

4-Channel Video QUAD/MUX Controller for Security Applications

TW2834

The TW2834 has four high quality NTSC/PAL video decoders, dual color display controllers and dual video encoders. The TW2834 contains four built-in analog anti-aliasing filters, four 10-bit analog-to-digital converters, proprietary digital gain/clamp controller, high quality Y/C separator to reduce cross-noise and high performance free scaler. Four built-in motion and blind detectors can increase the feature of the security system. The TW2834 has a flexible video display controller including basic QUAD and MUX functions. The TW2834 also has an excellent graphic overlay function that displays character/bitmap for OSD, 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 multicropping function of the same field or frame image. The TW2834 contains two video encoders with four 10-bit digital-to-analog converters for providing 2 composite or S-video. The TW2834 also can be extended up to 8-/16-channel video controller using chip-to-chip cascade connection.

Applications

- Analog QUAD/MUX system
- 4-/8-/16-channel DVR system
- Car rear vision system
- Hair shop system
- Dental care system

Features

Four Video Decoders

- Accepts all NTSC/PAL standard formats with auto detection
- Integrated four analog anti-aliasing filters and four 10-bit CMOS ADCs
- High performance adaptive comb filters for all NTSC/PAL standards
- IF compensation filter for improvement of color demodulation
- PAL delay lines for correcting PAL phase errors
- Programmable hue, saturation, contrast, brightness and sharpness
- High performance horizontal and vertical scaler for each path including playback input
- Fast video locking system for non-realtime applications
- Four built-in motion detectors with 16x12 cells and blind detectors
- Additional digital input for playback with ITU-R BT.656 standard
- Auto cropping/strobe for playback input with Channel ID decoder
- Supports 4-channel full D1 record and playback mode

Dual Video Controllers

- Full live/strobe/switch function
- Various channel attribute control
- Supports pseudo 8-channel or dual page mode
- Horizontal/vertical mirroring for each channel
- Last image capture 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

Features (Continued)

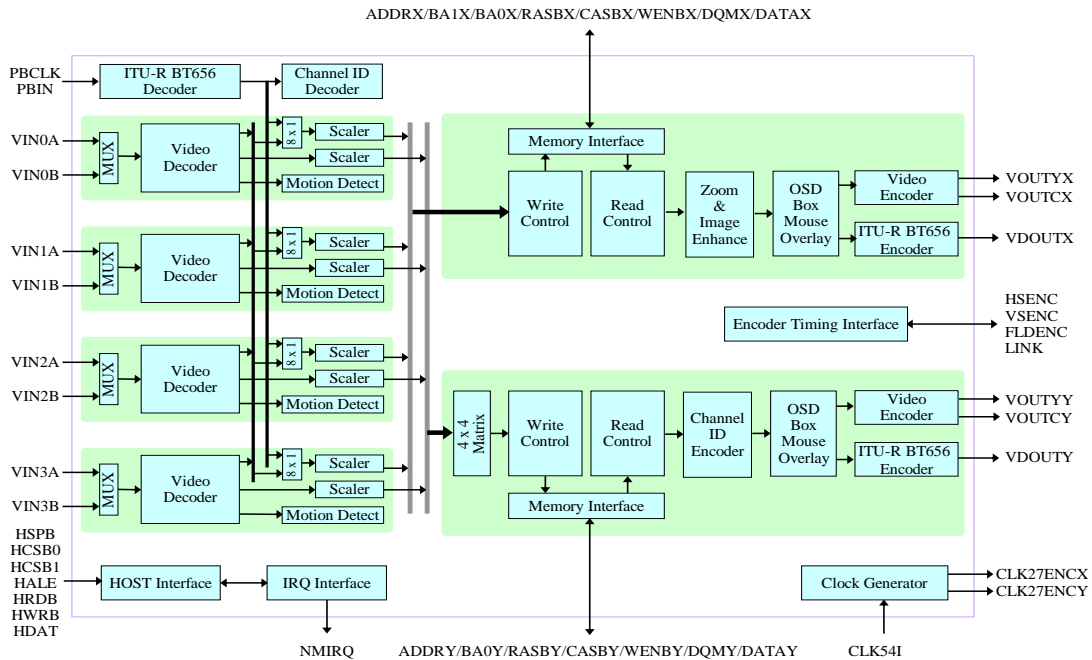
- High performance 2x zoom to horizontal and vertical direction for display path
- Supports save and recall function for display path
- Extendable up to 8-/16-channel video controller using cascade connection
- Quad MUX switch with 32 queues and/or manual control by interrupt for record path
- Character/bitmap overlay for OSD with 720x480 resolution in NTSC/720x588 in PAL
- Sixteen programmable single boxes overlay

- Four 2D arrayed boxes overlay with dual color for motion result or table display
- Mouse pointer overlay
- Analog/digital channel ID encoder

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
- Four 10-bit video CMOS DACs

Block Diagram



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