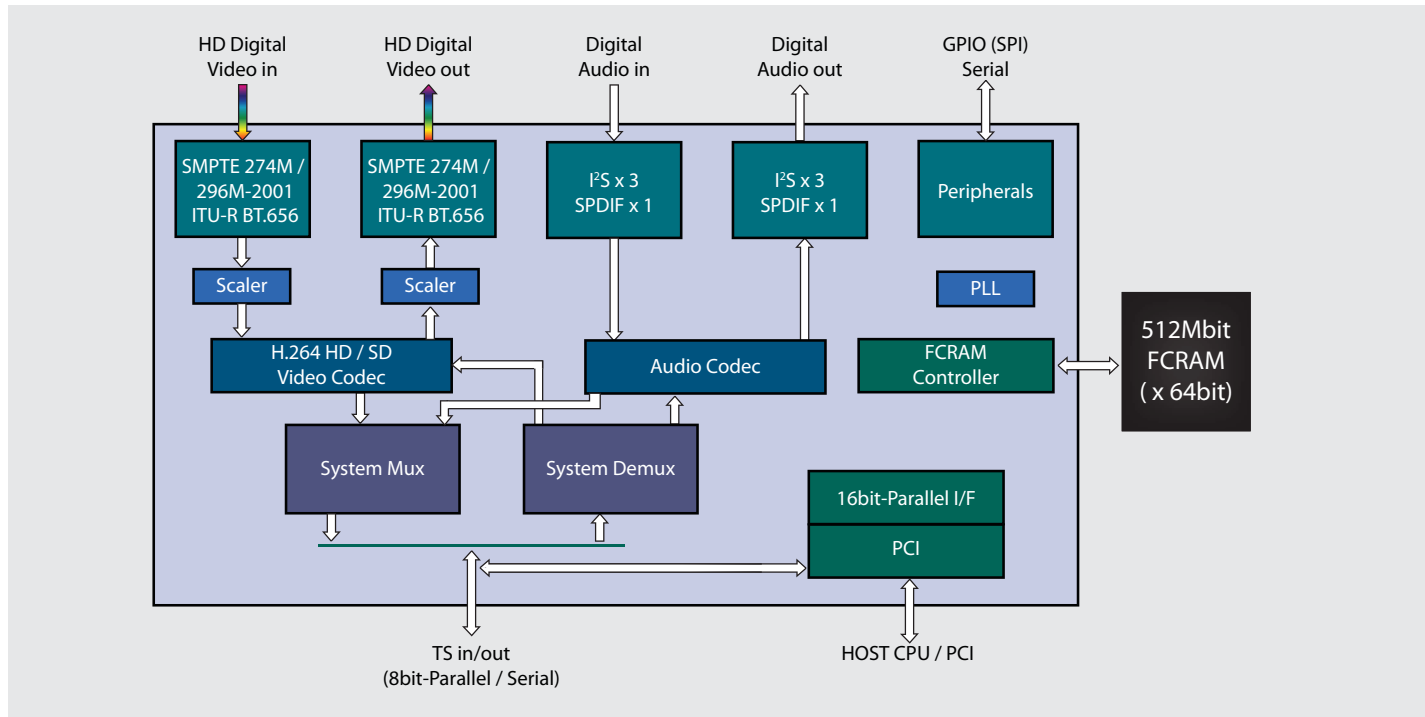


# MB86H55/MB86H56 Ultra-Low-Power Full HD H.264 Codec



## Description

The Fujitsu MB86H55 and MB86H56 can compress and decompress full High-Definition (HD) video (1920 dots x 1080 lines) in the H.264 format in real time.

The two products feature power consumption of only 500mW during Full HD encoding including the in-package memory. This is an industry-leading level for low power consumption. Also, the MB86H56 processes Full HD video at 60p, further improving picture quality.

These two products have memory in-package to offer a small package size of 15mm x 15mm. This makes them ideal for recording, playing and transmitting superior-picture-quality HD video on portable devices such as digital camcorders, as well as on home networked appliances, commercial broadcast equipment, and security cameras.

