

NVIDIA® Graphics Accelerator

User's Manual

Rev. 107

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Notice

Please do not remove any labels on this graphics card. Doing so may void the warranty of this card.

Due to rapid change in technology, some of the specifications might be out of date before publication of this manual. The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information contained herein.

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1. Introduction

1.1. Minimum System Requirements

- Hardware
 - Motherboard with one or above PCI-Express x 16 slot
 - 2GB system memory (4GB recommended)
 - Optical drive for software installation (CD-ROM or DVD-ROM drive)
- Operating System
 - Windows® 10
 - Windows® 8
 - Windows® 7



✂ Expansion cards contain very delicate Integrated Circuit (IC) chips. To protect them against damage from static electricity, you should follow some precautions whenever you work on your computer.

1. Turn off your computer and unplug power supply.
2. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case.
3. Place components on a grounded antistatic pad or on the bag that came with the components whenever the components are separated from the system.

The card contains sensitive electric components, which can be easily damaged by static electricity, so the card should be left in its original packing until it is installed. Unpacking and installation should be done on a grounded anti-static mat. The operator should be wearing an anti-static wristband, grounded at the same point as the anti-static mat. Inspect the card carton for obvious damage. Shipping and handling may cause damage to your card. Be sure there are no shipping and handling damages on the card before proceeding.

☛ **DO NOT APPLY POWER TO YOUR SYSTEM IF THE GRAPHICS CARD IS DAMAGED.**

☛ **In order to ensure that your graphics card can work correctly, please use official GIGABYTE BIOS only. Using non-official GIGABYTE BIOS might cause problem(s) on the graphics card.**



2. Hardware Installation

Now that you have prepared your computer, you are ready to install your graphics card.

Step 1.

Locate the PCI Express x16 slot. If necessary, remove the cover from this slot; then align your graphics card with the PCI Express x16 slot, and press it in firmly until the card is fully seated.



☛ Make sure that the gold edge connector of the graphics card is securely inserted.

Step 2.

Replace the screw to fasten the card in place, and replace the computer cover.

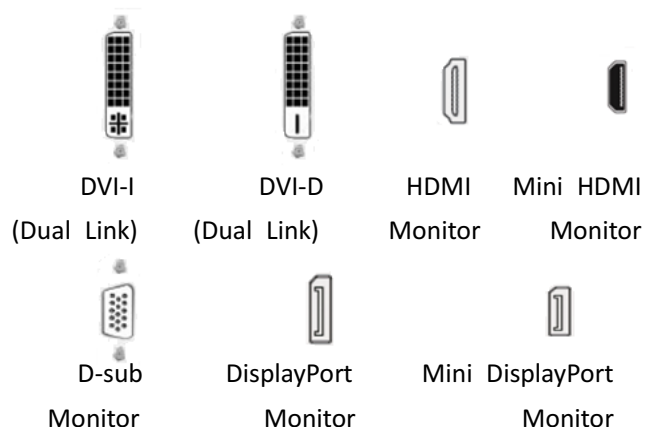


※ If there are power connectors on your card, remember to connect the power cable to them, or the system will not boot. Do not touch the card when it's operating to prevent system instability.



Step 3.

Connect the appropriate cable to the card and the display. Finally, turn on your computer.



2.1. SLI Technology

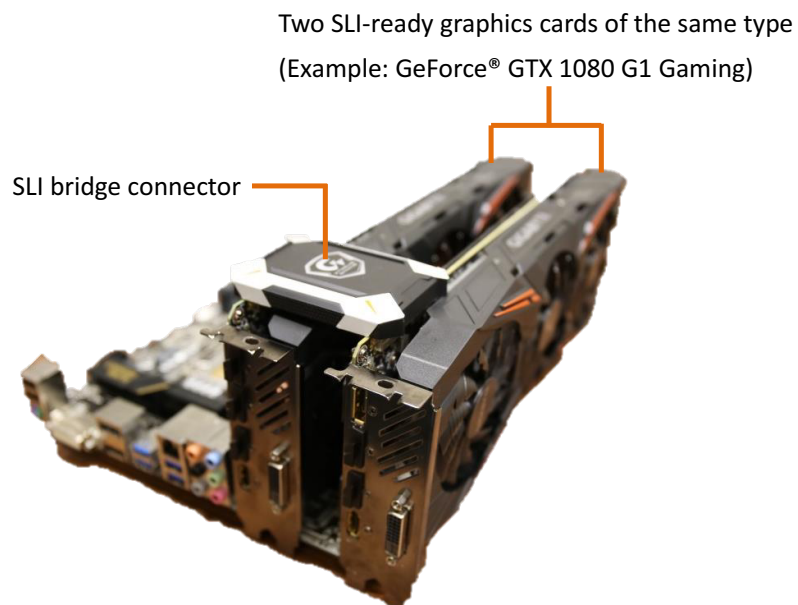
How NVIDIA®SLI™ (Scalable Link Interface) technology works:

