intersil® Techwell™

Security Surveillance IC Solutions

TW2880

Advanced Multi-Channel HD Display/Record/Playback Controller IC for Next Generation 16-Channel DVR Applications

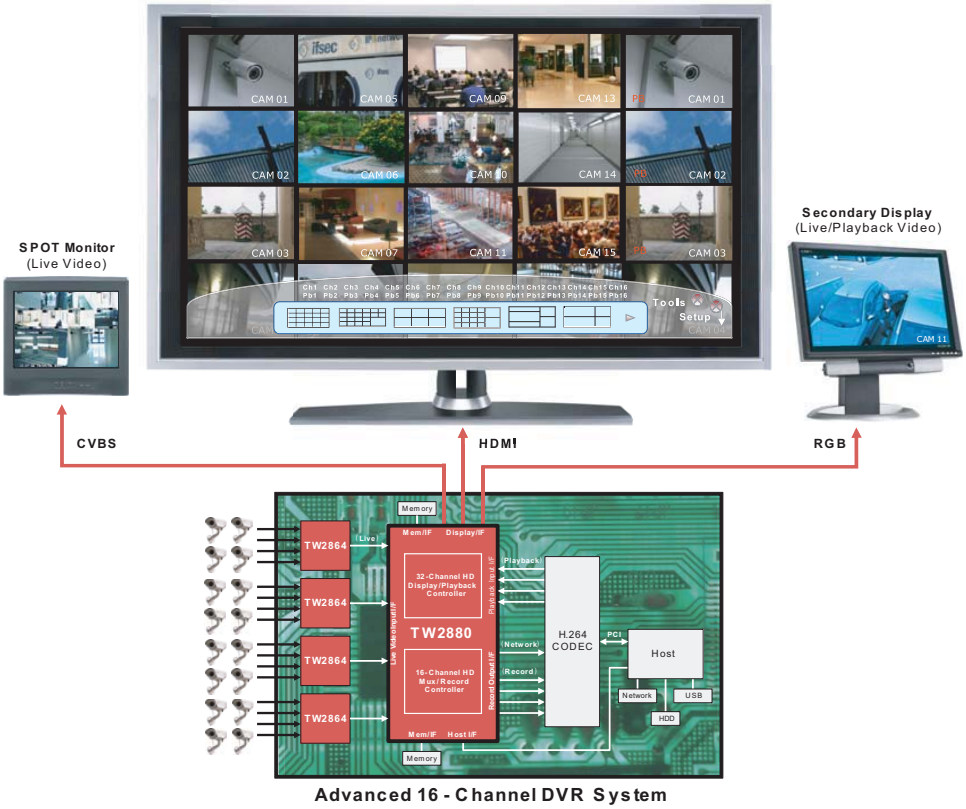
Target Applications

- Embedded 8/16 Channel DVR
- Hybrid HD DVR
- HD Video Multiplexer
- Network Video Recorder

The TW2880 is an advanced 16-channel video and graphic controller with HD 1080p display capability for security surveillance applications. The device includes a host of advanced features for 16-channel DVR applications. It is designed to accept 16 live video inputs and playback 16 pre-recorded inputs simultaneously. Incoming live and playback video can be multiplexed, scaled up or down, de-interlaced, and displayed on two separate monitors. The main display output can display up to 32 channels on an HD 1080p monitor via HDMI interface. The secondary display output supports VGA, S-video and CVBS. In addition, there are four analog SPOT outputs that can be used to monitor live camera inputs. For video record, the TW2880 supports 16-channel real time and non-real time recording with flexible frame rate and resolution over 27MHz, 54MHz and 108MHz clocks. The record output ports support BT.656 and BT.1120 data formats. Special record modes such as mixed frame and mixed field switching modes are also supported. Record output stream can be in both field or frame interleaved format. The playback input ports support BT.656 and BT.1120 data formats. Other key features of the TW2880 include triple 16-bit bitmap OSG windows, 4-color OSD, channel ID encoder/decoder, and motion detector.

HD 1080p Main Display

(Live/Playback Video + Map + Control Panel)



Advanced 16 - Channel DVR System

TW2880

Advanced Multi-Channel HD Display/Record/Playback Controller IC
for Next Generation 16-Channel DVR Applications

Record

- Supports 16-channel real time CIF or D1 recording using 54MHz/108MHz clock
- Supports BT.656 and BT.1120 formats
- Record Resolutions: Full D1, Half D1 and CIF
- Programmable Frame Rates: 1 to 30 fps
- Flexible Record Output Functions
  - Real time and non-real time recording
  - Field switching and frame switching record modes
    - D1 and QUAD modes (Frame-based)
    - Half-D1 and CIF modes (Field-based)
  - Multi-mode recording on single record output stream
    - Mixed Frame Switching Mode
    - Mixed Field Switching Mode
- Embedded Motion Detection and Channel ID Encoder
- 3-Layer Graphic Overlay

Playback

- Supports 16-channel real time CIF or D1 playback
- Supports digital BT.656 and BT.1120 formats
- Supports HD 720p/1080i video via BT.1120 interface
- Built-in auto cropping and strobe with channel ID decoder

Other Features

- Dual SDRAM Memory Controllers
- 8/16-bit DMA Master Interface
- Supports external OSD via digital 24-bit RGB input
- 1.2V, 3.3V Supply

Display

- Displays up to 32 channels: 16 live channels and 16 playback channels
- Supports dual monitors: Main and Secondary
- Main Display (up to HD 1080p)
  - HDMI, Analog RGB and Digital RGB Interface
  - Built-in Video Scaler and 2D/3D De-interlacer
  - 11-Layer Graphic Overlay with Triple 16-bit Bitmap OSG Windows
- Secondary Display
  - Analog RGB or S-Video and CVBS Interface
  - 8-Layer Graphic Overlay with Dual 16-bit Bitmap OSG Windows
- SPOT Display
  - Four CVBS Outputs
  - 4-Layer Graphic Overlay with 2-bit Bitmap OSG Window

Network

- Supports standard digital BT.656 and multi-channel field and frame interleaved formats
- Supports 16-channel non-real time output using 27MHz /54MHz / 108MHz clock
- Supports 16-channel real time CIF output using 108MHz clock

Order Information

- Part Number: TW2880
- Package: 676-BGA, 27x27mm, 1.0mm Pitch

TW2880 Block Diagram