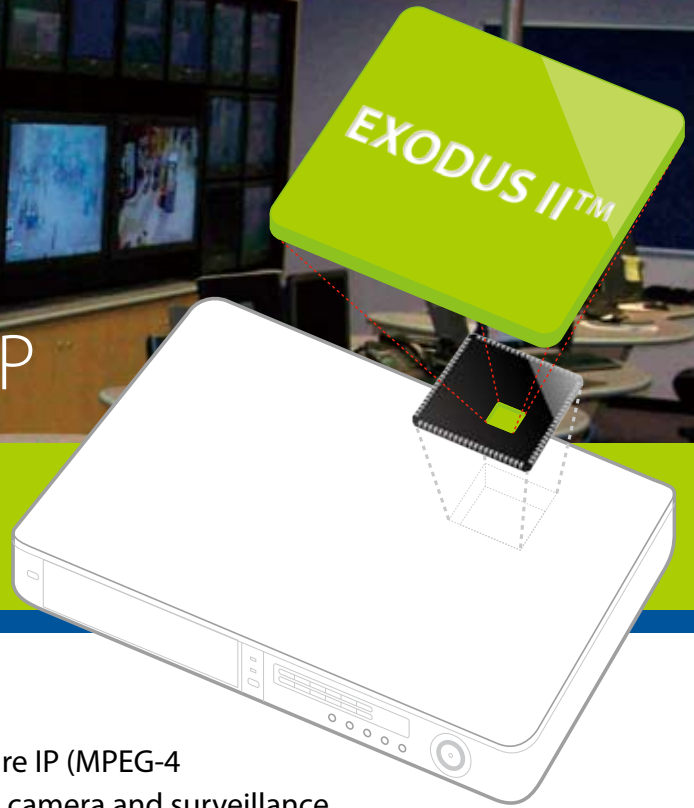


Multi Codec Hardware IP

EXODUS II™



EXODUS-II™ is a high-performance multi-codec hardware IP (MPEG-4 and H.264 codecs) which is optimized for use in DVR, IP camera and surveillance system. EXODUS-II™ delivers unprecedented encoding performance through optimized codec IP design for low-power consumption and high-video quality. EXODUS-II™ also integrates numerous advanced multimedia features such as digital video recording and web cameras.

Up to 30% higher compression ratio and 30% lower memory bandwidth than the current market

Standard Compliance

- MPEG-4 simple profile
- H.264 baseline profile

Performance

- Memory Bandwidth
 - MPEG-4 Encoder: D1 @ under 65MHz
 - MPEG-4 Decoder: D1 @under 50MHz
 - H.264 Encoder: D1 @ under 70MHz
 - H.264 Decoder: D1 @ under 65MHz

Applications

- DVR, PVR
- IP Camera
- Video Telephony
- Camcorder

Key Features

- Real-time encoding and decoding up to D1 resolution
 - 720x480 @ 30fps
- High quality encoding with efficient motion estimation and mode decision
- Rate-distortion optimization
- Superior error detection and recovery
- Optimized low power consumption architecture
- Rate control (VBR, CBR)
- Supports interlace and progressive mode
- Supports dedicated DVR function

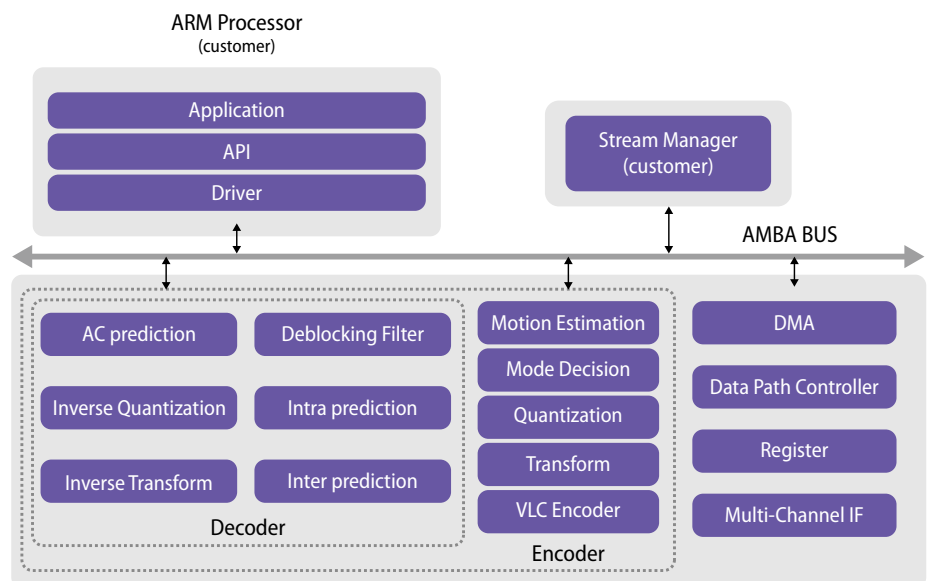
Technical Details

- Supports full MPEG-4 and H.264 encoder feature sets
 - Window size: ± 64 , ± 32
 - Multiple block size motion estimation (16x16 ~ 4x4)
 - Half-pel(1/2 precision), Sub-pel(1/4 precision) motion estimation
 - 4x4 / 16x16 Intra prediction
 - Multiple block size transformation
- Supports full MPEG-4 and H.264 decoder feature sets
 - Multiple block size motion compensation (16x16 ~ 4x4)
 - Half-pel(1/2 precision), Sub-pel(1/4 precision) motion compensation
 - Transform domain intra prediction
 - Spatial domain intra prediction
 - In-loop de-blocking filter
 - 4x4 block transform
 - Bi-linear and bi-cubic interpolation
 - Overlapped transform
- Dedicated DMA
 - Support 1D/2D access
 - Various burst mode
 - Event driven transfer
- Supports multi-channel
 - Frame rate control on each channel
 - VLC stream control on each channel
 - Multi-resolution
 - Standard H.264 stream with interlace mode
- Full sharing of resources
 - Dedicated DMA
 - Pipeline buffer and line buffer
 - Pipeline control
 - Register file of multi codec
 - Shared blocks of encoder and decoder

Specifications

EXODUS II	Codec	Profile and Level	Resolution	Frame rate
	H.264 codec	Baseline profile @Level3	Up to DI (720x480, 720x576)	Up to 60 fps
	MPEG-4 codec	Simple profile @Level3		

Functional Block Diagram



U.S. Headquarters

1731 Embarcadero Road, Suite 220,
Palo Alto, CA 94303-3339
Phone: +1 650 856 2700
Fax: +1 650 856 2727
E-mail: contact@thinmultimedia.com

Asia Office

3F Songwon Bldg, 59-4 Banpo-Dong,
Seocho-Ku, Seoul, Korea
Phone: +82 2 536 2840
Fax: +82 2 536 3601
E-mail: globalbiz@thinmultimedia.co.kr