

# MAGIX

## MAGIX Software GmbH

MainConcept Codecs enable consumers, semi-professionals and professionals to create unforgettable video projects as well as movie events in excellent quality and in various distribution formats.

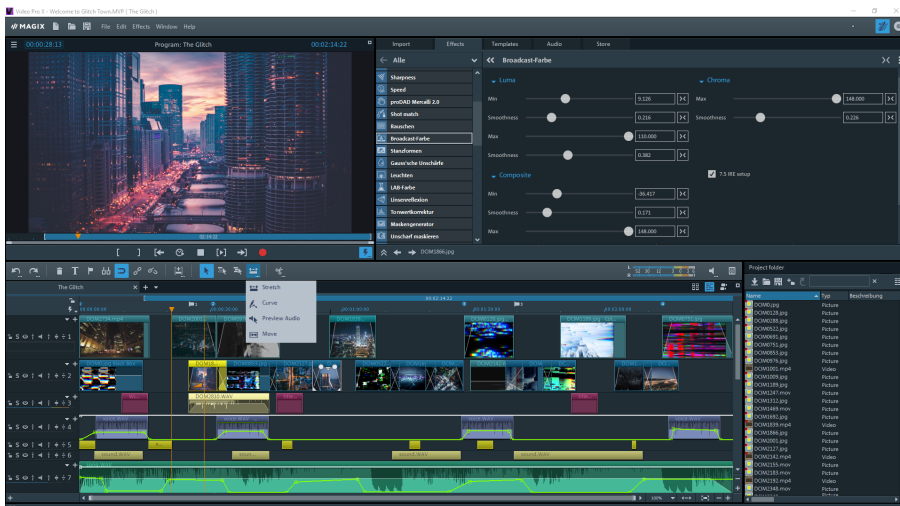


Nowadays, everyone with a DSLR, consumer camcorders or a smartphone can shoot videos. Consumers have high expectations for how videos should look when published on social media. Similarly, many users and commercial film makers require support for professional camcorders. MAGIX addresses each of these customer types. The MAGIX Video deluxe<sup>1</sup> covers video editing solutions ranging from beginners to advanced users. MAGIX Video Pro X is targeted at semi-professionals up to professionals with a profound knowledge of movie production. Editing footage from different sources requires a highly flexible input and playback module. In turn, outputting a final project to match a large number of target devices calls for a rich set of encoders and file formats. Thus, to be successful in this highly competitive video editing market, customers need performance and best quality through flexible encoders and decoders that power their software.

## CHALLENGES

Since 1993, MAGIX has been developing and selling software for music, video and photo editing. Headquartered in Berlin, Germany, MAGIX is one of the leaders in the European PC multimedia solutions market and has now successfully expanded with its purchase of the VEGAS product lines into the United States.

MAGIX's video success story dates back to 2001 with the first release of Video deluxe in Germany, and Movie Edit Pro - the English edition of this video editing product throughout the world. Both the consumer versions and the high-end video production tool, Video Pro X, which was released in 2008, require support for a wide range of audio and video codecs as well as corresponding file formats.



### PLATFORMS

- Video Pro X
- Video deluxe

### MARKETS:

- Video production
- Consumer
- Film makers
- Online video creators

### USE CASE:

- Video editing
- Compositing
- Visual effects
- Capturing / Playback

### MAINCONCEPT SDKS:

- HEVC/H.265
- AVC/H.264 BC
- MPEG-1/2
- DVCPRO HD
- Dolby Digital Decoder

<sup>1</sup> In English speaking countries MAGIX Video deluxe is called Movie Edit Pro. However, the actual software is identical.

**AT A GLANCE:**

- MainConcept codecs are used to process professional camcorder formats.
- MAGIX's editing software offers video editing in broadcast-ready quality.
- MAGIX was an early integrator of MainConcept HEVC SDK.
- MainConcept AVC & HEVC hardware encoders are powered by Intel Quick Sync Video.
- MAGIX serves a wide range of users, from consumers, to semi-professionals, to high-end producers.
- MAGIX offers full performance video editing through optimal CPU and GPU usage.
- MainConcept AVC & HEVC GPU decoders for enhanced preview.
- Codec expert integration support.

