

SMI Video Wall Solution

Graphics Display SoC and Software
Designed for 4K/8K Video Wall and
Digital Signages



SMI Video Wall Solution utilizes SMI's SM769 high-performance graphics display SoC and a set of SMI's software to enable cost effective 4K/8K Ultra-High Definition (UHD) video wall or digital signage applications. SMI Video Wall solution can render 4K or 8K video wall content and process it for displaying across a TV array up to 64 panels.

SMI Video Wall solution has flexibility advantage comparing to other solutions in the market. SMI Video Wall can support any wall layout configuration, for ex: 3x3, 2x4, 4x2 and etc. And TV can be in landscape or portrait orientations. In addition, the SM769 based Video Wall can rotate each panel to any degree angle.

SMI Video Wall Solution also has scalability advantage. It allows customers to scale up video wall flexibly (ex: from 2x2 to 4x4) without significant controller cost increase. SMI Video Wall can stack up multiple controller boxes to build bigger video wall. Customer doesn't need to discard old controller boxes.

SMI Video Wall solution utilizes SMI's CAT™ (Content Adaptive Technology), a high efficiency and low latency codec which compresses video content into much smaller data size. CAT codec is visually lossless and able to maintain best video/image quality each TV panels. With CAT, SMI Video Wall can transmit 10x TV content with a single USB 3.0 cable, thus much reduces total system cost.

The SMI video wall software suites support advanced functions, including any layout configuration, bezel reduction, Content Management System (CMS) and Advertisement like running Ad banner, branding logo watermark and etc.

Benefits & Features

**8K
UHD**

Ultra High Resolution

- 4K/8K UHD Displays
- Enable 8K Video Wall



SMI's CAT (Content Adaptive Technology)

- High Compression Ratio
- Low Latency Algorithm



High Efficiency and Low Power

- Low Power Consumption
- Ultra Low host CPU usage for video/image processing



Media Agnostic

- Support displays over USB or Ethernet / Wireless through a bridge chip



Complete Software Support

- Provide turn-key software including drivers, firmware and application
- Automatic software update

Target Applications



Video Wall Displays



Digital Signages

SM769 Specification

- ARM Cortex R5 Processor
- System Interfaces:
 - USB 3.0 (5Gbps) Device Interface to connect with USB Host
 - Support Gigabit Ethernet via external bridge chip
- Embed 256MB DDR3 Memory
- Integrated Metal Heat Spreader Chip Package for Better Heat Dissipation
- Display Resolutions:
 - Dual Full HD display (1920x1080) or Single 4K UHD (3840x2160)
- Display Outputs:
 - HDMI (Built-in 1x transmitter)
 - DisplayPort (External transmitters)
 - VGA (Built-in 2x transmitters)
 - LVDS/TTL x 2
- Video/Image Compression/Decompression:
 - SMI's CAT (Content Adaptive Technology) high efficiency and low latency codec optimized for video wall
- Hardware Frame Sync Mechanism to Synchronize Displays Among Multiple SM769
- 2-ch (Stereo) Audio Output
- Generic IO:
 - I2C/I2S/GPIO/SPI interfaces

Software Suites Features

Essential Version

- Video Wall Setup
- Any Layout Configuration (2x2, 3x3, 1x4 and etc in Landscape orientation)

Matrix Wall

- Clone All/Partial Displays
- Bezel Reduction
- Projectors edge blending
- Panel Color Calibration
- Four Degree Rotation (Portrait/Landscape)

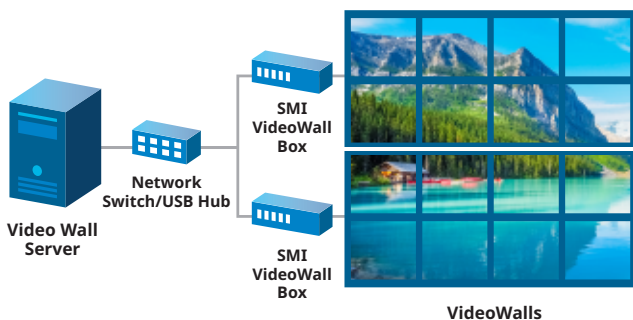
Artistic Wall

- Clone All/Partial Displays
- Bezel Reduction
- Projectors edge blending
- Any Degree Rotation
- Any Shape/Resolution Display

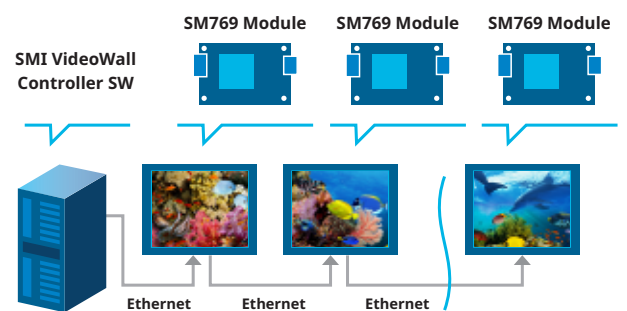
CMS (Content Management System)

- Multi Zone & Window Management
- Window-less Video Player
- Multi Image Player
- Running Ad Banner Insertion
- Logo/Brand Watermark
- Content Scheduling

Application Functional Diagrams



USB/Ethernet Video Wall Box



Ethernet Daisy Chain Modules