MB86H52

MPEG-2 HL to H.264 HD Transcoder

**Features**

- Transcoding MPEG-2 format HD video data to the H.264 format. MPEG-2 data can be compressed to at least half the data size.
- Proprietary technologies for compression and high quality video. This LSI utilizes 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, thus maintaining quality for the critical zones.
- 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.

**Specifications**

- **Function**
  - Transcode
    - Video: MPEG-2 HD to H.264 HD/SD
    - Audio: Time stamp re-allocation
  - H.264 Codec
    - Video: VBS™ to H.264 HD/SD
    - Audio: ABS™ to MPEG-1 Audio Layer2, etc.

- **Video**
  - Spec: MPEG-2 Video Main profile / High Level Decoder
  - H.264 High profile / Level 4.0
  - Dual: Codec
  - Resolution: 1920 x 1080 x 80/50i, 1440 x 1080 x 80/50i, 1280 x 720 x 60/50p, 720 x 480 x 60, 720 x 576 x 50

- **Interface**
  - SMPT 274M / SMPT2E26M-201, ITU-R BT 656

- **Audio**
  - Format: MPEG-1 Audio Layer2, MPEG-2 AAC(LC profile), Linear PCM, Dolby® Digital(AC-3)™
  - Channels: Stereo
  - Interface: LR Serial

- **System**
  - Format: MPEG-2 TS CBR / VBR
  - Stream Interface: Bidi parallel or Serial

- **Host Interface**
  - General 16bit interface

- **Input clock**
  - 27MHz

- **Operating frequency**
  - Internal: 216MHz, DDR2 IF: 324MHz

- **Power consumption**
  - 1.7W (typ., 1.2V, MPEG-2 HL to H.264 HD TRC)

- **Package**
  - PBGA 496pin 27mm square (Ball pitch 1.0mm)

**HDD Recorder System Configuration example**

- Demodulator
- MPEG-2 (Partial TS)
- TS Demux
- MPEG-2/HD264 Decoder
- Audio output
- HDD IF
- HDD
- Video output
- MPEG-2/HD264 Decoder

The recording time can be lengthened by 2 to 5 times.

**System block diagram**

- **Stream in**
  - MPEG-2/HD264 HD/SD
  - Time Stamp
  - MPEG-2 HD Decoder / H.264 HD Codec
  - Host I/F
  - DDR3 512MB x 2

- **Stream out**
  - H.264 HD Codec
  - Internal Bus
  - Audio In
  - Video In
  - Audio Time Stamp
  - Memory Controller
  - Host I/F
  - Down Converter
  - Video/ Audio I/F
  - DDR3 512MB x 2
  - Host I/F

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  - DDR3 512MB x 2
  - Host I/F

**Features**

- Proprietary technologies for compression and high quality video
- Includes Full HD H.264 CODEC
- Proprietary algorithm developed by Fujitsu Laboratories
- Automatic application of less compression to critical areas
- Maintains quality for critical zones

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**Fujitsu MB86H52** can compress full HD (1920dots x 1080lines) MPEG-2 video data to H.264 data. The new chip, the MB86H52, is a transcoder that can compress MPEG-2 video to less than half the data size. The transcoder functionality is based on the video processing technology of the presently shipping full HD H.264 CODEC (Encode / Decode) LSI product, MB86H51. Utilizing proprietary high quality video technology developed by Fujitsu Laboratories, the quality of the inputted MPEG-2 video data is maintained when transcoding to H.264 format video data.

When used in recording equipment like hard disk recorders etc., for the same hard disk storage capacity, the recording time can be lengthened by 2 to 5 times. The transcoded data size is reduced in the H.264 format so it also allows transmission of full HD video over narrow bandwidth networks in the home etc.

**Features**

- Transcoding MPEG-2 format HD video data to the H.264 format
- MPEG-2 data can be compressed to at least half the data size.
- Proprietary technologies for compression and high quality video
- This LSI utilizes 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 maximized. Due to that, 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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