If you are planning on using this graphics card as part of an SLI system, the following are required:

- An SLI certified motherboard with two or above PCI-E x16 slots and correct chipset driver
- A two-way SLI bridge connector

In an SLI configuration, two SLI-ready graphics cards of the same model and the same manufacturers are connected together via SLI bridge connector in a system that provides two or above PCI Express x16 slots to scale graphics performance. The picture below shows that two graphics cards are linked in parallel in an SLI configuration.

2-Way SLI Configuration:



3. Software Installation

Notice the following guidelines before installing the drivers:

1. First make sure your system has installed DirectX 11 or later version.
 2. Make sure your system has installed the appropriate motherboard drivers
(For the motherboard drivers, please contact the motherboard manufacturer.)
- ※ Notice : The photos in this manual are for reference only and may not match what you exactly see on your screen

3.1. Driver and Utility Installation

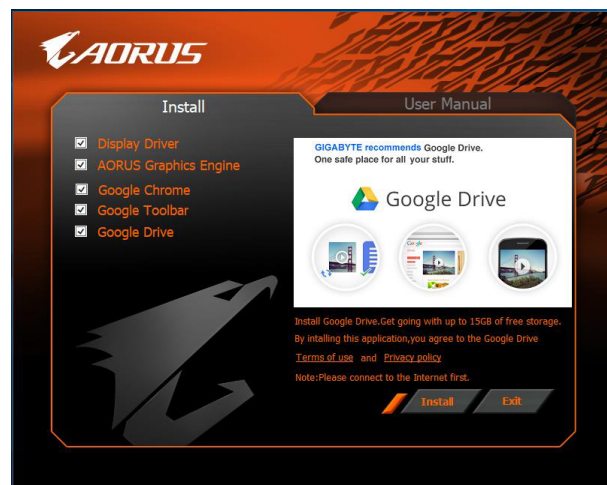
3.1.1. Driver and AORUS ENGINE Installation

After installing the operating system, insert the driver disk into your optical drive. The driver Autorun screen is automatically displayed which looks like that shown in the screen shot on the right.
(If the driver Autorun screen does not appear automatically, go to My Computer, double-click the optical drive and execute the setup.exe program.)

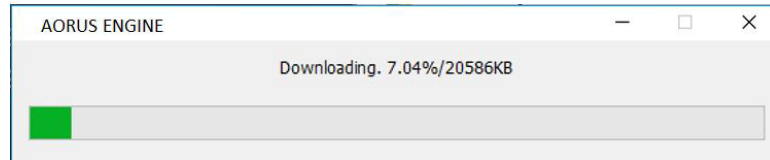


Step 1:

Click the **Install** item.

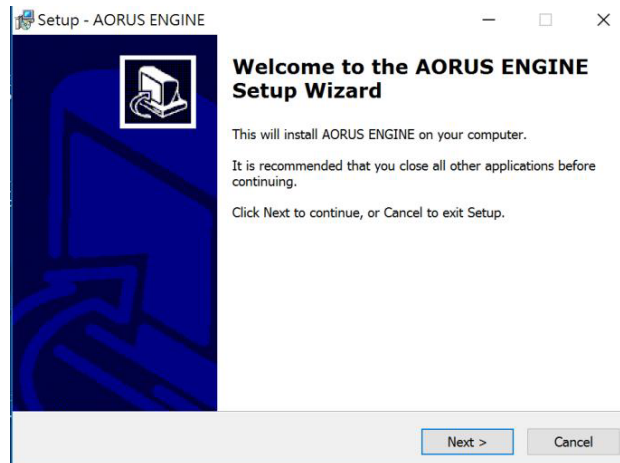


The window of AORUS ENGINE installation would appear first as the following picture.



