NVIDIA® NVS™ 810

COST-EFFECTIVE, RELIABLE SIGNAGE SOLUTIONS WITH 8 DISPLAY OUPUTS

This is the world's most capable digital signage card with lowest TCO, letting you seamlessly drive 8 displays from a single card or combine cards together to form massive signage walls. Discover superior advanced image management using technologies such as NVIDIA Mosaic and NVIDIA Warp & Blend.

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.

NVIDIA NVS 810 graphics boards deliver everything you need to drive any kind of multi-display installation for your business. Whether you need multiple displays on the desktop or are looking to deploy a spectacular wall display for digital signage, NVS products have the features and capabilities to meet all your needs. NVS boards give you incredible flexibility, regardless of display connectivity and chassis size. Drive all your DisplayPort and DVI displays with this proven combination of hardware and software.

NVIDIA NVS by PNY GPUs are designed, built, and tested by NVIDIA specifically for professional workstations powering a broad range of markets, including finance, digital signage, video walls, manufacturing, media and entertainment and corporate desktops.

NVS 810 - PRODUCT SPECIFICATIONS

GPU MEMORY	4GB DDR3 (2GB per GPU)
MEMORY INTERFACE	128-bit (64-bit per GPU)
MEMORY BANDWIDTH	28.8 GB/s
GPU PROCESSING CORES	1,024 (512 per GPU)
SYSTEM INTERFACE	PCI Express 3.0 x16
MAX POWER CONSUMPTION	68 W
THERMAL SOLUTION	Ultra-quiet Active Fansink
FORM FACTOR	11,176 cm (H) x 19,812 cm (L) Single Slot, Full Height
DISPLAY CONNECTORS	8x miniDP (check package content for adapters included)
MAX SIMULTANEOUS DISPLAYS	8x direct, 8x DP 1.2 Multi-Stream
MAX NUMBER OF FRAME-LOCKED SCREENS	8 (single board only)
MAX NUMBER OF MOSAIC SCREENS	16
MAX NUMBER SCREENS	24 (Win 7) / 32 (Win 10) / 32 (Linux)[1]
MAX NUMBER OF BOARDS PER SYSTEM	3 (Win 7)/ 4 (Win 10)[2]
MAX DP 1.2 RESOLUTION	4x 4096 x 2160 @ 60 Hz 8x 4096 x 2160 @ 30 Hz
MAX DVI-I SL RESOLUTION	1920 x 1200 @ 60 Hz (miniDP to DVI)[3]
GRAPHICS APIS	Shader Model 5.0, OpenGL 4.5, DirectX 12

[1] Max screens are not limited by Windows 10 or Linux, but a function of the number of boards that can be supported.
[2] SBIOS and system configuration can impact the number of boards that can be supported.
[3] only NVS 810 DVI (VCNVS810DVI-PB)

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NVS 810 - TECHNICAL SPECIFICATIONS AND FEATURES

EIGHT DISPLAY OUTPUTS	The NVS 810 offers 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.

NVS 810 - FEATURES

- Single slot FF with 8 display outputs
- 8x mini DisplayPort 1.2
- 8x 4096 x 2160 @ 30 Hz
- 4x 4096 x 2160 @ 60 Hz
- Advanded image management
- NVIDIA Mosaic Mode to create video walls up to 16x 4k in a single system
- Warp and Blend Engine
- Overlap (single card, up to 8 displays) and Bezel correction
- DisplayPort with Audio
- NVIDIA nView® Desktop Management Software Compatibility
- HDCP Support
- PCI Express 3.0
- Energy Star Enabling

NVS 810 - 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
- FXAA/TXAA dedicated anti-aliasing engine1
- 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 Encoder1
- 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 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
- 8x DisplayPort 1.2 outputs including Multi-Stream and HBR2 support (capable of supporting resolutions such as 4096x2160 @30Hz when all eight displays are connected)
- mini DisplayPort to DP, mini DisplayPort to DVI (single-link) and mini DisplayPort to HDMI cables available
- 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, NVIDIA® Enterprise Management Tools

DISPLAY PORT AND HDMI DIGITAL AUDIO

- Support for the following audio modes: Dolby Digital (AC3), DTS 5.1, Multichannel (7.1) LPCM, Dolby Digital Plus (DD+), and MPEG-2/MPEG-4 AAC
- 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 bits, 20 bits, and 24 bits

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

- Monitor, access & 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 & configure graphics drivers across your entire organization

PACKAGE CONTENT: VCNVS810DP-PB

- 8x miniDP to DP (P/N:QSP-MINIDP/DPV2)
- Drivers + Installation Guide

PACKAGE CONTENT: VCNVS810DVI-PB

- 8x miniDP to DVI (P/N:QSP-MINIDP/DVIV2)
- Drivers + Installation Guide

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