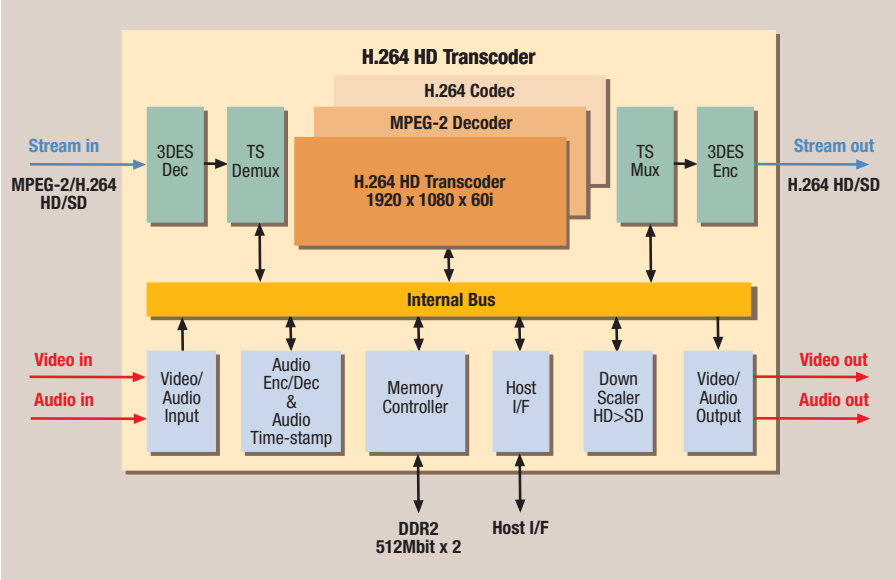
FACTSHEET
MB86H52 MPEG-2 TO H.264 TRANSCODER

FUJITSU

THE POSSIBILITIES ARE INFINITE

MB86H52 MPEG-2 to H.264 HD Transcoder



H.264 HD Transcoder block diagram.

Description

Fujitsu's MB86H52 solution offers two main functions: full HD (1920 x 1080i) MPEG-2 to H.264 transcoding and H.264 half duplex CODEC (COder/DECoder) allowing encoding of HD video baseband or decoding of H.264 streams to video baseband.

Transcoder functionality is based on proprietary high quality video technology developed by Fujitsu Laboratories, which allows compression of the MPEG-2 video data to less than half the size, while maintaining its video quality. This technology is already used in the MB86H51 – the first chip in this product family – which is a dedicated HD H.264 half duplex CODEC.

Target applications

- **PVR STB**
  Transcoding MPEG-2 to H.264 allows the recording time to be extended by more than 2.5 times using the same HDD storage capacity
- **Home Network**
  By encoding video signals to H.264 and transcoding MPEG-2 to H.264, it is possible to transmit HD video over narrow bandwidth networks
- Surveillance and security systems
- TV broadcast equipment
- PC encoding/transcoding cards
- Video archiving systems

Features

- **Transcoding MPEG-2 format HD video data to the H.264 format**.
  H.264 delivers the same quality as MPEG-2 at a half the data size.
- **Proprietary technologies for compression and high quality video**.
  This LSI utilises a proprietary algorithm developed by Fujitsu Laboratories that automatically applies less compression to areas in the image where compression artifacts are most noticeable to human vision, such as human faces or slow-moving objects, and greater compression to other areas. Thus high image quality for the critical zones is maximised. Because of this, the same video quality is maintained when transcoding from MPEG-2 to H.264.
- **Includes Full HD H.264 CODEC**
  The LSI includes a full HD H.264 CODEC for video encoding and decoding, so uncompressed video data can be compressed to the H.264 format. Also, this product can decompress video data from compressed or transcoded H.264.

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Specifications			
Function	Transcode	Video	MPEG-2 HD ⇒ H.264 HD/SD
			MPEG-2 HD ⇒ H.264 SD
		Audio	Time stamp re-allocation
	H.264 Codec	Video	VBS*1 ⇐⇒ H.264 HD/SD
		Audio	ABS*2 ⇐⇒ MPEG-1 Audio Layer2 etc.
Video	Specification	MPEG-2 video main profile / high level decoder H.264 high profile / level 4.0 half duplex Codec	
	Resolution	1920 x 1080 x 60i/50i, 1440 x 1080 x 60i / 50i, 1280 x 720 x 60p / 50p, 720 x 480 x 60i, 720 x 576 x 50i	
	Interface	SMPTE274M / SMPTE296M-2001, ITU-R BT.656	
Audio	Format	MPEG-1 Audio Layer2, MPEG-2 AAC (LC profile), Linear PCM, Dolby® Digital (AC-3)	
	Channels	2	
	Interface	LR serial	
System	Format	MPEG-2 TS CBR / VBR	
	Stream interface	8-bit parallel or serial	
Host interface		General 16-bit interface	
Input clock		27MHz	
Operating frequency		Internal: 216MHz, DDR2 IF: 324MHz	
Power consumption		2W (typ., 1.2V, MPEG-2 HL to H.264 HD TRC)	
Package		PBGA 496-pin 27mm square (Ball pitch 1.0mm)	

*1 Video Baseband.
*2 Audio Baseband.

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