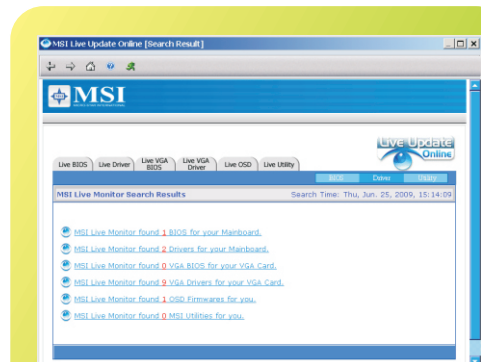


## Using MSI Live Update Online

1. Link to MSI's website at <http://www.msi.com>
2. Find **Live Update Online** under the selection of **Downloads** on the web page.
3. Select **CLICK HERE** to continue.
4. Select **Yes, I would like to try it at my own risk** to continue.
5. Follow the on-screen instructions to complete the utility downloading and installing procedures.



6. Enter the page of **MSI Live Update Online [Search Results]**
7. Select the tag of **Live VGA Driver** to download and update the latest VGA driver, if available.
8. Select the tag of **Live VGA BIOS** to download and update the latest VGA BIOS, if available.



FC MICRO-STAR INT'L  
MS-V229



# N210 series

**WARNING!!**  
DO NOT touch the cooling system since it may produce a certain heat while processing tasks.



**CAUTION!!**  
Do not force the GPU cooler against the fragile GPU to avoid damage to the GPU.



Under the European Union ("EU") Directive on Waste Electrical and Electronic Equipment, Directive 2002/96/EC, which takes effect on August 13, 2005, products of "electrical and electronic equipment" cannot be discarded as municipal waste anymore and manufacturers of covered electronic equipment will be obligated to take back such products at the end of their useful life.

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Pentium® is a registered trademark of Intel Corporation.  
Windows® is a registered trademark of Microsoft Corporation.



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<http://www.msi.com>

G52-V2292X2  
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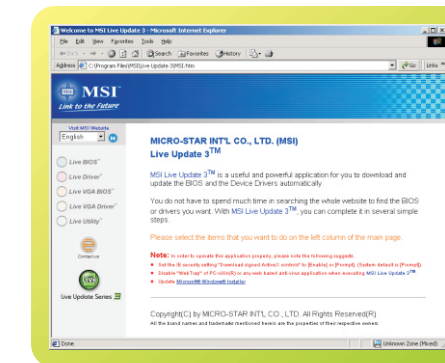
msi

Insist on the best **msi**

## Installing MSI Live Update

MSI Live Update offers you with brand-new update service experience, which can significantly save your time while searching files. MSI Live Update is capable to automatically analyze and list drivers, BIOS, and utilities you need. With the easy-to-use updating approaches, you can increase the performance of your system easily and quickly. Follow the instructions below, with a few mouse clicks, you can acquire the related files for the system updating.

1. Insert the supplied disk into the CD-ROM drive, and start the **Setup** program.
2. Click the **Utility** tab on the setup screen.
3. Click the **MSI Live Update**. Follow the on-screen instructions to complete the installation.
4. Launch MSI Live Update utility to proceed the updating function.



## Using Live VGA Driver Update

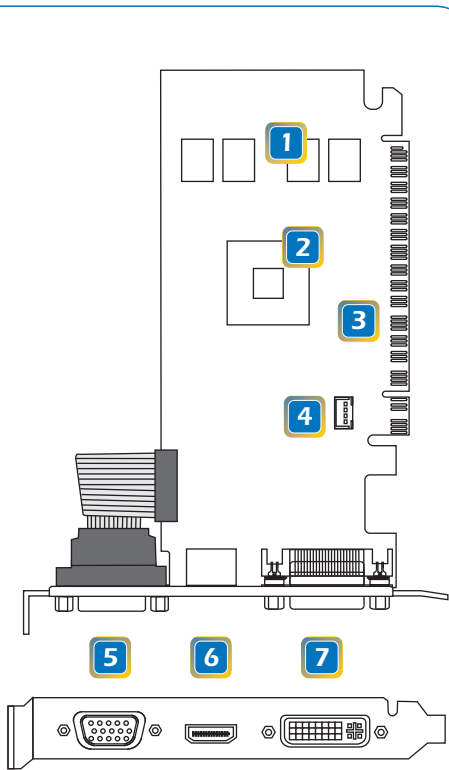
This service enables you to update the latest VGA driver for your VGA card.

