the maximum number of bits the decoder is allowed to transfer per second. This parameter only takes effect in the "Variable" bit rate mode.

CPB (Coded Picture Buffer): The entered value specifies the maximum amount of storage space for an encoded frame. Higher values can improve quality, but might also cause problems during export. If export is aborted, lower this value.

Maximum GOP length: The maximum GOP length is determined here. High values mean improved compression. Lower values create stronger security protection and enable improved access to individual frames for processing the video.
A general rule: The shorter the GOP, the more compatible the generated video file.

Tip: A good rule of thumb is to enter the frame rate as the GOP length.

GOP structure: The GOP structure is the sequence of the various frames. At the beginning of a GOP there is an I-Frame, at the end there are several B-Frames, followed by a P-Frame. The sequence of B-Frames und P-Frames repeats until the end of the GOP.

Level: HEVC defines various levels. The level determines which bit rate and resolution are possible for the video. With the "Auto level" option, the encoder determines the level automatically on the basis of the set video format, the specified bit rate and the profile.

Coding quality: This is the easiest way to set the ratio between coding duration and quality. Select the setting which best suits your needs.

Audio

Sample rate: Here you can see the sample rate for audio encoding.

Bitrate (kBit/s): The desired bit rate is entered here.

Multiplexer

Streamable: The generated video is suitable for live playback on websites.

HTML Start file: MAGIX Video Pro X generates an HTML file with a video player that opens the HTML file and plays it back.

MPEG-4 encoder settings

MPEG-4 is actually a collection of highly efficient codecs for video and audio based on the MPEG standard. Compared to MPEG-2, the same quality can be achieved with smaller file size.

Recommendation: Check the presets that the program offers to find the right preset for each application and the right playback device. These presets are optimized for typical applications.

The advanced settings in **"Advanced"** are divided into "Video", "Audio", and "Multiplexer".

Under **"Video"** there is a choice between "MPEG-4 Simple" (MPEG-4 Visual/MPEG-4 Part 2) (view page 368)and "MPEG-4 H.264" (AVC/MPEG-4 Part 10) (view page 363).

Depending on the purpose of application of the material to be exported, either one of these encoder settings can be selected for compressing the video material. Refer to the manual for the playback device to find out which encoder is supported.

Under **"Audio"**, "AAC" (view page 371) is preset. If you have chosen an AVCHD transport stream from the presets, "AVCHD audio track" will be available.

Under **"Multiplexer"** you can adjust certain presets, e.g. container format and streaming properties. This is only recommended for experts.

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 337)".

Tip: First, check if there is a suitable preset in the export dialog for your purposes. Advanced users can make specific adjustments to these three areas using the advanced settings.

Video codec

MPEG-4 H.264

The MPEG-4 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.

MVC

MVC: Multiview Video Coding (MVC) is an expansion for stereoscopic applications. Activate this to export MVC files.

Note: MVC is only available in the Video deluxe Pro versions.

2-pass

The video to be exported will be encoded twice. The first run-through serves to calculate the streaming rate for each section (for video this is per frame). The second run-through is when the actual video is created with the streaming rates that were calculated in the first run-through. The result is an improved image quality, but encoding takes place approximately twice as long.

Smart Render and Smart Copy

Smart Render lowers the demand on the encoder for AVCHD material. In the production of AVCHD files, only those parts of the movie that were changed in the program (e.g. by video cleaning or effects) are re-encoded. Please note: The AVCHD 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.

The Smart Rendering special mode **„Smart Copy“** enables AVCHD material to be transferred without having to encode it for the target medium which greatly increases 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 rather take place at the next GOP borders. For this reason, cuts should be set somewhat more generously.

Hardware acceleration - Quick Sync Video

MAGIX Video Pro X supports hardware acceleration for AVCHD exports as well as AVCHD and Blu-ray discs. This can noticeably speed up the encoding process.