Due to the content from different sources and cameras, video editors and producers work with various containers on the input side every day. Depending on the level of business, users must deal with footage from consumer camcorders recording in HDV and AVCHD up to the more professional Sony XAVC and Panasonic P2. In the miscellaneous video editing suites Video deluxe and Video Pro X, MAGIX provides support for both consumer as well as professional formats, including HEVC / H.265, AVC / H.264, MPEG-1/2 and DVCPRO HD to satisfy users' demands. MAGIX needed an all-in-one solution to handle any media type.

Another challenge MAGIX faced became obvious when editing more complex formats like HEVC and AVC-Intra. Generally, video editing is very resource intensive. Thus, the trend is to leverage a user's PC power as much as possible to improve software performance. The overall result however is slower performance of all software functions. MAGIX needs a way to offload tasks to the GPU, so timeline preview, media playback and outputting a project are executed by the graphics unit to unburden the CPU, i.e. freeing up the CPU to be used for other tasks.

To consolidate its consumer video editing market leadership in Germany, Europe and the United States, MAGIX needed a renowned and reliable technology partner offering unparalleled video quality as well as highest performance. Providing both MainConcept software and hardware codecs, MAGIX's editing solutions easily handle streams with resolutions from SD (Standard Definition) to 4K HDR (High Dynamic Range). This codec diversity has been a major consideration for selecting MainConcept as the right technology provider for MAGIX's set of products.

MAGIX has also been looking for an industry leading brand to help it overcome fundamental obstacles relating to encoding and decoding. In MainConcept's

long history of creating and supporting a state-of-the-art codec portfolio, MAGIX has found the reliable partner with excellent market reputation and a complete library of SDK components for building a video editing and compositing software with input, playback and exporting functionalities in SD, HD and 4K resolutions. Using MainConcept's encoder, decoder and related multiplexing and demultiplexing components helps MAGIX to satisfy their users' calls for multi-purpose video and audio format support.

## SUCCESS STORY

MAGIX's market leading solutions for video editing are the perfect tools for beginners up to semi-professionals and advanced users who need to deliver eye-catching movies for all sorts of occasions in excellent quality. MAGIX empowers a wide variety of products and typical workflows from capturing or importing the source content from cameras, mobile phones or media cards to the PC, then editing directly on the timeline or storyboard, including immediate preview playback, and finally exporting the project for the desired target destination format or device.

Each step of MAGIX's workflow requires powerful - yet highly flexible - codec components for fast and seamless editing of different industry standards in one go. For this reason, MAGIX partnered with MainConcept, which has been developing encoder and decoder SDK technology for over 25 years.

MainConcept provides high performance and high-quality components for audio and video encoding as well as decoding. Their powerful libraries enable MAGIX users to import, preview and export different media files from the timeline. This way users can focus solely on the actual production process. The integration of MainConcept's popular SDKs for HEVC/H.265, AVC/H.264, MPEG-1/2, DVCPRO HD and

**"We have been working in close collaboration with MainConcept for over a decade. Our multi-award-winning video products are indicative of the success of the MAGIX brand and, with its fast and efficient codec technology, MainConcept has made a significant contribution to this success. We're sure that our customers will be as enthusiastic as we are about the new HEVC implementation with ultra-fast GPU encoding from MainConcept in the new version of MAGIX Video Pro X."**

**SVEN KARDELKE, CPO VIDEO / PHOTO @ MAGIX**

Dolby Digital Decoding support a wide range of professional as well as consumer formats across the MAGIX Video deluxe and Video Pro X product portfolio enables an unrivaled workflow experience.

MAGIX Video Pro X is powerful video editing software for semi-professionals and advanced users, which provides the perfect combination of productivity, creativity and performance. The intuitive user interface makes importing and editing files, in numerous audio and video tracks, very convenient. The list of supported professional formats in Video Pro X includes the Sony XDCAM product line, Sony XAVC, Panasonic P2 AVC-Intra, P2 DVCPRO and many more empowering production houses, media companies and ambitious film makers to create stunning movies up to 6K resolutions.

