



PCI Decoder



## Multistandard Decoders with PCI for Multimedia PC Applications

### Features

### Target Applications

- PCI DVR Card

### Key Features

- Fast video locking speed for non-real time switching application
- Lowest power consumption amongst PCI decoders
- Strong weak and non standard signal
- 66 MHz PCI Bus Speed Support
- Integrated audio decoding

### Video Decoder

- NTSC (M, 4.43) and PAL (B, D, G, H, I, M, N, N combination), PAL (60), SECAM support with automatic format detection
- Software selectable analog inputs allows any of the following combinations, e.g. 4 CVBS or (3 CVBS and 1 Y/C)
- Two 10-bit ADCs and analog clamping circuit for CVBS and S-Video YC input selection
- Fully programmable static gain or automatic gain control for the Y channel
- Programmable white peak control for the Y or CVBS channel
- 4-H adaptive comb filter Y/C separation
- PAL delay line for color phase error correction
- Image enhancement with 2D peaking and CTI
- Digital sub-carrier PLL for accurate color decoding
- Digital Horizontal PLL for synchronization processing and pixel sampling
- Advanced synchronization processing and sync detection for handling non-standard and weak signal
- Programmable hue, brightness, saturation, contrast, sharpness, Gamma control, and noise suppression
- Automatic color control and color killer
- Detection of level of copy protection according to Macrovision standard
- Programmable output cropping

### PCI

- 66MHz/33MHz PCI with M66EN interface
- PCI Rev. 2.2-3.0 compliant
- ACPI support
- Integrated Video/Audio/TS DMA controller
- Support both selectable one real-time video and 4x switching non real-time video

### Audio Capture

- Software selectable 4 channel analog sound inputs
- 10-bit ADC for Analog Sound digitizing
- Up to 24-bit I2S Stereo Digital input by I2S master or I2S slave
- I2S Audio output.
- Programmable Sampling rate generation

### Video Scaler

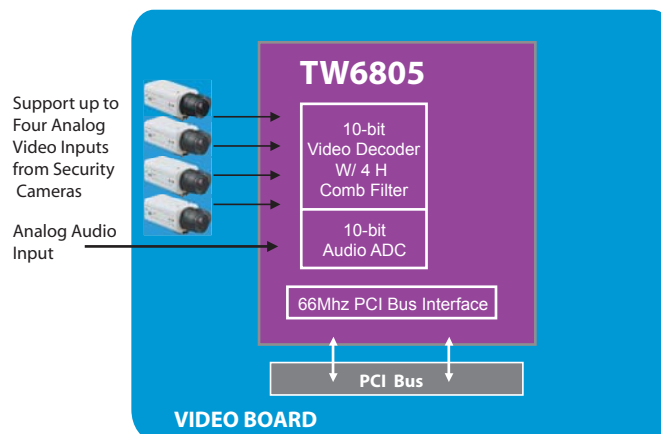
- High quality horizontal filtered scaling with arbitrary scale down ratio
- Phase accuracy better than 1/32 pixel
- Selectable anti-alias filter

# TW6805

66MHz PCI Video Decoder with Audio and TS Input Support

### TW6805 for 4 Channel Non-Real Time PC DVR

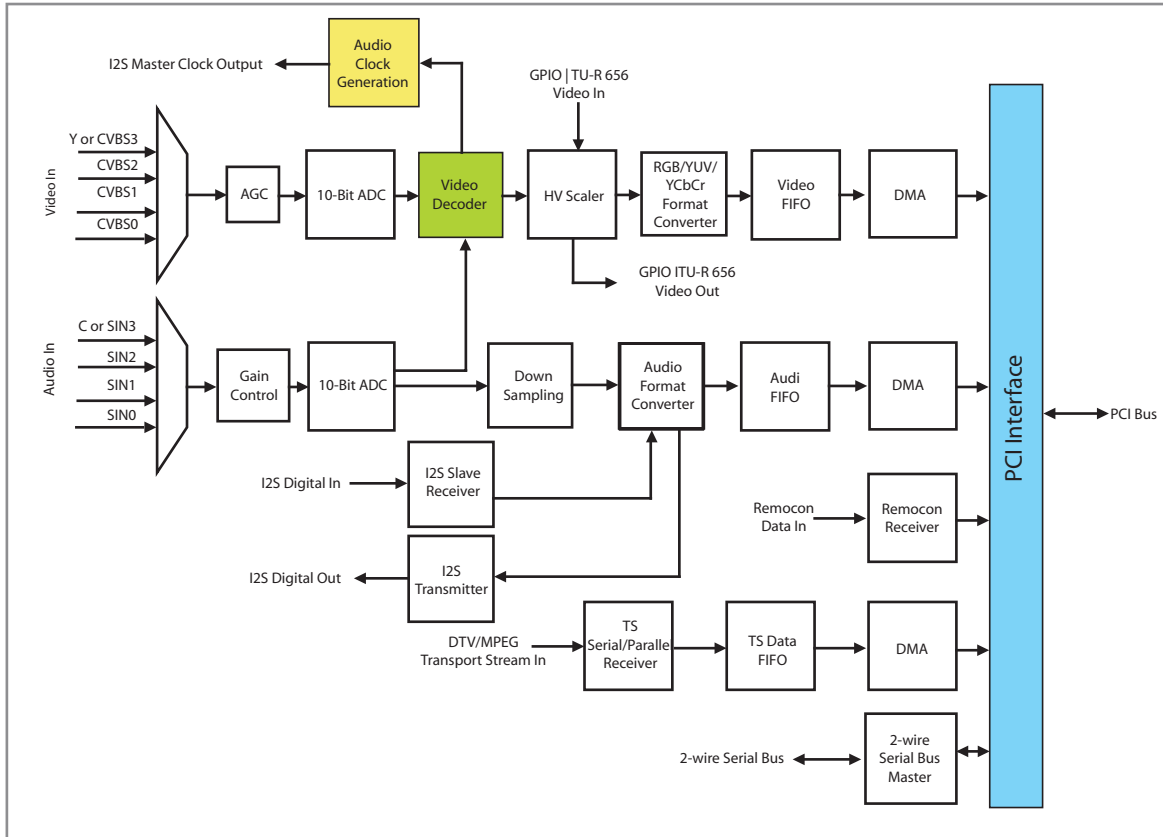
- 4 CH Analog Video Input
- 30 FPS Total (NTSC)
- 25 FPS Total (PAL)



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66MHz PCI Video Decoder with Audio and TS Input Support

## TW6805 Block Diagram



## Miscellaneous

- Programmable RGB and YCbCr color space conversion
- GPIO ITU-R BT656 data input/output
- 24 pin GPIO
- 400Kbps Two-wire MPU serial bus Master interface.
- Remote control data receiver
- Power-down mode
- Field locked audio clock generation
- Single 27MHz crystal for all standards
- 5V tolerant I/O
- 1.8 V power supply
- 128-pin LQFP package

## About Techwell

Techwell is a fabless semiconductor company that designs, markets and sells mixed signal integrated circuits for multiple digital video applications in the consumer, security surveillance and automotive markets, including advanced TVs, multifunction LCD monitors, DVD Recorders, security surveillance systems and in-car LCD displays. Founded in 1997, we currently have over 125 employees and are headquartered in San Jose, California, with additional R&D and sales activities in South Korea, Japan, Taiwan and China. NASDAQ: TWLL