- **Quick Sync Video:** Intel processors starting with „Sandy Bridge“ when using a standard MPEG-4 encoder (view page 363, view page 358).

Note: Make sure that all the necessary drivers are installed.

If your system does support hardware acceleration, you can activate it in the "Encoder Settings" dialog under "Advanced..." > "Hardware acceleration".

Advanced video settings

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
- **Main**: Corresponds with ISO/ICE 13818-1/2 standard
- **High:** High Profile
- **SVCD**: Corresponds with MPEG-2 Super VideoCD
- **D1**: Corresponds with MPEG-2 DVD
- **DVD**: DVD video
- **Blu-ray:** Blu-ray-Disc
- **Blu-ray HD:** Blu-ray-Disc in High Definition
- **Sony PSP**: Sony PSP-compatible format
- **HD 1280x720p:** High Profile with a resolution of 1280x720p (progressive)
- **HD 1440 x 1080i**: High profile with a resolution of 1440 x 1080i (interlaced)
- **Apple iPod**: Apple iPod-compatible stream.

Profiles

Profiles

Profiles define the encoder properties that are supported.

- **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. It has become less popular since the development of the "High Profile" for this purpose.
- **High profile**: This profile is used for broadcast and backup applications, and it is also used sometimes in the HDTV industry (**H**igh **D**efinition **T**ele**v**ision). This profile is used for HD-DVD and Blu-ray Discs, for example.

Level

H.264 defines different levels. The level determines which bit rate and resolution are possible for the video.

With the "Auto level" option, the encoder determines the level automatically on the basis of the resolution of "AVC preset" video formats, the set bit rate and the profile.

Frame type

"Picture type" specifies which parts of a frame should be used as the basis for the encoding:

- **Progressive Frame:** A single image from a video sequence, also called a fullscreen.

- **Interlaced Field:** This is half an image. Two of these are combined to produce a frame. Read more about this explanation regarding "Interlace (view page 375)".
- **Interlace Frame:** The encoder creates a „Frame field“ which is the basis for the encoding.

Field order

Note: This parameter is only available if the setting "Field" is selected for "Frame type".

In case of interlaced streams, the half-image sequence is set. Read more about this explanation regarding "Interlace (view page 375)".

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.

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 with regard to the file size and quality of the video to be encoded. A higher bit rate means more quality but also a larger file size.

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**: 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 375), P-Frame, or B-Frame (view page 377)). 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.
- **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

Here you can choose whether you want to manually perform one-pass or multi-pass encodings (2-pass, multi-pass)

Note: The 2-pass option in the main dialog of the MPEG-4 export is recommended. This automatically performs two encoder passes.

If you want to perform 2-pass encoding manually, you must select "Multi-pass analysis" in the first pass and "Multi-pass encode" in the second pass.

- **Single pass**: The encoder process takes place without prior analysis. This requires the least amount of time.
- **Multi-pass analysis:** Analysis data is calculated during encoding and used for multi-pass encoding.
- **Multi-pass encode:** Assumes that an analysis has already been performed The analysis data is used during encoding to optimize the results.

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. "Use HRD" must also be activated.

Aspect ratio

In the film industry, this is an indication of the ratio between width and height of a rectangle, monitor, or screen.

There are 3 different sizes available:

- **Picture Aspect Ratio** (also **D**isplay **A**spect **R**atio, **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 375) 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 377). 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 375) after a scene change.

MPEG-4 simple

If MPEG-4 H.264 cannot be played back on your device, use MPEG-4 Simple.

Note: We recommend that only advanced users make adjustments to the advanced settings. You can use the technical specifications of your playback device to help with this.

Advanced video settings

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

Profiles: Profiles define the encoder properties that are supported.

Level: The level determines which bit rate and resolution are possible for the video.

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 375)".

Field order

Note: This parameter is only available if the setting "Field" is selected for "Frame type".

In case of interlaced streams, the half-image sequence is set. Read more about this explanation regarding "Interlace (view page 375)".

