

## PI7VD9008H

### 8-Channel 960H Video Decoder with 10-bit Audio ADC

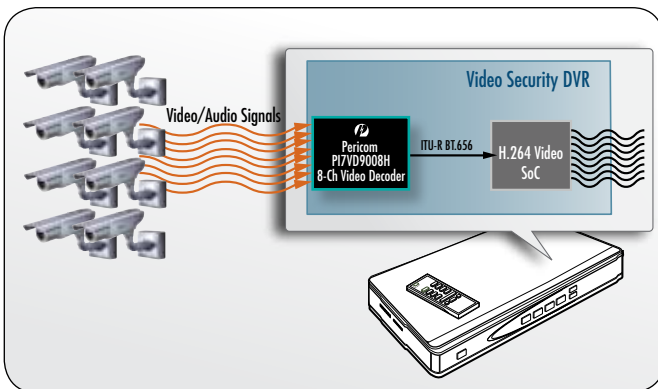
PI7VD9008H is an 8-channel video decoder and audio codec for security applications. The video resolutions of D1 and 960H are both supported with single 27MHz reference crystal clock frequency. Each audio channel contains 10-bit ADC, proprietary clamp, automatic gain controller and 5H comb filter for separating luminance & chrominance to reduce artificial noise.

A resilient sync-tip detection algorithm is implemented to identify Vsync and Hsync in noisy environments caused by cameras, power adaptors and cables etc. The audio codec in PI7VD9008H contains 10 sets of audio DC's and one audio DAC. Meanwhile, a built-in audio digital controller can generate I<sup>2</sup>S outputs for recording/mixing and accepts as the inputs for playback as well.

#### Applications

- ➔ Video security DVR and PC-card applications
- ➔ Automotive infotainment systems
- ➔ Broadcasting video servers

#### Application Diagram



#### Features

- ➔ High quality Live 8-channel Video/Audio decoder with WD1(960H) and D1(720H) camera support
- ➔ Proprietary Video Decoder design optimized for weak, noisy, or unstable signal recovery
- ➔ Min. 80 mV to recover weak input composite signals
- ➔ Resilient Sync-tip detection to lock video signal in a noisy environment
- ➔ Supports programmable luminance peaking to enhance sharpness, hue, saturation, and contrast
- ➔ Flexible ITU-R BT.656 video output with 27MHz/54MHz/108 MHz or 36MHz/72MHz/144MHz
- ➔ Accepts NTSC(M), NTSC 4.43, PAL (B, D, G, H, I, M, Nc) and PAL60 with single 27.0 MHz reference clock
- ➔ 8-channel composite video or 4-channel S-video inputs
- ➔ Fully differential CMOS analog pre-processing channel with clamping
- ➔ Automatic gain control (AGC) for the best signal-to-noise performance
- ➔ Switch to B/W mode while the input signal is weak
- ➔ Complementary 5H adaptive comb filters for both cross-luma and cross-chroma noise reduction
- ➔ Built-in audio Codec to allow ten analog audio inputs and one audio output
- ➔ Mixed audio analog output for multiple audio channels
- ➔ Two serial audio formats (I<sup>2</sup>S and DSP) are supported for recording/mixing output and playback input
- ➔ Selectable Master and Slave serial audio interface
- ➔ Each Audio channel support 10-bit ADC
- ➔ Support multiple audio sample rates for 8/16/32/44.1/48KHz audio frequency
- ➔ Integrated video PLL for 108MHz clock output
- ➔ Low power consumption during operation or power-down mode
- ➔ Two-wire serial interface(I<sup>2</sup>C) for brightness, contrast, saturation, hue, and sharpness control
- ➔ Packages: 128-pin LQFP