# MPEG-2

Efficient codec technology for established workflow and distribution formats

MainConcept MPEG-2 SDK enables applications to use well-established workflow and distribution formats with guaranteed interoperability and format compliance. Whether the application will create production formats like XDCAM or be on the distribution edge for DVD and Blu-ray, the encoder offers tailored presets with guaranteed format compliance. For XDCAM workflows requiring 4:2:2 chroma sampling, MainConcept's libraries are designed for efficient CPU-usage and best-in-class scalability on modern CPU architectures.

## OPTIMAL DENSITY

Broadcast applications using XDCAM-based video material are expected to scale almost linearly on multi-core CPU environments. As more channels are needed, performance of a single channel will not decrease. With highly customized CPU and thread management, MainConcept's MPEG-2 Encoder can be assigned to dedicated CPUs and threads, so multiple processes can run simultaneously.

## MORE THAN JUST VIDEO

Included in the MPEG-2 SDKs, MainConcept offers multiplexing components for MXF and MP4-based formats (XDCAM, XDCAM EX), as well as MPEG-2 Transport and Program Stream for DVD and Blu-ray format compliance. Audio can be compressed and decompressed in a multitude of ways, from MPEG Audio (Layer 2) to PCM audio. The decoder SDK also offers the ability to handle MPEG-Audio Layer 3 (aka MP3).

## RENDER SMARTLY

There is a reason the name of this powerful codec standard starts with the word "versatile." The advanced compression capability that results in smaller file sizes extends its functionality—taking it from typical media and entertainment use cases (broadcasting, OTT streaming and production) to a wide swath of traditional verticals (medical, digital signage) to the new and quickly evolving areas such as ad tech, gaming, virtual and extended reality. And in every use case, the MainConcept VVC/H.266 SDK is poised to bring you the quality, performance and reliability we have delivered for the past three decades.

## THE MPEG-2 LEGACY

### RELIABLE WORKFLOW FORMATS

Full compliance with established, time-tested workflow formats in broadcast production: XDCAM HD, IMX and XDCAM EX.

### ENCODING FOR OPTICAL MEDIA

If Blu-ray or DVD encoding is required, MainConcept's MPEG-2 SDK offers encoding features compliant with authoring tools for optical media.

### LEGACY FORMATS

Encoding and decoding of MPEG-1 System and Elementary streams is fully supported.

### OPTIMAL SCALABILITY

Allows encoding of many streams simultaneously on multi-core and NUMA-based systems. Granular control over CPU utilization is provided through the API. Speed gain compared to previous versions 2x.

### KEY FEATURES

- MPEG-2 (ISO/IEC 13818-2) and MPEG-1 (ISO/IEC 11172-2) stream encoding and decoding
- 4:2:0 and 4:2:2 Chroma sampling
- MPEG-2 Transport Stream, Program Stream as well as MPEG-1 System Stream packaging
- MXF and MP4 wrapping for XDCAM-based formats

### OPTIMIZE WITH MAINCONCEPT PROFESSIONAL SERVICES

## OPERATING SYSTEM

- Microsoft Windows 10, Windows 11 (64-bit, x86)
- Apple macOS 10.15 and newer (64-bit x86); macOS 11.x and newer (Apple Silicon)
- Linux Ubuntu 20.04 LTS – 22.04 LTS, Rocky Linux 8.9, CentOS 7.9 (64-bit, x86); Ubuntu 20.04 (64-bit, ARM)

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## PACKAGES

- **MPEG-2 Encoder SDK**
  Video Encoding for DVD, Blu-ray, DVB and ATSC broadcast applications and XDCAM.

- **MPEG-2 Decoder SDK**
  Video Decoding for DVD, Blu-ray, DVB and ATSC broadcast applications and XDCAM.

- **MPEG-2 Smart Rendering SDK**
  Optional add-on providing functionality for frame-accurate editing, cutting and smart copy to speed up conversion of MPEG-2 source content.

## STREAM TYPES/FORMATS/ETC.

**Elementary Stream:** Generic MPEG-1 and MPEG-2

**Transport Stream:** Blu-ray Disc, HD DVD, DVB, ATSC, ATSCHI, DVHS, D10, HDV HD1, HDV HD2, HDTV

**Program Stream:** VCD, SVCD, DVD  MPEG-1

**System Stream MP4:** Sony XDCAM EX  MXF: Sony XDCAM HD, Sony XDCAM IMX, Ikegami GFCAM, D10

## ENCODER FEATURES

- MPEG-2 (ISO/IEC 13818-2) and MPEG-1 (ISO/IEC 11172-2) stream encoding
- Supported Profiles: Simple, Main, High and 4:2:2
- Supported Levels: Low, Main, High and High 1440
- Single & 2-pass encoding
- Chroma quantization matrices (4:2:2 chroma format)
- Quantization matrix extension (ISO/IEC 13818-2: 6.2.3.2, 6.3.11)
- MPEG-2 Smart Rendering functionality for editing, cutting and smart copy at any frame position (optional)

## DECODER FEATURES

- MPEG-2 (ISO/IEC 13818-2) and MPEG-1 (ISO/IEC 11172-2) stream decoding
- DXVA GPU Hardware acceleration support
- Closed Captions
- High Profile @ High Level—Supports all MPEG-2 profiles/levels, excluding scalability extensions
- Software deinterlacing
- ATSC Stream Decoding—Supports 18 ATSC formats

## ABOUT MAINCONCEPT

MainConcept provides audio and video codec solutions that fuel creativity and business across the globe—from professional video production, multimedia, broadcast, digital signage, and gaming to the medical and security verticals. Our software development kits, transcoding applications and plugins deliver the simplicity you need with the customer experience you deserve. Since 1993, MainConcept codecs have been used by hundreds of organizations including Adobe, Autodesk, Corel, Dalet, Encoding.com, Endeavor Streaming, Grass Valley, Intel, MAGIX, Nikon, PlayBox Neo and Soliton. For more information, visit www.mainconcept.com.