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.

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 with regard to the file size and quality of the video to be encoded. A higher bit rate means more quality but also a larger file size.

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 375), P-Frame, or B-Frame (view page 377)). 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.

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 375) 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 377). 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 375) after a scene change.

Audio codec:

Under "Audio", "AAC" (view page 371) is preset. If you have chosen an AVCHD transport stream from the presets, "AVCHD audio track" will be available.

AAC

AAC was developed by MPEG, the Moving Picture Experts Group, as an audio data compression process that was specified as a further development of MPEG-2 Multichannel in the MPEG-2 standard.

AAC is equally suitable for encoding general audio information and not especially optimized for certain types of audio material.

AAC audio can be encoded with a sample rate of 8000, 16000, 24000, 32000 or 48000 Hz in either mono or stereo. By default, the sound is set to 48000 Hz stereo. The higher the sample rate is, the larger the resulting file and higher the audio quality. You can use the technical specifications of your playback device to help with this.

Advanced audio settings:

- 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.

Profiles:

- **Low complexity**: Data is present in a form that hinders different decoding algorithms (noise replacement), but enables others (temporal adjustment noise formation).

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.

AVCHD audio track

If you have chosen an AVCHD, AVCHD transport stream, or Blu-ray (H.264) from the presets, "AVCHD audio track" will be available.

Multiplexer

The Multiplexer combines audio and video streams so they can be played back together on playback devices.

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 (**D**igital **C**inema **I**nitiative) 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.

Streamable format

Activate this option if you would like to create files that can be integrated into and played back on websites. This way the file can be played back without having to be completely preloaded.

Note: This setting is recommended if you choose the option "Export as website".

For Sony PSP

Switch on this option if the video should be played back with the Sony PSP.

For iPod

Switch on this option, if the video should be played back with the Apple iPod.

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 377) 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, 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 375)).

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 **o**f **P**ictures: 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 377) 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 377)).

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 a double-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 delve deeper into this process. Two problems can occur:

Interlace artifacts

To be displayed on a computer monitor 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 at the vertical edges.



Typical interlacing errors

You can use so-called "de-interlacing" to avoid these artifacts. A picture in between the two fields is created (interpolated). So if you want to create stationary pictures from movies, then you should definitely use a de-interlace filter.

Incorrect field rate

If you move around the series of fields in a movie data stream you can 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”.

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 377).

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	$I_0\ B_{01}\ B_{02}\ P_{01}\ B_{11}\ B_{12}\ P_{02}\ B_{21}\ B_{22}\ I_1$	
Data stream	$I_0\ P_{01}\ B_{01}\ B_{02}\ P_{02}\ B_{11}\ B_{12}\ B_{21}\ B_{22}\ I_1$ ...	for closed GOPs
	$I_0\ P_{01}\ B_{01}\ B_{02}\ P_{02}\ B_{11}\ B_{12}\ I_1\ B_{21}\ B_{22}\ P_{11}$...	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 373) 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 374).

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.

If you still have questions

Tips for Program Help

When the program is open, you can access the Help feature by pressing F1 on your keyboard. The program Help contains tips on how to use the program and lots of additional information. Many important terms are indicated in the text in italics. Simply click on these terms for a more detailed explanation of what they mean.

Context Help: Press the "F1" key on your keyboard at any point in the open program and Help will open with the matching help topic.

Search function: This feature can be used to look for specific words in the Help section. Enter either the individual word or use logical operators (e. g. 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 6 additional words are allowed between two search words.
- **NOT** (before a word): topics which contain this word will **not** be listed.

Print: The print function can be used to print out specific Help topics or entire topic sections. The print button is located at the very top of the toolbar in the Help window.

Glossary

Symbols & Numeric

1080i/1080p

1080i or 1080p are the so-called Full HD resolutions. These have a resolution of 1920 x 1080 pixels. The "i" stands for "interlaced" (view page Fehler! Textmarke nicht definiert.) and means that each field is stored, as with interlaced scanning. The "p" stands for "progressive" and means that entire images are stored.