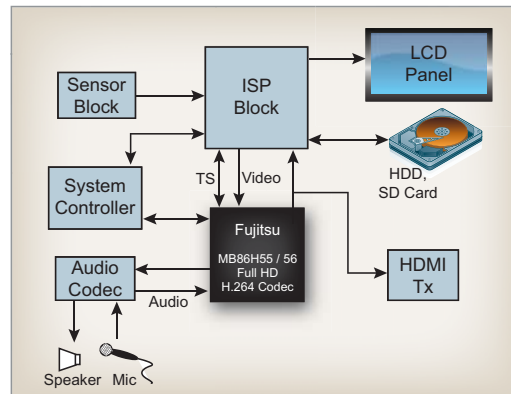
## Features

- 512Mbit memory SiP (System in Package) preserves power consumption, minimizes PCB real estate and reduces PCB layout complications.
- The overall power consumption during Full HD encoding is 500mW at 1080 60i and 850mW at 1080 60p.
- The small form-factor product comes in a 15mm x 15mm package.
- Fujitsu's leading-edge video technology supports high-quality 1920 dots x 1080 lines at 60 progressive frames/sec.
- An up/down scaler in units of 16 bit x 32 lines is embedded.
- Improved connectivity to peripheral LSIs, including a 16-bit parallel video interface, MPEG-2 TS, PCI and a USB controller interface.
- The host interface supports serial mode, which significantly reduces number of pins for host control.
- An external ROM interface is supported for high-speed boot.

# MB86H55/MB86H56 Ultra-Low-Power Full HD H.264 Codec

## Applications

- Digital Video Cameras/Camcorders
- Security/Surveillance Cameras
- Professional Head-end Broadcasting
- Personal Video Recorders
- Home Networks/Home Media Center



Sample Digital Video Camera System Configuration

## Specifications

<b>Video</b>	<i>Profile</i>	MB86H55: H.264 High Profile / Level 4.0 Half -Duplex Codec MB86H56: H.264 High Profile / Level 4.2 <sup>1</sup> Half-Duplex Codec
	<i>Resolution</i>	1920 x 1080 x 60p/50p (MB86H56 only), 1920 x 1080 x 60i/50i/30p/24p, 1440 x 1080 x 60i/50i/30p/24p, 1280 x 720 x 60p/50p, 720 x 480 x 60i, 720 x 576 x 50i, up/down scaler embedded
	<i>Bit Rate</i>	MB86H55: 24Mbps (max.), MB86H56: 30Mbps (max.)
	<i>Interface</i>	SMPTE 274M / SMPTE296M-2001ITU-R BT.656, External Sync Mode (H/V/F + 16bit data)
<b>Audio</b>	<i>Format</i>	Dolby® Digital (AC-3) <sup>2</sup> , MPEG-2/4 AAC (LC Profile), MPEG-1 Audio Layer 2, Linear PCM
	<i>Channels</i>	Max. 5.1ch <sup>3</sup>
	<i>Interface</i>	I <sup>2</sup> S, S/PDIF
<b>System</b>	<i>Format</i>	ISO/IEC13818-1+Amd3 (MPEG-2 TS), Video/Audio ES Output
	<i>Interface</i>	8-bit Parallel, Serial, PCI
<b>Host Interface</b>		General 16bit Parallel, Serial, PCI
<b>Peripheral I/O</b>		SPI
<b>Input Clock Frequency</b>		27MHz
<b>Operating Frequency</b>		MB86H55: 108MHz (Internal Memory Interface Only: 135MHz) MB86H56: 189MHz (Internal Memory Interface Only: 189MHz)
<b>Power Consumption (Including Memory)</b>		MB86H55: 500mW (typ., 1.2V, 1920 x 1080 x 60i at Encoding) MB86H56: 850mW (typ., 1.2V, 1920 x 1080 x 60p at Encoding)
<b>Package</b>		FBGA 650pin 15mm Square SiP (Ball Pitch 0.5mm)
<b>Memory</b>		512Mbit FCRAM _1

<sup>1</sup>Support for up to a maximum of 30Mbps bit rate.

<sup>2</sup>Dolby is a registered trademark of Dolby Laboratories.

<sup>3</sup>The number of channels depends on the audio format.

## FUJITSU MICROELECTRONICS AMERICA, INC.

Corporate Headquarters  
1250 E. Arques Avenue, M/S 333, Sunnyvale, CA 94085-5401  
Tel: (800) 866-8608 Fax: (408) 737-5999  
E-mail: inquiry@fma.fujitsu.com Web Site: <http://us.fujitsu.com/micro>



© 2008 Fujitsu Microelectronics America, Inc.  
All company and product names are trademarks or registered trademarks of their respective owners.  
Printed in the U.S.A. H264-FS-21342-12/2008