

# MPEG-4 Software Video Codec

www.streaming-networks.com

Optimized for Philips Nexperia™ media processors (with TriMedia VLIW processor core)



## ISO compliant

MPEG4 is ISO / IEC 14496-2 compliant

## Cutting edge design

Multi channel video encoding / decoding option

## Video Quality

MPEG4 provides amazing results using state of the art algorithms

## OVERVIEW

The fully ISO-compliant Streaming Networks MPEG-4 software video codec brings professional-level video encoding and decoding to embedded systems that require a low memory footprint. Optimized for use with the Philips Nexperia family of media processors (with TriMedia VLIW processor cores), the software codec is flexible, scalable, cost-effective, and easy-to-use. It brings crisp, clear video to storage-based applications such as entertainment and security.

## MULTICHANNEL SUPPORT

Multi-channel video encoding/decoding options make the codec an ideal solution for cost-effective video surveillance systems. The codec supports concurrent encoding of multiple channels in real time, simultaneously encoding up to 32 rectangular video objects in single or multiple channels.

## HIGH QUALITY VIDEO

High-quality video at a low bit rate also makes the codec ideally suited for use in the emerging area of Internet-based streaming video, enabling applications such as video-on-demand, video broadcasting, video conferencing, video email, and webcams.

## STANDARDS COMPLIANT

The codec is fully compliant with the MPEG-4 standard (ISO/IEC 14496-2). This includes compliance with the Simple Visual Profile and the Main Visual Profile interface tools, as well as the Advanced Simple Profile tools (e.g., dynamic resolution conversion, quarter pixel).

## BIT-RATE & RESOLUTION

The codec supports bit rates ranging from 64 Kbps to 4 Mbps and can be used with a variety of image sizes and types, ranging from SQCIF (128x96) to full D1 (704x480). It also supports Intra, Predictive, and Bidirectionally Predictive formats.

## FRAME RATES

Frame rates are specific to individual applications and are influenced by factors such as image size, image quality and available bandwidth, but the codec typically delivers a progressive rate of 30 frames per second and an interlaced rate of 60 fields per second.

(continued on next page)

## KEY FEATURES

- Fully ISO-compliant MPEG-4 software video codec for
  - Embedded systems with low memory footprint
  - Philips Nexperia family of media processors (with TriMedia VLIW processor cores).
- High-quality output bitstreams
  - Fully compliant with MPEG-4 (IS/IEC 14496-2), Simple Visual, Main Visual Profile interface, and Advanced Simple Profile tools
- Multiple video objects
  - Simultaneous encoding of up to 32 rectangular video objects (single or multiple channels)
- Range of bit rates
  - 64 Kbps to 4 Mbps
- Range of image sizes and types
  - Up to 704x480 lines selectable in height and width in steps of 16
  - SQCIF (128x96)
  - QCIF (176x144)
  - CIF (352x288)

(continued on next page)



### PRE & POST FILTERS FOR ENCODING/DECODING

To increase stable storage capacity without compromising video quality, the codec offers a multi-stage pre-filtering option in the encoder and a post-processing filter in the decoder.

### RELIABILITY

A well-documented, easy-to-use application programming interface (API) is included with the codec. The API lets developers control library behavior and provides all the functionality for frame capture, encode/decode, and display. It also supports pre-processing filters such as median filters, low-pass filters, and de-interlacing filters. Error resilience modes and extra compression tools are also available.

- One-half D1 (352x480)
- Two-thirds D1 (480x480)
- VGA (640x480)
- D1 (704x480)
- Intra (I), Predictive (P), and Bidirectionally Predictive (B)
- Fast frame rates
  - Typical progressive: 30 frames per second
  - Typical interlaced: 60 fields per second
- Error resilience modes and extra compression tools available



Contact Streaming Networks for more information:

Telephone: +1 (408) 727-3904

Email: [info@streaming-networks.com](mailto:info@streaming-networks.com)

Web: [www.streaming-networks.com](http://www.streaming-networks.com)

Enabling the Digital Media Revolution