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 abbreviation stands for "Absolute Track Number". Which is the actual time code 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

audioid 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 clear improvement in quality can be seen here.

MPEG-4 AVC/H.264 is used for video encoding and AAC or AC3 for audio encoding. The maximum bitrate 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 349)

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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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".

Clipboard

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.

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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.

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.

Dissolve

Transitions, Dissolve. Can be used to fade between objects.

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 X) 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.

Transition/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 "**H**igh **D**efinition **T**ele**v**ision.

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 Message Access Protocol and is an advanced process of 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 the program functions. 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 X, 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 **M**IDI **T**ime **C**ode 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 "**N**ational **T**elevision **S**ystems **C**ommittee". 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 X 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 **A**lternating **L**ine, 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 is 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 X.

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.

Submenu

Along with normal entries, a menu can contain submenus that offer additional functions. These provide a better overview of the menus.

T

Timeline

In the Timeline-Mode, the media being used is always displayed on a timeline that runs from left to right.

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.

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".

Index

2

2-Point Edit 108

3

3D 172
3D morph 150
3D series 107
3D transitions 107
3-Point Edit 109

4

4K Videos 243, 246
4-Point Edit 111

5

5.1 Surround 207, 214

A

Abbreviations 338
Adapt length to music 277
Add music 86
Additional effects 153
Adjust brightness 131, 169, 205
All tracks mouse mode 29, 31, 46
Alpha keying 106, 245
Analog video recording 83
Animate effects 156
Anti-flicker filter 170
Anti-interlace filter 171
Artistic filter 140
Attach to picture position in the video 166
Audio cleaning 189
Audio effects 59, 187, 188
Audio recording 86
Audio track export 244
Audiomenü 221
Automate 207
Automatic scene detection 270
Automatic volume damping 89
Automatically cut 270, 277
Automation 207, 210
AVCHD 16, 73, 74

AVCHD disc 352
AVC-Intra 73

B

Background music 187
Backup 258, 269
Backup copy 258
Basic view 49
Batch Capturing 79
Batch recording 79, 80
Beat detection 271
Blu-ray 352
BMP-Export 245
Border cropping adjustment 171
Burn 72, 234
Burn CD 296

C

Camera/zoom 147
Chapter markers 43, 115, 221
Chroma key 137
Clean-up wizard 260
Codec 349
Color 132, 170
Compare 130
Compressor 192, 197
Computer 56
Context menu 27
Continue 236
Continue burning 236
Contrast 131, 169
Copy 100
Create disc menu 217, 219
Create menus 217, 219
Create new project 246
Curve mouse mode 47
Curves 156, 207
Customer service 11
Cut 29, 48
Cut trimmer 104

D

DeClipper 189
Decorate 314
DeHisser 191
Delete 42, 301
DeNoiser 190
Design 277

Design buttons 222
Design elements 314
Design page 221
DirectX Plug Ins 205
Disc formats 18
Distortion 141
Driver selection 250
Dub 86
Ducking 89, 187, 312
DV 77
DV as MPEG 82
DV-AVI 241
DVCPRO 73
DVD 350
  Burn DVD 296
  DVD with surround sound 207
  Import DVD 96

E

Edit 38, 95, 300, 344
Edit after recording 93
Edit list 260
EDL 260
Effects 58, 129, 187, 207, 278, 309, 345
Effects curves 160
Effects masks 163
Effects settings 129, 169
Equalizer 191, 197
Exchange 45
Export 33, 208, 240
Export formats 240
Export movie 33, 240
Export video 33, 240

F

File 342
File formats 16, 349
File import 55
Film menu 221
Film overview 69
Folder 252
Four-point cut 111
Full screen 69

