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HD/SD DVR Video Port Expander

TW2828

TW2828 is a display and recording MUX chip with HD SPOT capability designed to work with popular H.264 CODEC on the market today. TW2828 provides a clean and cost effective MUX solution to the multi-channel PC HD DVR marketplace. On the embedded DVR market, using TW2828 in conjunction with a host SOC can deliver the most cost effective solution on the market.

Digital Input Ports

- Four byte interleaved BT.656 ports each supporting up to 4 SD (108 MHz) and 4 960H (144 MHz) signals for a total of 16 SD video input signals
- Five frame interleaved BT.1120 ports, each supporting up to 148.5 MHz for a total of 20 HD signals. One port (PB5) is shared with GPIO port
- Four frame interleaved BT.656 ports (shared with the lower half of the BT.1120 port), supporting up to 16 SD (or 960H) signals in frame/field interleaved format
- Supports input resizing, cutting and cropping
- Supports channel cascading

Display Controller

- Supports popular sizes such as: 1920x1080i50, i60, 1920x1080p50 or p60,720p50 and p60
- Max pixel clock: 148.5MHz
- Capable of displaying up to 36 SD Channels by using byte interleaved inputs and frame interleaved inputs
- Motion Box (MD) on all live channels
- Selectable Weave/2D de-interlacing method for video quality enhancement
- Up/down scaler for arbitrary windows size
- OSD display layer for title and channel ID
- Single Box Display for highlighting and Mouse/Cursor Overlay
- BT.1120 or digital RGB output interface
- Analog VGA output (shared with SPOT output)

Digital Output Port

- One BT. 1120 port to the backend chip
- Digital RGB output (shared with BT.1120 port)
- SPOT digital output (BT.656) through record (shared) pins with all the channels

SPOT and Record Interface

- Two SPOT port with Integrated DAC
- 1/4/9/16 format for each SD (or 960H) and HD channels
- Supports anti-rolling display
- Similar recording functions like TW2880

Motion Detection

- 16 SD/WD1 (960H) mode size 16x12
- 720p HD mode 40x36
- 1080i HD mode 60x27
- 1080p HD mode 60x54

DDR2 Interface

- Supports 16-bit DDR2 memories running up to 333MHz
- Supports DRAM density from 512Mb to 1Gb

Host Interface

- 8-bit parallel host interface or I²C slave interface (shared pin)
- Four I²C slave addresses on two separate pins for cascaded operation
- IRQs

Package

- 18mmx18mm 409 LFBGA

Reliability reports are available from our website at: http://rel.intersil.com/reports/search.php

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