MPEG-4 DESCRIPTION

The MPEG-4 family of Video Coding products is part of the solutions provided by PRODYS in the fields of Video compression, Audio compression and Communication technology. PRODYS’ MPEG-4 Video Encoders and Decoders are based on the ISO/IEC MPEG-4 Visual Coding Standard and are compliant with the Simple, Core and Advanced Simple profiles. They are available for the Texas Instruments TMS320C6000™ and TMS320DM64x™ families of DSPs.

MPEG-4 video compression technology provides excellent compression efficiency and offering also robustness against errors and interesting new functionalities thanks to the usage of an object-based approach. PRODYS’ MPEG-4 Encoder provides excellent support for compression systems, as well as for storage and communication devices.

PRODUCT RANGE OVERVIEW

A range of high quality MPEG-4 Visual Encoders and Decoders optimized for the Texas Instruments TMS320C6000™ DSP family. Ideal for a wide range of applications including: video surveillance, streaming systems, storage devices, multimedia gateways, head-end video systems and consumer electronics.

PLATFORMS

TI DSPs TMS320C62x™ / TMS320C64x™ / TMS320C67x™ / TMS320DM64x™
Operating System: TI DSP BIOS Platform
TI eXpressDSP™ compliant algorithm including IDMA2

FEATURES

• Supports all Simple and Core Profile levels and Advanced Simple@L0-L4 of the MPEG-4 visual standard (ISO/IEC 14496-2).
• Supports I-VOP, P-VOP, AC/DC Prediction, 4-motion Vectors, Unrestricted Motion Vectors, Slice Resynchronization, Data Partitioning, Reversible VLC, Short Header, B-VOP, Quantisation Method 1/Method 2, P-VOP based temporal scalability, Quarter-PEL motion compensation, and Interlaced Tools.
• Advanced Rate Control with scene change detection, Adaptive Rate Control, advanced motion estimation and dynamic frame rate encoding, adaptive intra refresh, excellent quality.
• Supported Bit Rates: 9600 bps to 3 Mbps. (Higher for specific applications.)
• Encoded Frame Rates: up to 30 fps.
• Image resolutions: QSIF (160x112), QCIF (176x144), QVGA (320x240), SIF(352x240), CIF (352x288), VGA (640x480), 4CIF (704x576 or 704x480), 1/2 D1(352x576), D1 (720x576 or 720x480), Custom.
• Frame Type: Progressive and Interlaced (only on the ASP at Level 4).
• Input Frame Formats: YCbCr 4:2:0.
• Comprehensive Application Program Interface (API) for simple and rapid integration.
• Configurable for video surveillance, streaming or storage applications.
• Compliant with Texas Instruments’ TMS320 DSP Algorithm Standard, including IDMA2 compliancy.
• Fully re-entrant in a pre-emptive environment, multiple instances of an algorithm can be active in a single DSP application.

PRODYS MPEG-4 BENEFITS
The PRODYS Video Encoders and Decoders are part of PRODYS’ offering of advanced coding solutions, which are standard-based technology, and offers the benefits of interoperable video compression technology for a wide range of applications.

• Advanced video compression technology with high efficiency and performance.
• Highly configurable video compression technology, optimised for a wide range of bit rates and picture sizes.
• Excellent compression performance compared with other video codecs at similar bit rates.
• Easy to upgrade software-based solution designed for high performance Texas Instruments DSP processors.
• Application Program Interface (API) designed for easy integration and fast to market development.
• Extensive product documentation and integration services provided.

PRODYS MPEG-4 SOFTWARE COMPONENTS:
The PRODYS MPEG-4 video product release includes:
• eXpressDSP-compliant MPEG-4 Visual Encoder or decoder for DSP in binary object code.
• Reference manual for algorithm application program interface.
• NVDK/IDK/DSK-based Framework Program in source code, for fast integration in the final application.
• Support to integrate the PRODYS MPEG-4 software into a final system.

The Framework Program is provided for simple and fast integration allowing the users to make them familiar with the usage of the PRODYS MPEG-4 software. It includes a simple application, which provides a simple way to integrate the PRODYS MPEG-4 software into a final system and test the performance, as well as example video pre-processing and video post-processing utilities.

The features and specifications of the products described herein remain subject to revision at the discretion of PRODYS.
This document supersedes all earlier descriptions of these products. This document is not a guarantee of suitability of the products described herein for any particular purpose. All trademarks used herein are recognized as the property of their respective owners.

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