PERICOM®

PI7VD9004ACH
AEQ 4-Channel 960H Video Decoder with 10-bit Audio ADC

PI7VD9004ACH is a built-in AEQ(Active Equalizer) 4-Channel Video Decoder and Audio Codec for Video security and surveillance applications.

Video Decoder converts analog video composite signals (CBVS) to digital video formats (ITU-R BT.656). Pericom AEQ technology recovers degraded signals and delivers highly improved picture images to Video Processor, damaged by long distance cables, small wire gauge cables or low-end poor quality cables. In addition of Adaptive Comb Filter Y/C separation and Resilient sync-tip algorithm, AEQ video decoder products will delivers 2x picture image clarity with artificial noise reduction comparing to other conventional products
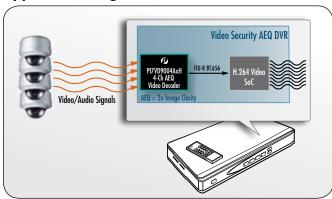
The video resolutions of NTSC/PAL and WD1(960H) are both supported with single 27MHz reference crystal clock frequency. The converted video streams are transported as the time multiplexed format to dual-channel outputs. Due to the pin out limitation, it supports only all WD1, all D1 or 2*WD1/2*D1 camera inputs mode.

Each of audio channels contains 10-bit ADC. A built-in audio digital controller can generate I²S outputs for recording/mixing and accepts as the inputs for playback as well.

Applications
➔ Video security DVR applications
➔ Automotive infotainment systems
➔ Video server

Application Diagram

Features

➔ High quality Live 4-Channel Video/Audio decoder with WD(960H) and NTSC/PAL camera support

➔ Built-in Proprietary Adaptive Equalizer (AEQ) delivers 2x Picture Image Clarity or 2x long distance cables with Adaptive Comb Filter design optimized for weak, noisy, or unstable signal recovery

➔ Saving Installation cost by eliminating signal amplifier around the 500-800 meter Coax cable installation

➔ Resilient Sync-tip detection to lock video signal in a noisy environment with programmable luminance peaking to enhance sharpness, hue, saturation, contrast, brightness supports

➔ Flexible ITU-R BT.656 time multiplexed video outputs with 27/54/108 MHz or 36/72/144 MHz

➔ Accepts NTSC(M), NTSC 4.43, PAL(B, D, G, H, I, M, Nc) and PAL60 with single 27 MHz reference clock

➔ 4-Channel Composite Video or 2-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 10-bit audio Codec to allow 5 audio inputs, single audio output with Mixed audio analog output for multiple audio channels

➔ Two serial audio formats (I2S and DSP) are supported for recording/mixing output and playback input

➔ Selectable Master and Slave serial audio interface

➔ Support multiple audio sample rates for 8/16/32/44.1/48 KHz audio frequency with Integrated video PLL for 108/144 MHz clock output

➔ Low power consumption during operation or power-down mode

➔ Two-wire serial interface(I2C) for brightness, contrast, saturation, hue, and sharpness control

➔ Suitable for small form factor Video Decoder platforms

➔ Packages: 80-pin LQFP