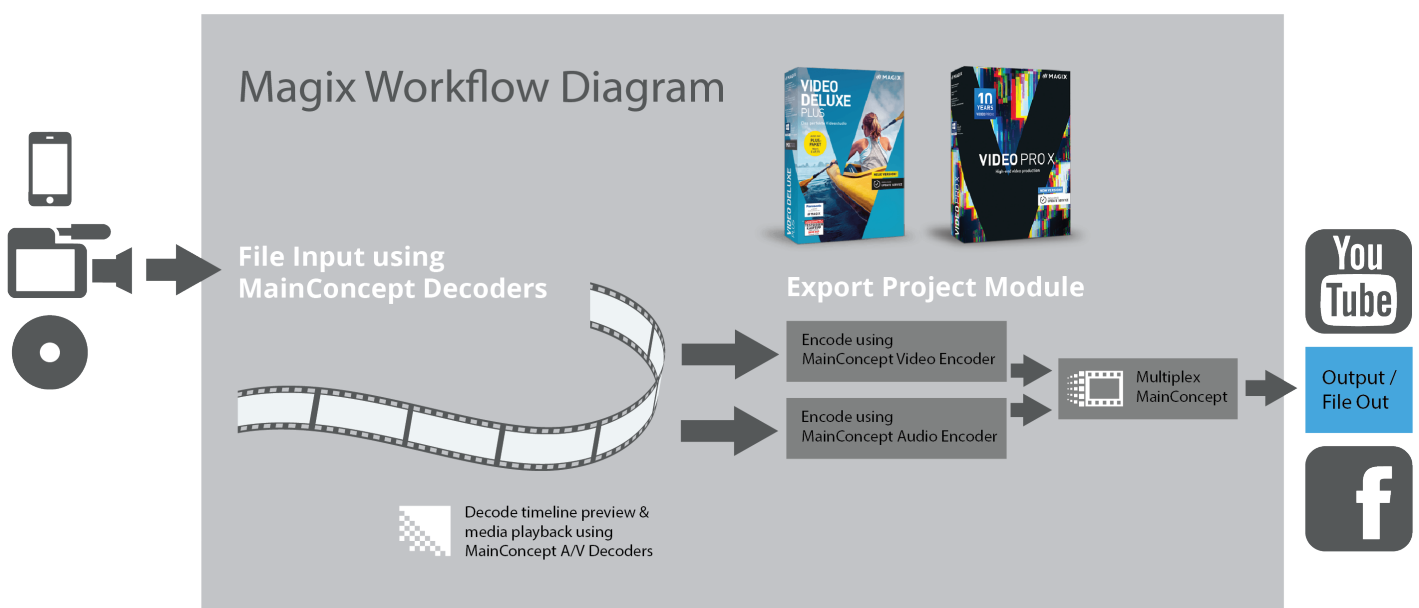
Video Pro X is a state-of-the-art video editing tool that supports a complete 360 workflow by applying automatic image stabilization, integrated stitching and offering appropriate transitions as well as effects to achieve a complete VR (Virtual Reality) experience. In addition, MAGIX software allows multi-cam editing of up to nine different cameras.

The ability to handle high resolution streams for 360/VR or from various professional camcorder file formats requires high-end desktop systems with lots of CPU power. However, even for lower end systems, MAGIX offers a solution for users to import, playback, and preview video files in Video Pro X at a performance level that allows them to continue editing their projects in parallel. MainConcept's AVC/H.264 and HEVC/H.265 hardware decoders enable fast playback and scrubbing on Intel® Core™ and several Intel® Xeon® E3 Processor families, which feature Intel® HD Graphics for a smooth video editing workflow. Moving computing power to the GPU frees CPU resources for general editing and compositing tasks that are feature highlights in MAGIX Video Pro X, such as color correction, object tracking, effects design, etc.

Once the editing is completed, MAGIX Video Pro X can output projects in various consumer and professional formats, including YouTube, Facebook, Vimeo, AVCHD, XAVC and Blu-ray Disc among many others. Here again, the industry-leading MainConcept Software Encoder SDKs are used in MAGIX Video Pro X to export best quality movies in AVC/H.264 as well as HEVC/H.265 occupying standard CPUs on modern desktop system at reasonable speed.