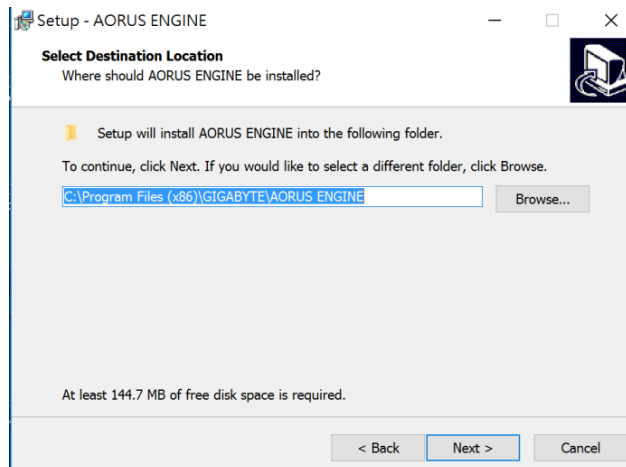
Step 2:

Click the **Next** button.



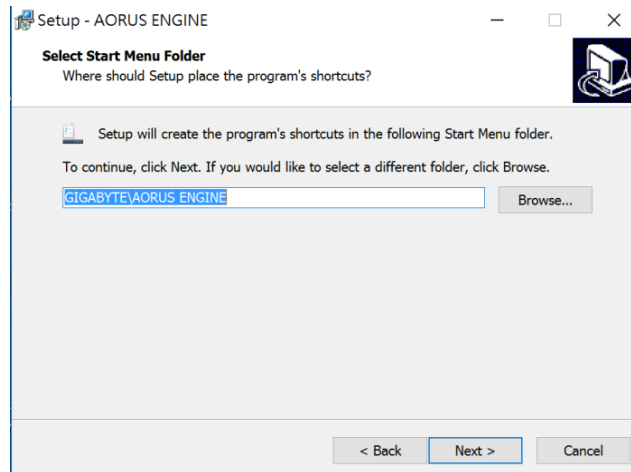
Step 3:

Click **Browse** to choose where you'd like GIGABYTE AORUS ENGINE to be installed. And then click the **Next** button.



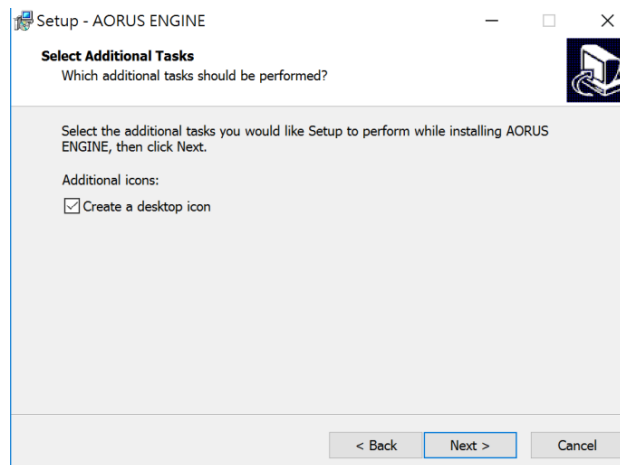
Step 4:

Click **Browse** to choose where you'd like to place the shortcuts in Start Menu. And then click **Next**.



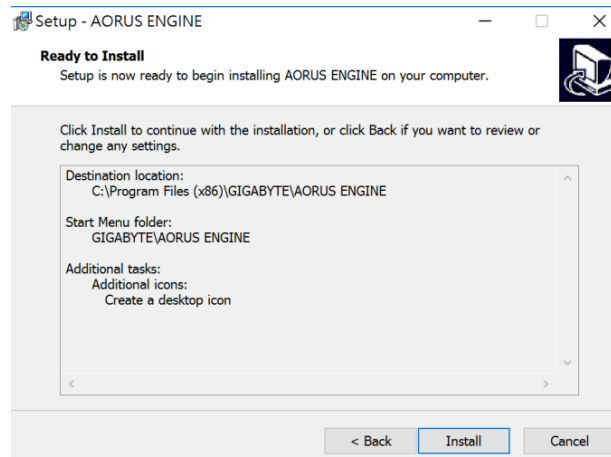
Step 5:

Check the box if you'd like to create a desktop icon, and then click **Next**.



