



TECHWELL  
SECURITY



## Security Surveillance IC Solutions

### Features

# TW2864

4-Channel Video Decoder and Audio Codec  
For Security Applications

### Target Applications

- Embedded DVR
- Video Server
- DVR PCI Card

### Features

- Improved adaptive 4H comb filters for all NTSC/PAL standards
- Supports ITU-R BT.656 format or time multiplexed output with 54MHz or 108MHz
- Provides simultaneous 4-channel Full D1 or CIF time-multiplexed outputs
- PCM 8/16-bit and u-Law/A-Law 8-bit for audio word length
- Programmable audio sample rates: 8, 16, 32, 44.1 and 48kHz

### Video Decoder

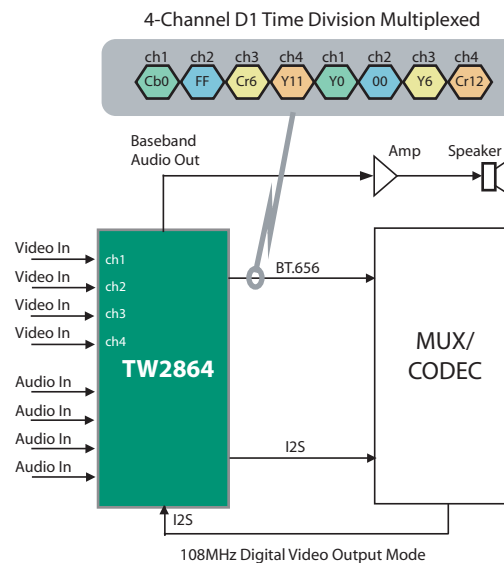
- Accepts all NTSC(M/N/4.43) / PAL(B/D/G/H/I/K/L/M/N/60) standards with auto detection
- Integrated four video analog anti-alias filters and 10 bit CMOS ADCs
- IF compensation filter for improvement of color demodulation
- Color Transient Improvement (CTI)
- Automatic white peak control
- Programmable hue, saturation, contrast, brightness and sharpness
- Proprietary fast video locking system for non-realtime application
- Field lock mode

### Audio Codec

- Integrated four audio ADCs and one audio DAC
- Provides multi-channel audio mixed analog output
- Supports a standard I2S interface for record output and playback input

The TW2864 is Techwell's 4th generation 4-in-1 video decoder and audio codec for security surveillance applications. The device includes four high quality NTSC/PAL video decoders that convert analog composite video signal to digital component YCbCr data. The TW2864 contains four 10-bit ADCs and proprietary clamp and gain controllers and utilizes adaptive 4H comb filter for separating luminance & chrominance to reduce cross noise artifacts. The TW2864 adopts the image enhancement techniques such as IF compensation filter, CTI and programmable peaking. The TW2864 also includes audio codec which has four audio ADCs and one audio DAC. A built-in audio controller can generate digital outputs for recording/mixing and accepts digital input for playback.

### Typical Application Diagram



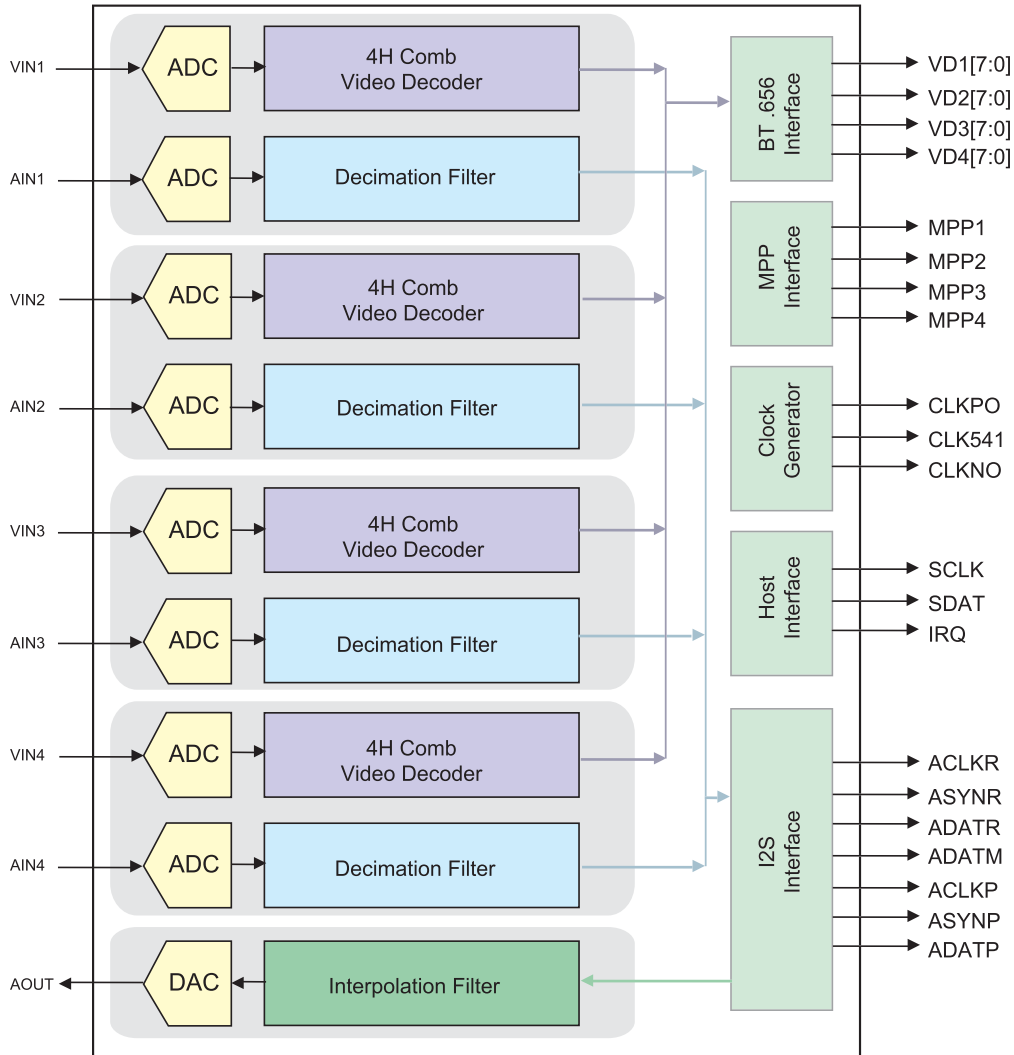
### Other Features

- Audio and video sync function
- Supports a two-wire serial host interface
- Ultra low power consumption (Typical 500mW)
- 100 pin TQFP package

# TW2864

4-Channel Video Decoder and Audio Codec  
For Security Applications

TW2864 Block Diagram



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