Thanks to optimal CPU and GPU usage, Video Pro X facilitates full performance video editing. MainConcept's all-in-one HEVC/H.265 Video Encoder offers software encoding purely running on the CPU and, simultaneously, makes use of the Intel® Quick Sync Video (IQSV) hardware encoding technology available on Intel® Core™ and Intel® Xeon® E3 processors with build-in Intel® HD Graphics. Furthermore, the MAGIX solution supports GPU encoding powered by Intel® and in cases where an Intel® GPU is not available, NVIDIA's NVENC outsources export processing to the GPU's hardware using MainConcept's HEVC/H.265 Video Encoder. Besides HEVC, MAGIX Video Pro X also uses the MainConcept AVC/H.264 Video Encoder components for CPU-based software as well as hardware-based encoding using IQSV.

Hardware encoding powered by Intel and NVIDIA is a viable option to avoid user frustration when working on low end systems by performing the most resource intensive tasks on the GPU instead of the CPU.



While MAGIX Video Pro X is aimed for semi-professionals to professional users, the MAGIX Video deluxe product line is directly targeting consumers to advanced users. The latter offers both timeline and storyboard modes to create eye-catching movies for events like vacation, parties, sports, animals, etc., to share with family and friends, for presentations, or for company image films.

Besides the basic version of Video deluxe MAGIX offers two more versions (Plus and Premium) including different feature sets and plug-ins that are best suited for different levels of user experience. MAGIX's Plus and Premium versions offer highly flexible track handling support for 360 videos and multi-cam editing of up to four different cameras. The software combines powerful performance with unique features, offering up to 1500 broadcast quality effects, transitions, intros and outros, film music and automatic wizards for easy movie generation. MAGIX's video editing product line for consumers processes all common video formats by importing recordings from smartphones, digital cameras and modern camcorders recording in AVCHD, XAVC-S or 10-bit HEVC.

To perfectly serve the consumer market with low-powered systems but GPU extensions available, MAGIX Video deluxe makes use of hardware accelerated decoding for media and timeline playback of AVC/H.264 content powered by MainConcept Decoder SDKs. Where no suitable Intel® or NVIDIA graphics unit is available on the system, the MAGIX tools can always fall back to MainConcept's optimized software video decoders.

After editing video projects in MAGIX Video deluxe, users export the project for uploading to all popular social media platforms like YouTube, Facebook or Vimeo, and can even burn a DVD or Blu-ray Disc for their players at home. Depending on the system's capabilities, editors can select between CPU and GPU encoding to output the final movie where MAGIX transparently makes use of MainConcept AVC/H.264 Video Encoder libraries. On Intel® HD Graphics powered PCs as well as Intel® Xeon® E3 processors, the export process is swapped out to the GPU to save CPU resources for other computing tasks. This significantly expedites the export time. However, in projects requiring high video quality, users can select a software encoding option that will result in amazing MainConcept broadcast video quality.



MAGIX has recently elected to use the industry-leading MainConcept HEVC/H.265 SDK to generate 4K content for better streaming quality and smaller file size for movies exported by Video Pro X. The all-in-one HEVC/H.265 Video Encoder that is part of this package provides options for software encoding as well as hardware encoding powered by Intel® and NVIDIA GPUs. Even importing and playback of UHD video in real-time is enabled by MainConcept's decoder libraries. These are some of the reasons why MainConcept codecs provide speed and state-of-the-art quality for any multimedia project.

As an optional feature, the MAGIX video editing solutions can be extended to support MainConcept's unique smart rendering technology, available for MPEG-2. The encoder wrapper provides smart rendering functionality for editing, cutting and smart copy at any frame position. The smart rendering technology also automatically detects compatibility between input and output file to avoid re-encoding if possible. This broadcast-level feature significantly increases processing time, because only those parts of the timeline with special effects or transitions are re-rendered. Where the input format matches the output profile, MainConcept smart rendering accelerates the video editing workflow in Video Pro X and Video deluxe.



