# NVIDIA® NVS™ 810
# BRILLIANTLY SIMPLE
# DIGITAL SIGNAGE

## Build brilliant digital signage solutions easily and cost-effectively with NVS 810.

The NVIDIA NVS 810 graphics board delivers exceptional display connectivity, cost-effective scalability, and image management capabilities that make it easy to drive any kind of multi-display digital signage setup. It's the first of its kind to offer eight display outputs, plus the world's most advanced GPU architecture— NVIDIA Maxwell™—all in a single-slot form factor. This makes it ideal for creating dense signage solutions, delivering the uncompromised performance and reliability required to deploy demanding content in mission-critical signage installations.

## KEY FEATURES

### Eight Display Outputs

The NVS 810 leverages a dual GPU design to offer eight mini-DisplayPort 1.2 connectors capable of driving true 4K displays at 30 Hz. Plus, it provides advanced features like multi-streaming and stream cloning that enable extremely efficient cable management in complex installations.

### Extreme Scalability

The NVS 810 gives you the best mix of performance, single-slot form factor, quiet operation, and power efficiency. Simply combine multiple NVS 810 cards in a single system to create cost-effective, massive signage walls with extreme screen resolution.

### Advanced Image Management

Tap into the NVIDIA DesignWorks™ suite of powerful tools to manage images on complex multi-display configurations. Technologies like NVIDIA Mosaic and Warp & Blend help you achieve even the most demanding display configurations with ease.



### SPECIFICATIONS

| | |
|---|---|
| NVIDIA CUDA® Parallel Processing Cores | **1024 (512 cores per GPU)** |
| Frame Buffer Memory | **4 GB DDR3 (2GB per GPU)** |
| Memory Interface | **128-bit (64-bit per GPU)** |
| Memory Bandwidth | **28.8 GB/s** |
| Max Power Consumption | **68 W** |
| Graphics Bus | **PCI Express 3.0 x16** |
| Display Connectors | **Mini DP 1.2 (8)** |
| Max Display Support | **8x 4096x2160@30Hz, 4x 4096x2160@60Hz,** |
| Form Factor | **4.4" H x 7.8" L Single Slot** |
| Thermal Solution | **Active** |
| Product Weight | **468g** |

# TECHNICAL SPECIFICATIONS

## Supported Platforms

> Microsoft Windows 10 (64-bit and 32-bit)
> Microsoft Windows 8.1 (64-bit and 32-bit)
> Microsoft Windows 7 (64-bit and 32-bit)
> Linux®- Full OpenGL implementation, complete with NVIDIA and ARB extensions (64-bit and 32-bit)

## 3D Graphics Architecture

> Scalable geometry architecture
> Hardware tessellation engine
> NVIDIA FXAA/TXAA dedicated anti-aliasing engine[1]
> Shader Model 5.0 (OpenGL 4.5 and DirectX 12)
> Up to 16K x16K texture and render processing
> Transparent multisampling and super sampling
> 16x angle independent anisotropic filtering
> 32-bit per-component floating-point texture filtering and blending
> Up to 64x full scene antialiasing (FSAA)
> Decode acceleration for MPEG-2, MPEG-4 Part 2 Advanced Simple Profile, H.264, MVC, VC1, DivX (version 3.11 and later), and Flash (10.1 and later)
> Dedicated H.264 Encoder[1]
> NVIDIA GPU Boost™ (Automatically increases GPU engine throughput to maximize application performance.)

## Parallel Computing Capabilities

> Streaming Multi-Processor Design (SM 5.0) delivers high performance and energy efficiency
> Support for all the latest NVIDIA® CUDA® 7.5 features
> Programming support for CUDA C, CUDA C++, DirectCompute 5.0, OpenCL, Python, and Fortran

## Advanced Display Features

> Simultaneously drive up to eight displays when connected natively or when using DisplayPort 1.2 Multi-Stream
> Eight DisplayPort 1.2 outputs including Multi-Stream and HBR2 support (capable of supporting resolutions such as 4096x2160@30 Hz when all eight displays are connected)
> DisplayPort to VGA, DisplayPort to DVI (single-link and dual-link), and DisplayPort to HDMI cables available (resolution support based on dongle specifications)
> DisplayPort 1.2, HDMI, and DVI support HDCP
> 12-bit internal display pipeline (hardware support for 12-bit scanout on supported panels, applications and connection)
> Underscan/overscan compensation and hardware scaling
> Support for NVIDIA Mosaic, NVIDIA nView® multi-display technology, and NVIDIA Enterprise Management Tools

## DisplayPort and HDMI Digital Audio

> Support for the following audio modes:
  > Dolby Digital (AC3), DTS 5.1, Multi-channel (7.1) LPCM, Dolby Digital Plus (DD+), DTS-HD, TrueHD
> Output data rates of 44.1 KHz, 48 KHz, 88.2 KHz, 96 KHz, 176 KHz (HDMI only), and 192 KHz (HDMI only)
> Word sizes of 16-bit, 20-bit, and 24-bit

## NVIDIA nView Desktop Management Software

> Boosts productivity by delivering maximum flexibility for single and multi-display set-ups, and provides unprecedented end-user control of the desktop experience.
> Seamless integration within the Windows environment
> Easy to use Setup Wizard
> Extended Windows Taskbar to spread the application buttons across displays
> Get virtual sub-displays with gridlines to make best use of large display setups
> Create virtual desktops to maximize work area and reduce application clutter
> Complete set of hot keys
> User Profiles for easier system deployments

## NVIDIA Mosaic Technology

> Enhance your workspace over multiple displays (up to 16 displays when used with multiple NVS 810 graphics cards)
> Enables seamless taskbar spanning as well as transparent scaling of any application over multiple displays

## NVIDIA Enterprise Management Tools[2]

> Monitor, access, and configure graphics and display information of remote machines using industry standard WMI interface
> Scriptable using WMI command line interface for integration with system-level management tools
> Scalable enterprise-class tools to remotely install and configure graphics drivers across your entire organization

To learn more about NVIDIA NVS, go to **www.nvidia.com/nvs**