1. Click the selection of **Live VGA Driver™**.
2. Click the green button on the left lower side of the main page to connect to the MSI Live Update Series Server.
3. The utility will automatically detect and download the latest driver, if available.
4. Follow the on-screen instructions to complete the updating procedure.

## Using MSI Live VGA BIOS Update

This service enables you to update the latest VGABIOS for your VGA card.

1. Click the selection of **Live VGABIOS™**.
2. Follow the on-screen instructions to continue the procedures.
3. Click the green button on the left lower side of the main page to connect to the MSI Live Update Series Server.
4. The utility will automatically detect and download the latest BIOS, if available.
5. Follow the on-screen instructions to complete the updating procedure.



- 1 1G DDR3 memory  
512MB DDR3 memory
- 2 NVIDIA GeForce 210
- 3 PCI Express Interface
- 4 Fan Connector
- 5 D-Sub Port
- 6 HDMI Connector
- 7 DVI-I Port  
- HDMI supported  
- HDCP supported  
- Dual-link DVI output supported

The VGA card shown here is for reference, and may vary from the actual card.

For further information, please visit [msi website at www.msi.com](http://www.msi.com)

## Unpacking

Please check out the following items to make sure that you get the complete product:

- VGA card
- Disk: Drivers, documentation, and applications
- ★ Consult your dealer immediately if anything is missing or damaged.

## System Requirements

To install the VGA card, your computer system needs to meet the following requirements:

- PCI Express® or PCI Express 2.0® - compliant motherboard with one dual-width x16 graphics slot
- Minimum 350W or greater system power supply (with a minimum 12V current rating of 36A)  
\*\*Minimum system power requirement based on a PC configured with an Intel Core2Extreme processor Qx9650
- CD-ROM / DVD-ROM for driver installation
- Visiting MSI website for further information of operating system support

## Card Features For reference only

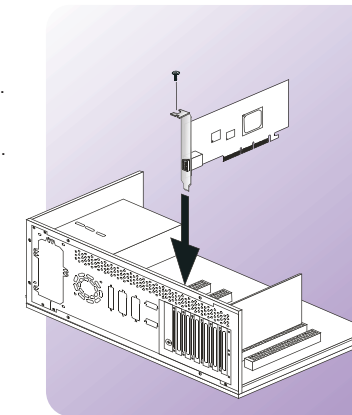
- **NVIDIA® Unified Architecture**  
Fully unified shader core dynamically allocates processing power to geometry, vertex, physics, or pixel shading operations, delivering up to 2x the gaming performance of prior generation GPUs.
- **Microsoft® Windows 7 Support**  
Windows 7 is the next generation operating system that will mark a dramatic improvement in the way the OS takes advantage of the graphics processing unit (GPU) to provide a more compelling user experience. By taking advantage of the GPU for both graphics and computing, Windows 7 will not only make today's PCs more visual and more interactive but also ensure that they have the speed and responsiveness customers want.
- **NVIDIA® PhysX™- Ready**  
GeForce GPU support for NVIDIA PhysX technology, enabling a totally new class of physical gaming interaction for a more dynamic and realistic experience with GeForce.
- **Microsoft® DirectX 10 Support**  
DirectX 10 GPU with full ShaderModel 4.0 support delivers unparalleled levels of graphics realism and film-quality effects for today's hottest games.
- **NVIDIA® CUDA™ Technology**  
CUDA technology unlocks the power of the GPU's processing cores to accelerate the most demanding system tasks - such as video transcoding - delivering up to 7x performance over traditional CPUs.
- **PCI Express 2.0 Support**  
Designed for the new PCI Express 2.0 bus architecture offering the highest data transfer speeds for the most bandwidth-hungry games and 3D applications, while maintaining backwards compatibility with existing PCI Express motherboards for the broadest support.
- **OpenGL® 2.1 Optimization and Support**  
Provides top-notch compatibility and performance for OpenGL applications.
- **Dual 400MHz RAMDACs**  
Blazing-fast RAMDACs support dual QXGA displays with ultra-high, ergonomic refresh rates up to 2048x1536@85Hz.

