1. Features

- **Video Decoder**
  - Accepts NTSC (M), PAL (B, D, G, H, I, M, Nc) and SONY 960H CCD Camera
  - Each 2 of the 4 video decoders could be programmed to operate at 27 or 36MHz.
  - Hardware Fast Switch function
  - Fast Switch also controllable by software or external pin
  - Software channel ID in active region
  - Four 10-bits video ADCs with built in 9/6.5 MHz analog low pass filter
  - Automatic gain control for Luminance and Chrominance
  - Programmable brightness, contrast, saturation, hue, and sharpness
  - 5-H comb filter for YC separation
  - Chrominance line filter for PAL phase error
  - DLL for video synchronization, supports 27MHz crystal within +/-1000 ppm variance
  - Advanced video synchronization for weak and noisy CVBS. Supports video signal transmitted by 500-meter long cable
  - Up to 3 CCIR656 output interfaces which could be configured as 3 sets of CCIR656 (36/27MHz) or 3 sets of TDM2 (72/54MHz) or 3 set of TDM4 (144/108MHz)
  - Support line lock camera
- **Audio Codecs**
  - Five audio ADCs and one audio DAC are integrated
  - Master I2S/DSP playback, record and audio-mixing
  - Supports extended I2S/DSP format transmitting up to 16 audio channels using one data pin
  - Audio cascade up to 16 channels
  - 16-bit or 8-bit 48/24/16/8 KHz PCM format
- **Video Mixer**
  - Two SD mixers and one HD mixer. Each mixer supports up to 4 channels
  - Two SD CCIR656 outputs (36/27MHz) or one HD SMPTE 274M output (74.25MHz)
  - One TDM4 (144/108MHz) output
  - One optional TDM4 input as mixer video sources.
  - Various mixing combinations. Special H partition supported
  - Video mirror supported
  - Support both interlaced and progressive mixer output
  - 16-bit SDRAM interface
- **Miscellaneous**
  - Use a single external 27MHz crystal to support both 960H and 720H video
  - Two programmable PLLs integrated
  - Slave I2C bus
  - Ultra low power consumption. Under 500mW for normal operation. Under 50mW for suspend mode.
  - 128-pin LQFP package (14mmx14mm)
  - 1.8V core power, 3.3V analog power and 1.8V analog power

Preliminary

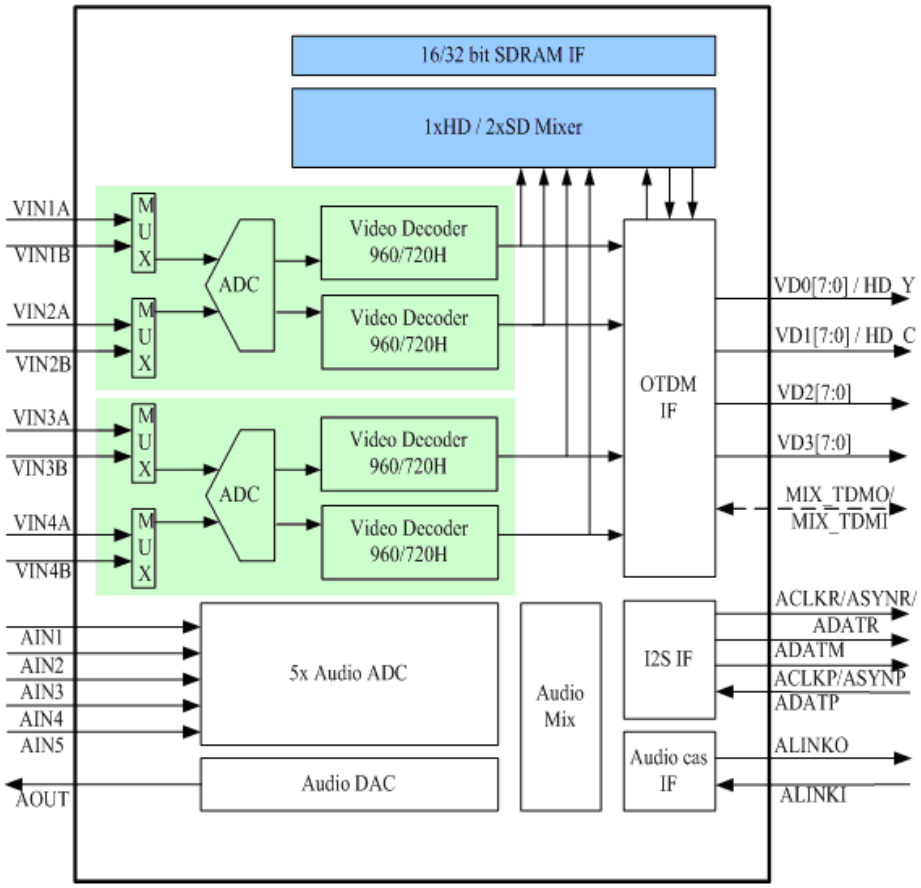
2. General Description

The DM5886 is a high-end 4-channel video decoder designed for cameras with Sony's new 960H CCD sensor. The DM5886 converts 4 channels of 9/6.5 MHz analog CVBS signals to 4 channels of digital 36/27 MHz CCIR656 signals. The DM5886 integrates two internal PLLs, and decodes both 960H and 720H videos using the same (27MHz) external clock source. The DM5886 also features a patented fast switch function. With the fast switch function, the DM5886 can decode up to 8 analog CVBS with little frame rate loss.

The DM5886 includes two SD mixers and one HD mixer. Each SD/HD mixer can multiplex up to 4 video sources. In addition to two SD CCIR656 outputs or one HD SMPTE 274M output, the DM5886 mixer can output four D1 videos through one TDM4 interface. The mixers support image mirror and H partition functions. Both interlaced and progressive digital video outputs are supported.

The DM5886 also includes five audio ADCs and one audio DAC. Audio cascade up to 16 channels is also supported.

2. Block Diagram



3. Applications

- DVR
- Car DVR
- Video capture card

4. Ordering Information

Part Number	Pin Count	Package
DM5886EP	128	LQFP (Pb-Free and Halogen–Free)

Preliminary