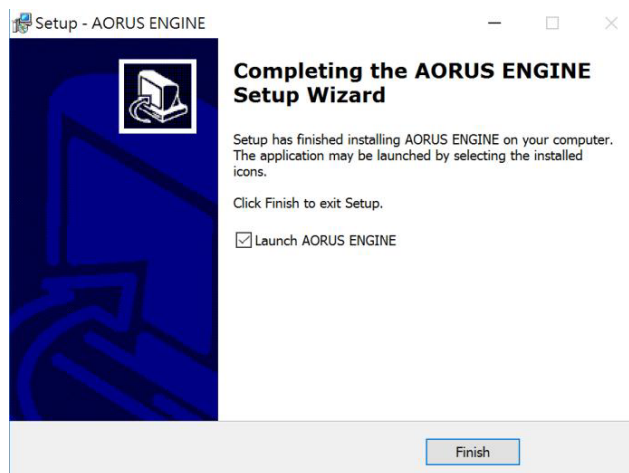
Step 6:

Click the **Install** button.



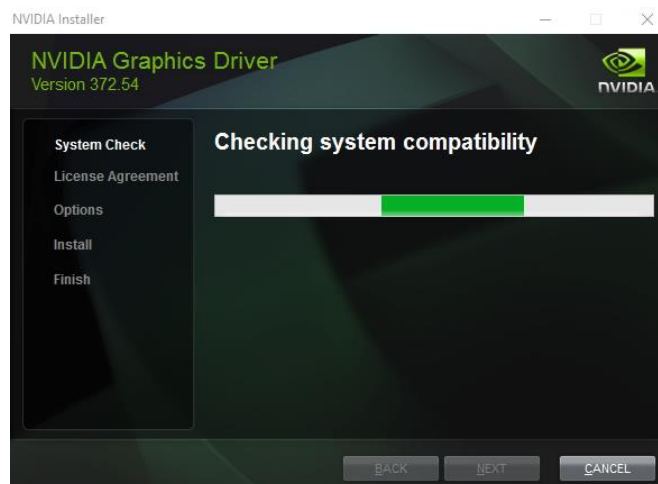
Step 7:

Click the **Finish** button to complete AORUS ENGINE installation.



Step 8:

After installing AORUS ENGINE, the window of NVIDIA Driver would appear.



Step 9:

Click the **AGREE AND CONTINUE** button.



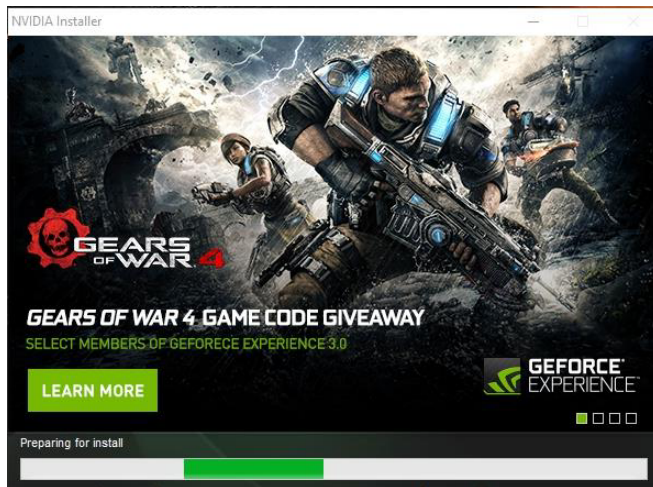
Step 10:

Check *Express*
(*Recommended*) and then
click the **NEXT** button.