- **16x Anti-aliasing Technology**  
Lightning fast, high-quality anti-aliasing at up to 16x sample rates obliterates jagged edges.
- **128-bit floating point High Dynamic-Range (HDR) Lighting**  
Twice the precision of prior generations for incredibly realistic lighting effects--now with support for anti-aliasing.
- **NVIDIA® Lumenex™ Engine**  
Delivers stunning image quality and floating point accuracy at ultra-fast frame rates.
- **NVIDIA® PureVideo™ HD Technology**  
The combination of high-definition video decode acceleration and post-processing that delivers unprecedented picture clarity, smooth video, accurate color, and precise image scaling for movies and video.
- **Dual-link HDCP Capable**  
Designed to meet the output protection management (HDCP) and security specifications of the Blu-ray Disc and HD DVD formats, allowing the playback of encrypted movie content on PCs when connected to HDCP-compliant displays.
- **Bad Edit Correction**  
Recovers original film images from films-converted-to-video (DVDs, 1080i HD content), providing more accurate movie playback and superior picture quality.
- **Noise Reduction**  
Improves movie image quality by removing unwanted artifacts.
- **Edge Enhancement**  
Sharpens movie images by providing higher contrast around lines and objects.
- **Advanced Spatial-Temporal De-Interlacing**  
Sharpens HD and standard definition interlaced content on progressive displays, delivering a crisp, clear picture that rivals high-end home-theater systems
- **High-Quality Scaling**  
Enlarges lower resolution movies and videos to HDTV resolutions, while maintaining a clear, clean image. Also provides downscaling of videos, including high-definition, while preserving image detail.
- **Dual-link DVI Support**  
Able to drive industry's largest and highest resolution flat-panel displays up to 2560x1600 and with support for High-bandwidth Digital Content Protection (HDCP).
- **HDMI 1.3a Support**  
Fully integrated support for HDMI 1.3a including xvYCC, Deep color and 7.1 digital surround sound.
- **Hardware Decode Acceleration**  
Provides ultra-smooth playback of H.264, VC-1, WMV, DivX, MPEG-2 and MPEG-4 HD and SD movies without the need for a dual or quad-core CPU.
- **Dual-stream Hardware Acceleration**  
Supports picture-in-picture content for the ultimate interactive Blu-ray and HD DVD movie experience.
- **Dynamic Contrast Enhancement & Color Stretch**  
Provides post-processing and optimization of High Definition movies on a scene by scene basis for spectacular picture clarity.
- **Enhanced Error Resilience**  
Correct errors or losses in broadcast content to ensure crisp, high quality playback.
- **GigaThread™ Technology**  
Massively multi-threaded architecture supports thousands of independent, simultaneous threads, providing extreme processing efficiency in advanced, next generation shader programs.

## Hardware

Follow the steps below to install the VGA card:

1. Remove the computer case.
2. Locate the expansion slot on your mainboard.  
Warning: Inserting the VGA card into a wrong slot may damage your card (refer to your mainboard manual for more information).
3. Put the card directly over the expansion slot and press one end of the card into the slot first. Gently but firmly press the other end until the card is fully seated in the slot.
4. Secure the card with a bracket screw.
5. Install all other cards and devices and connect all the cables, and then install the case.
6. Connect the monitor. Now, you are ready to install the software on your computer.



## Software

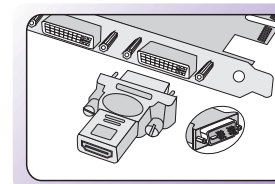
To install the driver of the VGA card to your computer, please follow the steps below:

1. Turn on the computer.
2. Insert the CD into the CD-ROM drive. The Autorun program will start the Setup program, and show the setup screen as left.
3. Click **VGA Drivers**. Follow the on-screen instructions to complete the installation.
4. After finishing the installation, restart the computer as instructed.



**Tip :** If, on your computer, the Autorun program does not execute automatically, please 1) enable the CD-ROM drive Auto-detect function from Control Panel; or 2) find and run the setup.exe file manually from the CD.

## Enabling HDMI Output



Follow the steps below to enable HDMI Output function:

1. Find the DVI-to-HDMI adapter that comes with the package, if provided. Consult your dealer to purchase the adapter if it is not provided.
2. Attach the DVI-to-HDMI adapter to the DVI connector.
3. Ensure that the adapter is firmly installed.