intersil® Techwell™

Security Surveillance IC Solutions

Techwell
TW2866

TW2866

4-Channel Video Decoder and Audio Codec plus
Video Encoder for Security Applications

Target Applications

- Embedded DVR
- Video Server
- DVR PCI Card

The TW2866 is Techwell's second-generation 4-in-1 video decoder and audio codec plus video encoder for security surveillance applications. The device includes four high quality NTSC/PAL/SECAM video decoders that convert analog composite video signal to digital component YCbCr data. Each channel contains a 10-bit ADC and proprietary clamp/gain controller and utilizes 4H comb filter for separating luminance & chrominance to reduce cross noise artifacts. The TW2866 adopts image enhancement techniques such as IF compensation filter, CTI and programmable peaking. In addition, TW2866 includes one NTSC/PAL video encoder with two 10-bit DACs to support CVBS and YC output. The TW2866 also includes an audio codec which has five audio ADCs and one DAC. A built-in audio controller can generate digital outputs for recording/mixing and accepts digital input for playback.
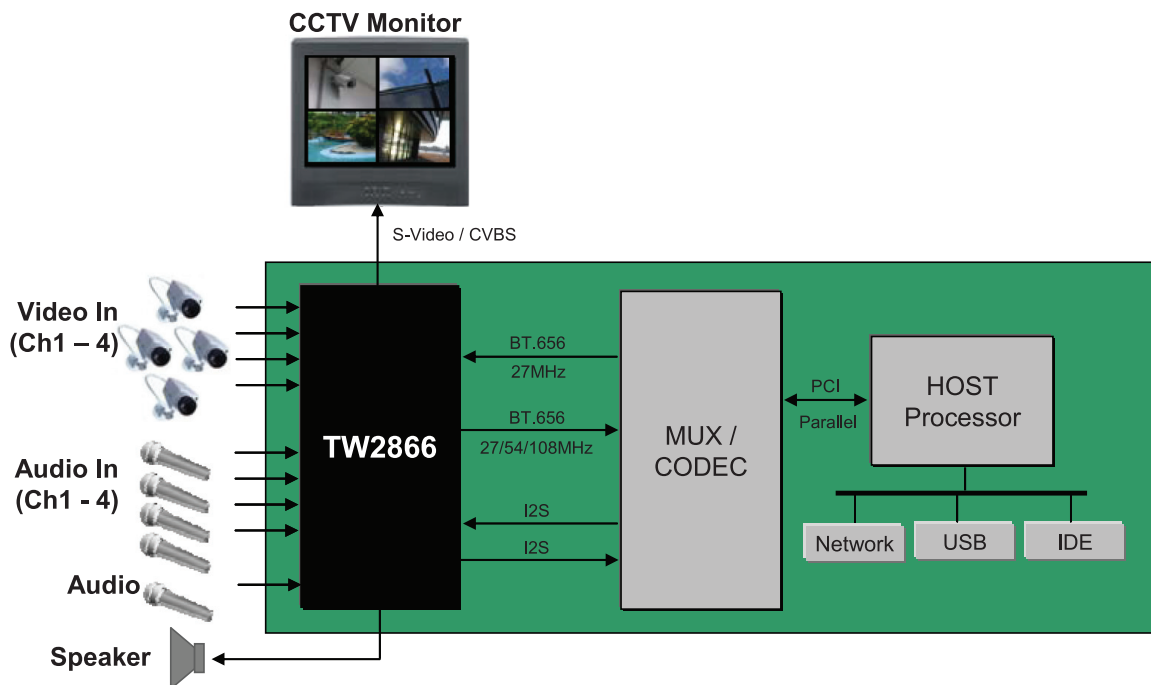
CCTV Monitor

S-Video / CVBS

Video In
(Ch1 – 4)

Audio In
(Ch1 - 4)

Audio

Speaker

TW2866

BT.656
27MHz

BT.656
27/54/108MHz

I2S

I2S

MUX /
CODEC

PCI
Parallel

HOST
Processor

Network   USB   IDE

TW2866

4-Channel Video Decoder and Audio Codec plus
Video Encoder for Security Applications

Video Decoder

- Accepts all NTSC(M/4.43) / PAL(B/D/G/H/I/K/L/M/N/60)/SECAM standards with auto detection
- Integrated four video analog anti-aliasing filters and 10-bit ADCs
- High performance adaptive 4H comb filters for all NTSC/PAL standards
- IF compensation filter for improvement of color demodulation
- Color Transient Improvement (CTI) and automatic white peak control
- Programmable hue, saturation, contrast, brightness and sharpness
- Proprietary fast video locking system for non-realtime application
- Supports the standard ITU-R BT.656 format or time multiplexed output with 54/108MHz.
- Provides simultaneous four channel Full D1 and CIF time-multiplexed outputs with 54MHz.

Video Encoder

- NTSC/PAL Video Encoder
- CVBS and S-video Support

Audio Codec

- Integrated five audio ADCs and one audio DAC
- Provides multi-channel audio mixed analog output
- Supports I2S/DSP Master/Slave interface for record output and playback input.
- PCM 8/16 bit and u-Law/A-Law 8bit for audio word length
- Programmable audio sample rate that covers popular frequencies of 8/16/32/44.1/48kHz
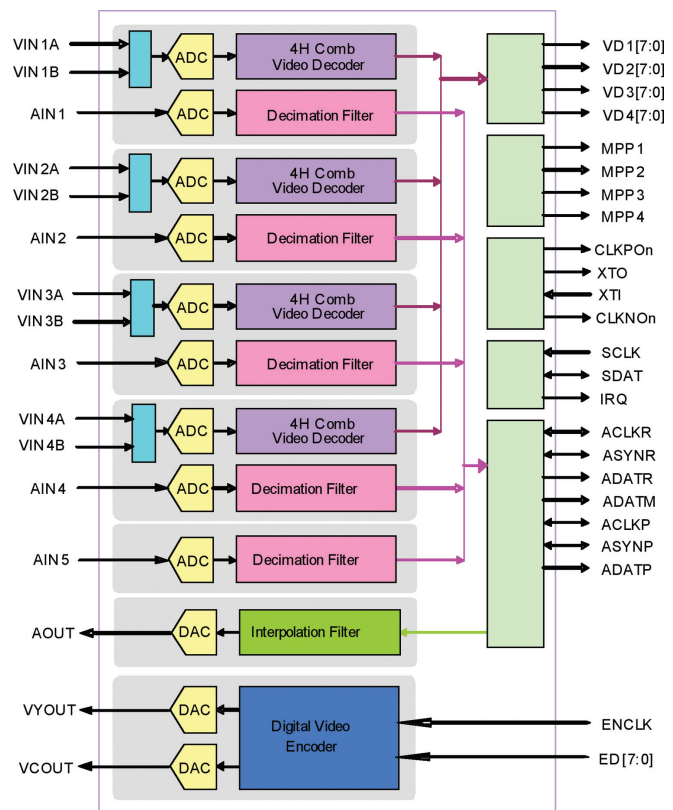
Other Features

- 2x/4x analog clock PLL for 108MHz clock output
- Supports a two-wire serial host interface
- 1.2V, 3.3V Supply
- Low power consumption

Order Information

- Part Number: TW2866
- Package: 128-pin LQFP

TW2866 Block Diagram

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www.intersil.com

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Components Supply Platform

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