

# TRANSCODING SDK



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## Professional Transcoding Engine

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The MainConcept Transcoding SDK consists of a powerful encoding & decoding engine supporting all renowned MainConcept codecs. Due to the extensive format support, the transcoding engine offers highest flexibility to generate streams that are compliant to numerous devices and renowned media, such as Blu-ray Disc, Adobe Flash, many Apple mobile devices, DVD, DivX, DivX Plus and DivX HEVC, the whole Sony XDCAM portfolio, Panasonic P2 AVC-Intra and DVCPRO, etc.

Transcoding SDK also offers a HEVC/H.265 Encoding Plug-In, providing comprehensive transcoding support and import capabilities for the 4:2:0 8-bit and 10-bit profiles. The ready-to-use Main 10 presets allow HEVC 10-bit content creation in your solution. Additionally, the encoder includes preconfigured templates for DivX® HEVC 720p, 1080p and 4K profiles in MKV file format that can be played back with the current releases of DivX Player and DivX Web Player.

Transcoding SDK is the perfect engine for solutions that cater to content preparation and transcoding into adaptive formats for digital delivery, such as DivX Plus Streaming™, Apple HLS or DASH-264 and DASH-265, including playlist generation for HLS and manifest file creation for DASH. For DASH-265 and DivX

HEVC Streaming, MainConcept Transcoding SDK offers the HEVC/H.265 SABET Encoding Plug-In; our patent-pending Smart Adaptive Bitrate Encoding Technology that enables efficient accelerated encoding across HEVC profiles. The technology allows encoding of up to 10 output streams from a single source while maintaining equal high quality across all levels within an adaptive stream set by leveraging shared data. SABET effectively provides software programmers the ability to enable their solutions to encode adaptive formats in less time, or with less hardware.

You can even create and edit XML based transcoding presets and use them in your own applications. Depending on the platform used, MainConcept Transcoding SDK offers import via DirectShow, QuickTime, GStreamer as well as MPEG, HEVC/H.265 and AVC/H.264. Efficient features, such as watermarking, watch folder and batch list transcoding, allow you to leverage the same conversion tools that power the TotalCode product portfolio. Additionally, the Transcoding SDK supports several powerful subtitling and closed caption features that make your solutions suitable for professional broadcast as well as production environments.

## ■ Leverage more of our codec expertise with Transcoding SDK

This particular SDK is aimed at developers who want to release their own transcoding applications, service or environment in a portable and extensible fashion, built as an additional layer on top of MainConcept's Low Level SDKs. Key advantages:

- Comes with a **well-documented API** (Application Programming Interface - in C programming language) allowing you to easily create your own transcoding software with a GUI (Graphical User Interface).
- Fast development of conversion tools that can be controlled via command line or act as a **server side transcoding application**.
- DirectShow filters for decoding are also included for Windows operating systems.
- Low Level decoders for import & output playback are included for all supported operating systems.

Developers have the opportunity to easily add the transcoding engine's functionalities to their own application design. Moreover, it enables them to integrate the MainConcept transcoding engine into custom workflows and optimize their transcoding environment.

## ■ How does it work?

The MainConcept Transcoding SDK works as an **additional layer** above the popular MainConcept Codec SDK, so developers do not need to manage the numerous codec settings and parameters required for transcoding. Due to its **easy-to-use API** on top of the Codec SDK, there is no need to set all conversion parameters manually, as developers can configure the encoders with predefined profiles where the transcoding engine will take care of the rest of the process. This flexible API is as simple as: **Input Source => Transcoding Preset => Output File**.

The functionality – if required – to control every aspect of the conversion process is still included in Transcoding SDK, including source/target destinations, export presets, transcoding and filter parameters, etc.

It is even possible to deploy the Transcoding SDK as is on a server, by using the numerous tutorials included for content creation and preparation, as it already offers ready-to-use presets optimized for both quality and performance.

