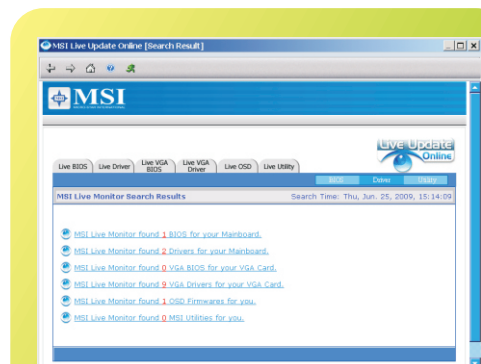


Using MSI Live Update Online

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-V212

Compatible with



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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Windows® is a registered trademark of Microsoft Corporation.



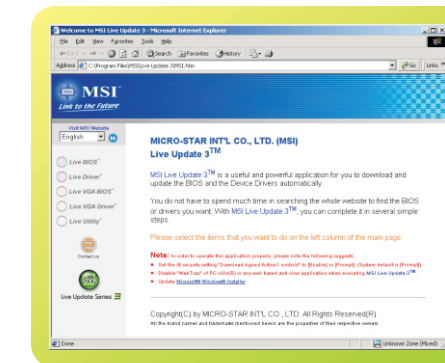
MICRO-STAR INT'L CO., LTD.
TEL. 886-2-32345599
<http://www.msi.com>

G52-V2122X2
January 2010

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

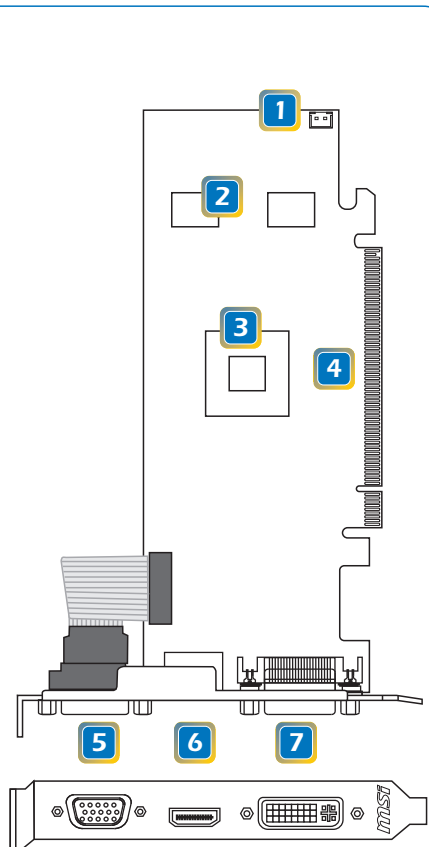
This service enables you to update the latest VGABIOS for your VGA card.

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.

msi

R5450 series

Insist on the best **msi**



1 Fan Connector

2 1G DDR3/ 2 memory 512MB DDR3/ 2 memory 256MB DDR3/ 2 memory (optional supported)

3 ATI Radeon HD5450 series

4 PCI Express Interface

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://msi.com)

Getting Started

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® or PCI Express 2.1® - compliant motherboard with one dual-width x16 graphics slot.
- 400 Watt or greater power supply recommended.
- CD-ROM / DVD-ROM is required for driver installation.
- Visiting MSI website for further information of operating system support.

Card Features For reference only

- Microsoft DirectX® 11 Support
 - Tessellation is now available to PC developers for real-time rendering with ultra-realistic characters and an incredible level of detail with 3D images.
 - HDR Texture compression delivers an intense level visual detail without increasing graphics memory footprint with efficiency and incredible image quality.
 - Multi-threading support for DirectX® 11 accelerates rendering by leveraging all the CPU cores for overall faster gaming performance.
 - DirectCompute improves PC performance by taking on some or all of a DirectX 11-enabled application's processing load, freeing up the computer's main processor to take on additional tasks.
- ATI Eyefinity Technology
Run up to 3 displays from a single graphics board and expand your gaming field of view across all 3 displays.
- ATI Stream Acceleration Technology
Offload data parallel compute tasks from the CPU to GPU.
- 40 nm Process Technology
More efficient process technology puts more transistors in less space.
- DDR3/ DDR2 Memory Interface supported
- 292 million 40nm Transistors

Getting Started

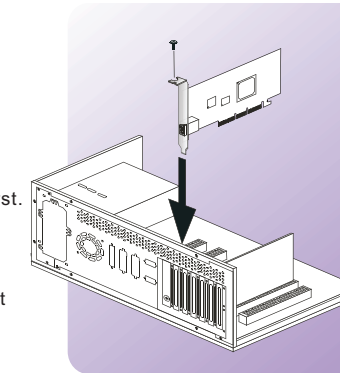
- OpenGL 3.2 Supported
- Image Quality enhancement technology
- Microsoft Windows 7® support
Comprehensive OS support including Windows XP, Windows Vista, the very latest Windows 7 functionality and Driver support.
- Enhanced Anisotropic Filtering
New anisotropic filtering method which ultimate image quality and visuals for more immersive gaming.
- Accelerated Video Transcoding
Native support for common transcoding instructions in each shader for motion estimation that accelerates video encoding.
- HDMI 1.3 Support
HDMI 1.3 with Deep Colour and 7.1 High Bitrate Audio Support.
- Dolby® TrueHD and DTS-HD Master Audio® Support
Support of content protected, high bandwidth, 7.1 channels of surround sound over HDMI.
- ATI PowerPlay™ Technology
Dynamic power management technology.
- ATI Avivo™ Technology Enhanced Unified Video Decoder 2 (UVD 2)
Watch the hottest Blu-ray movies or other HD content at full 1080p display resolution and beyond and enjoy a more feature rich experience with enhanced Unified Video Decoder 2 (UVD 2).
 - Enhanced UVD 2 now support hardware acceleration decode of dual 1080p HD video streams.
 - Brighter Whites processing increases the blue value of white colors for brighter and more vivid video playback.
 - Independent Video Gamma Control allows you to set video gamma independently from Windows desktop for a better viewing experience.
 - Dynamic Video Range Control enables user to control levels of black and white during playback.

Quick Installation

Hardware

Follow the steps below to install the VGA card:

1. Remove the computer case.
2. Locate the expansion slot on your motherboard.
Warning: Inserting the VGA card into a wrong slot may damage your card (refer to your motherboard 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:

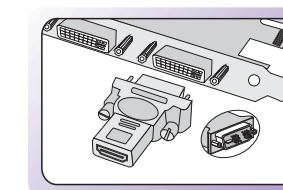
1. Turn on the computer.
2. Insert the CD into the CD-ROM drive.
The Autorun program will start the Setup program, and show the setup screen as illustrated here.
3. Click **VGA Drivers**. Follow the on-screen instructions to complete the installation.
4. After finishing the installation, restart the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