



TECHWELL
SECURITY



Security Surveillance IC Solutions

Target Applications

- Analog QUAD/MUX System
- 4/8/16 Channel DVR System
- Car Rear Vision System
- Hair Shop System
- Dental Care System

New Features

- Improved video decoder with adaptive 4H comb filters for all NTSC and PAL standards
- An enhanced OSD with 256 color look up table and supports OSD Block Move, Block Fill and Bitmap Burst Write functions to enhance the OSD buffer write performance
- PCM 8/16-bit and u-Law/A-Law 8-bit for audio word length
- Additional audio PLL for accurate 8KHz/16KHz sampling rate
- Programmable audio sample rates: 8, 16, 32, 44.1 and 48kHz
- Video field locked audio sample support
- Audio master/slave I2S interface for playback and record

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-aliasing 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
- High performance horizontal and vertical scaler for each path including playback input
- Supports ITU-R BT.656 format or time multiplexed output with 54MHz or 108MHz
- Auto cropping / strobe for playback input with Channel ID decoder
- Supports four channel full D1 record mode

Dual Video Encoders

- Dual path digital outputs with ITU-R BT.656 standard
- Dual path analog outputs with all analog NTSC/PAL standards
- Programmable bandwidth of luminance and chrominance signal for each path
- Three 10-bit video CMOS DACs



TW2837

4-Channel Video and Audio Controller
For Security Applications

***Pin to Pin compatible with TW2835**

The TW2837 is an improved version of TW2835 with four high quality NTSC/PAL video decoders, dual color display controllers and dual video encoders. The device includes four built-in analog anti-aliasing filters, four 10-bit ADCs, a proprietary digital gain/clamp controller, a high quality Y/C separator to reduce cross noise, and a high performance free scaler. The TW2837 has four built-in motion, blind and night detectors and a flexible video display/record/playback controller supporting basic display and MUX functions. The device also has an enhanced 256-color OSD that can display bitmap, single box, 2D array box, and mouse pointer. The built-in channel ID CODEC allows auto decoding and displaying during playback, and the additional scaler on the playback supports multi-cropping function of the same field or frame image. The TW2837 has two NTSC/PAL video encoders with three 10-bit DACs that can support composite and S-video outputs. The TW2837 also has an improved audio CODEC which has four audio ADCs and one DAC. A built-in audio controller can generate digital outputs for recording/mixing and accept digital input for playback. The TW2837 can be configured up to 8/16 channel video controller using chip-to-chip cascade connection. TW2837 is pin-to-pin compatible to TW2835.

Dual Video Controllers

- Support full triplex function with 4ch live, 4ch playback display and 4ch record output
- Analog/Digital channel ID CODEC for record and playback application
- Support adaptive median filter for Record
- Supports pseudo 8 channel and/or dual page mode
- Horizontal/Vertical mirroring for each channel
- Last image captured when video-loss detected
- Auto sequence switch with 128 queues and/or manual switch by interrupt for record path
- Channel skip in auto sequence switch for record path when video-loss detected
- Image enhancement for zoomed or still image in display path
- High performance 2X zoom to horizontal and vertical direction for display path
- Extendable up to 8/16 channel video controller using cascade connection
- Quad MUX switch with 32 queues and/or manual control by interrupt for record path
- 256 color bitmap OSD overlay with 720x480 in NTSC / 720x588 resolution in PAL
- Four programmable single boxes and four 2D arrayed boxes overlay
- Mouse pointer overlay

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
- 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

TW2837

4-Channel Video and Audio Controller
For Security Applications

*Pin to Pin compatible with TW2835

TW2837 Block Diagram