## ■ Features

- **Powerful & easy-to-use API**  
Comes with a well documented API (Application Programming Interface - in C programming language) allowing you to easily create your own transcoding software with a GUI (Graphical User Interface).

## ■ Features (cont.)

- **Flexible conversion tool development & usage**  
Fast development of conversion tools that can be controlled via command line or act as a server side transcoding application.
- **Additional DirectShow import & playback on Windows**  
On Windows, Transcoding SDK additionally includes DirectShow filters for decoding.
- **Tight integration with MainConcept Codec SDK**  
Transcoding SDK works as an additional layer above the popular MainConcept Codec SDK, so developers do not need to take care of the numerous codec settings and parameters.
- **Input Source => Transcoding Preset => Output File**  
Developers can set the encoders by using predefined profiles, and the transcoding core takes care of the rest.
- **Complete user control**  
Control every aspect of the conversion process by Transcoding SDK, incl. source/target destinations, export presets, transcoding and filter parameters, etc.
- **Ready-to-use tutorials as a quick start**  
Deploy Transcoding SDK as is on a server using the numerous tutorials included for direct content creation. They already offer ready-to-use presets focusing on both quality and performance.
- **Multi-platform support**  
Microsoft Windows, Linux and Apple MacOS (32-bit/64-bit).
- **Powerful Closed Caption support**  
Pass-through of CEA-608 and CEA-708 (aka EIA-608/708) captions from sources containing ATSC A/53 or A/72 captions.
- **Powerful subtitle support**  
Subtitle visibility improvements, such as changing the font type, color and outline features (\*.srt and \*.sub files).
- **Gamma shift correction**  
Preserve the original color scheme for QuickTime file import.
- **Video & Audio processing filters**  
Many powerful video and audio filters for different production environments and occasions.
- **Batch List transcoding**  
Execute multiple tasks efficiently by setting up a batch process for files that use specified encoding presets and output formats.
- **Watch Folder support**  
Configure folders with predefined encoding parameters and leave it to the application to automatically process incoming media whenever it is added.
- **Smart rendering & remuxing support**  
Time-saving smart rendering and remuxing support for various codecs and multiplexers.

### Core API consists of the following items:

- Transcoding process control
- Management of processing modules
- Utility functions
- Built-in processing modules

Supports the following video and audio codecs as well as file formats.

### Available input formats:

- DirectShow import (Win)
- QuickTime import (Win + Mac)
- GStreamer import (Linux)
- MPEG-1/2, MPEG-4 Part 2, VC-1, HEVC/H.265 & AVC/H.264
- DVCPRO
- JPEG2000

### Available output video formats:

- HEVC/H.265
- AVC/H.264
- MPEG-1/2
- DV/DVCPRO 25/50/100 (HD)
- VC-1
- JPEG2000
- MPEG-4 Part 2
- H.263
- DivX / DivX Plus / DivX HEVC
- RAW/YUV

### Available output audio formats:

- PCM
- MPEG-1 Audio
- AAC, HE-AAC
- WMA
- AMR
- Raw
- DV
- MP3 (DivX formats only)
- Dolby Digital Plus Pro (AC-3 & EAC-3)

### Available output muxer formats:

- Elementary Streams
- MPEG-2 Program Stream
- MPEG-2 Transport Stream
- MP4
- 3GP
- F4V
- ASF
- DV
- DIF
- AVI
- MJ2
- MXF
- DMF
- MKV
- RAW

## ■ Supported Codecs

- HEVC/H.265
- AVC/H.264
- AVC/H.264 for Intel Quick Sync Video
- MPEG-1 and MPEG-2
- VC-1
- MPEG-4 Part 2
- DVCPRO 25/50/HD

- JPEG2000
- DivX / DivX Plus / DivX Plus Streaming (DPS)
- Dolby Digital Plus Pro (AC-3 & EAC-3)

The extraordinary quality and performance of the codecs achieve results that are suited for every professional broadcast and post production environment.

