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Security Surveillance IC Solutions

Features

TW2824
4 Channel Video QUAD/MUX Controller
For Security Applications

Target Applications

- Quad/Mux Systems
- 4/8/16 channel DVR System
- Car Rear Vision System

The TW2824 has four high quality NTSC/PAL video decoders, dual color display controllers and dual video encoders. The TW2824 contains four 10-bit Analog-to-Digital converters, proprietary digital gain/clamp controller, high quality Y/C separator to reduce cross-noise and high performance dual scaler to provide various pictures. Four built-in motion and blind detectors can increase the feature of security systems. The TW2824 has a flexible video display controller to support basic QUAD and MUX functions. The TW2824 also has an excellent graphic overlay function which displays character/bitmap, box and mouse pointer. The TW2824 contains two video encoders with four 10-bit Digital-to-Analog converters for providing 2 composite or S-video outputs.

Four Video Decoders

- Accepts all NTSC/PAL standard formats with auto detection
- Four integrated anti-aliasing filters and 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
- Dual high performance horizontal and vertical scaler for each channel
- Four built-in motion detectors with 16X12 cells and blind detectors

Dual Video Controllers

- Additional 1 channel digital input for playback or cascade operation
- Full Live/Strobe/Switch function
- Auto sequence switch with 64 queues and/or manual switch by interrupt
- Various channel attribute control
- Image enhancement for still image
- High performance 2X zoom for horizontal and vertical direction
- Supports save and recall function
- Last image capture when video-loss
- Extendable to 8/12/16 channel video controller using cascade connection
- Path-to-Path cascade
- Character/Bitmap overlay for OSD
- 16 programmable single boxes
- 4 2D arrayed boxes for motion result display
- Mouse pointer overlay

Dual Video Encoders

- 2 path digital outputs with ITU-R BT.656 standards
- 2 path analog outputs with all analog NTSC/PAL standards
- Supports CVBS or S-Video for each path
- Programmable bandwidth for luminance and chrominance path
- Four 10-bit video CMOS DACs

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TW2824 Block Diagram

ADDRX/BAIX/BA0X/RASBX/CASBX/WENBX/DQMX/DATAX

PBCLK
PBIN
PBVALID

ITU-R BT656 Decoder

VIN0A
VIN0B
MUX | ADC | Color Decoder | H/V Scaler / H/V Scaler / Motion Detect

VIN1A
VIN1B
MUX | ADC | Color Decoder | H/V Scaler / H/V Scaler / Motion Detect

VIN2A
VIN2B
MUX | ADC | Color Decoder | H/V Scaler / H/V Scaler / Motion Detect

VIN3A
VIN3B
MUX | ADC | Color Decoder | H/V Scaler / H/V Scaler / Motion Detect

Memory Interface

5 X 4 Matrix | Write Control | Read Control | OSD Box Mouse Overlay | Video Encoder | DAC → VOUTYX | DAC → VOUTCX

ITU-R BT656 Encoder → VDOUTX

Encoder Timing Interface ← HSENC VSENC FLDENC

ITU-R BT656 Encoder → VDOUTY

5 X 4 Matrix | Write Control | Read Control | OSD Box Mouse Overlay | Video Encoder | DAC → VOUTYY | DAC → VOUTCY

Memory Interface

HSPB
HCSB0
HCSB1
HALE
HRDB
HWRB
HDAT

HOST Interface ↔ IRQ Interface

Clock Generator → CLK27ENCX / CLK27ENCY

IRQ   ADDRY/BA0Y/RASBY/CASBY/WENBY/DQMY/DATAY   CLK54I

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