MainConcept's huge codec library of professional broadcast formats AVC-Intra, DVCPRO HD, XDCAM and XAVC as well as the streaming profiles for the codecs AVC/H.264 and HEVC/H.265, convinced MAGIX to make the right choice for their flagship products Video deluxe and Video Pro X. Besides the common audio codecs like AAC, HE AAC, PCM and MPEG audio, MAGIX has included the MainConcept Dolby<sup>®</sup> Digital Decoder SDK for the import and playback of AC-3 for up to 5.1 channels in their video editing solutions.

Integration time of the most prominent MainConcept SDK libraries was minimal for the MAGIX engineering team. MainConcept's flexible yet powerful API allowed MAGIX to focus on the development of their actual video editing workflow and its features. The joint and uniform MainConcept API across all SDK components makes extending codecs and formats an easy task. In those cases of any implementation issues or open questions MainConcept Customer Care team helped MAGIX to move on quickly and efficiently.

## CLOSING WORDS

MainConcept's wide range of encoder and decoder SDKs achieves amazing quality video and industry leading processing performance. For this reason, MAGIX chose MainConcept as the audio and video technology provider for their diverse set of video editing solutions, i.e. the various editions of Video deluxe and Video Pro X.

Getting a one-stop solution for both software and hardware decoding and encoding for profiles in the AVC/H.264 as well as the HEVC/H.265 standards was a major requirement for MAGIX. MainConcept's high-speed codecs reduce rendering time significantly. Video editing is not only easy but also amazingly fast thanks to the hardware accelerated encoding powered by Intel<sup>®</sup> and NVIDIA GPUs – all driven by the common MainConcept API.

Further, MAGIX needed to be able to edit the broadcast formats used by leading professional camcorder manufacturers on standard desktop PCs. MainConcept's close partnership with professional camcorder manufacturers, like Sony and Panasonic, reassured MAGIX that it would get full support for industry standards such as XDCAM, XAVC, P2 DVCPRO and P2 AVC-Intra.

MainConcept's large codec library enjoys an outstanding reputation in the multimedia market all over the world. There is no other technology provider with a identical offering of audio/video encoder, decoder, multiplexer and demultiplexer components. Moreover, MainConcept has developed a longstanding relationship with hardware manufacturers, like Intel<sup>®</sup> and NVIDIA, with regular engineering exchange meetings constantly improving their mutual efforts to offload more computing resources onto the GPU and thereby achieve better decoding and encoding performance.

To also fulfill future user demands, MAGIX plans to further optimize their customer relationship management in order to create and develop products that best fit each market's need. Listening to the individual customer is the road to building successful solutions. Keeping an eye on the latest trends in video editing, and being able to react to the constant changes in the market, makes MAGIX the leading and quickest mover in the consumer as well as semi-professional segments.

This year, MainConcept is celebrating 25 years of codec manufacturing. As a core technology provider, MainConcept continues to develop industry leading codecs for both the broadcast and consumer markets. MainConcept's profound knowledge in audio and video compression and its commitment to continuous improvement will enable it to remain the industry's driving force.

MainConcept is constantly investing in improving existing products and developing new codecs and standards. As a result, companies like MAGIX, with products like Video deluxe and Video Pro X, benefit from the combined research efforts by chipset manufacturers and MainConcept which allows them to drive their solutions to the next level of video editing.

## REQUEST A DEMO:



**MAINCONCEPT SDKs  
MAGIX VIDEO PRO X  
MAGIX VIDEO DELUXE**

Free evaluation downloads are available for testing.

### CONTACT MAGIX

MAGIX Software GmbH  
Quedlinburger Strasse 1  
10589 Berlin  
Germany

[www.magix.com](http://www.magix.com)  
[www.magix.com/us/support/  
customer-service/](http://www.magix.com/us/support/customer-service/)

### CONTACT MAINCONCEPT

MainConcept GmbH  
Elisabethstr. 1  
52062 Aachen  
Germany

[www.mainconcept.com](http://www.mainconcept.com)  
[sales@mainconcept.com](mailto:sales@mainconcept.com)