G

Grid 43
Group 43, 100

H

H.264 74
Handles 27, 101
Hard drive camera 74
HDV 77
Help 318, 347
Hints 254

I

Image stabilization 168
Import 55, 208
Import Formats 16
In point 30, 97, 116
Insert 96
Insert date 127
Installation 13
Interfaces 38, 72
Interlace 252, 254
Interpolation for interlace material 171

J

JPEG export 245

K

Kapitelmenü 221
Key frames 156
Keyboard shortcuts 338

L

Limiter 203
Load 41, 96, 250
Load CD titles 295
Load project 41, 250
Logging 83

M

MAGIX Movie Edit Pro 19
MAGIX tools 57
MAGIX Video CD 241
Mastering 189, 207
Mirror 149
Mixer 49, 196, 205, 209
Modes (Storyboard/Timeline/Overview) 35
MotionJPEG-AVI 242
Mouse modes 47, 341

Move 100
Move objects on all tracks 46
Movement effects 59, 145
MPEG 241, 349
Multicam editing 119
Multicam mode 119
Multimax 201
Multisound tracks 212
Mute 49
MVC 363
My Media 57

N

Navigation 220
Nested Sequences 98
News Center 42

O

Object editing 95
Object grid 43
Object handles 101
Object mouse mode 46
Object trimmer 103
One track mouse mode 29, 31, 46
Open files 16, 250, 259, 295, 298
Optimize image 131, 169, 171
Out point 30, 97, 116
Overview 49, 317
Overview mode 49, 97
Overwrite 46

P

Panorama 280
Panorama automation 207
Personalized templates 153
Pitch shift 194
Play 23, 338
Playback markers 113
Polarizing filter 175
Prelisten mouse mode 47
Preview 216
Preview rendering 257
Program monitor 68
Project folder 63
Project markers 113
Project window 49, 250, 340
Projects 57, 248
PSD 219

Q

Quick Start 22

R

Real time 187
Record 73
Record sound 86
Recording 73
Redo 42
Remote control 216
Remove scene 48
Rewrite 236
Rotation 149
Rotation & Mirror 149
Run of the panorama and volume curve 207

S

Save 41
Save project 41, 250
Scene markers 117
Scene recognition 270
Screen capture 91
Scroll 52
Scrubbing 214
Search function 23, 56
Section & zoom 146
Serial number 13
Settings 249
Sharpness 142, 170
Shortcuts 338
Show grid 43
Show text 58
Shutter mode 175
Single frame export 242
Single-frame recording 80, 89
Size 145
Size & position 145
Slideshow Maker 277
Snap to other audio objects 122, 327
Sound restoration 189
Soundtrack 187, 275
Source monitor 68, 117, 130
Spacebar 250
Specify TV image 170
Speed 143
Split 48
Split movie 48
Start dialog 22
Stereo FX 192, 202

Stereo3D 172
Storyboard Mode 35
StoryMaker 58
Stretch mouse mode 47
Support 11
Suppress flickering 170
Surround 207, 214
Surround Sound Stereo/5.1 207
Synchronization 262
System requirements 15

T

The burn dialog 235
Three-point cut 109
Timeline mode 27
Timer 90
Timestretch/pitchshift 194
Title 58, 123
Title Editor 43
Tools 40
Track effects automation 207, 210
Tracks 205
Transitions 58, 105, 245, 277
Transport functions 70
Trim 103
Trimmer 103
Two-point cut 108

U

Ultra HDTV 243, 246
Uncompressed video 242
Undo 42
Uninstall 13
Use plug-ins 153, 188, 205
Using MAGIX Video Pro X 22

V

Video Comping 119
Video effects 58, 131
View 61, 317, 340
Vimeo 297
Volume automation 207
Volume reduction 89, 187
VST plug-ins 205

W

Wave (WAV) 244

Window 315, 347
Windows Media video 242
Workshop 22
Workspaces 72

Y

YouTube 297

Z

Zoom 51, 147