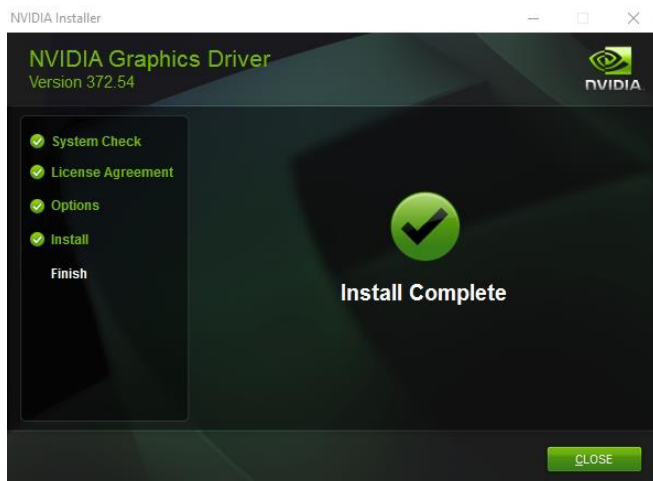
Step 11:

Installation begins.



Step 12:

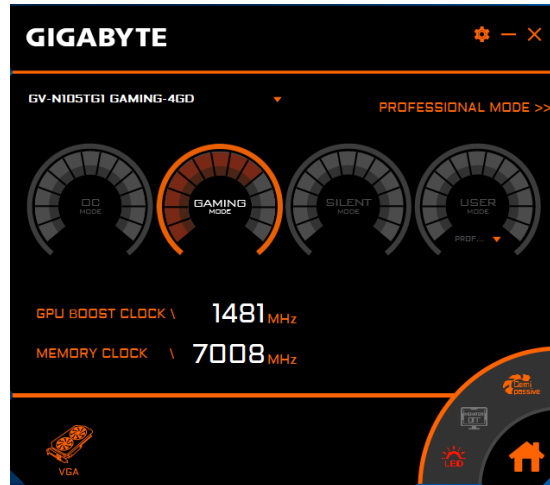
Click the **Close** button, and
then restart your computer
to complete driver
installation.



3.1.2. GIGABYTE AORUS ENGINE

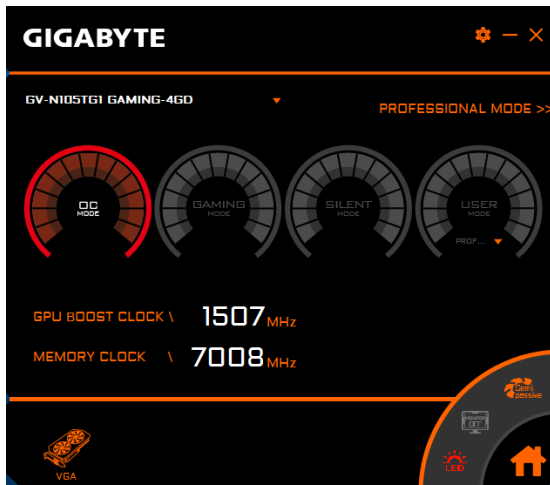
Users could adjust clock speeds, memory speeds, fan performance, and LED etc. according to their own preference through this intuitive interface.

- ✂ The interface and functionality of the software is subject to each model.



Easy setting

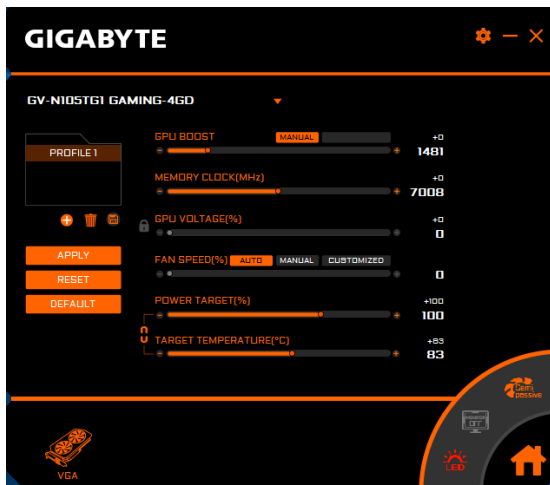
- OC mode
High performance over clocking mode
- Gaming mode
Default setting gaming mode
- ECO mode
Energy saving, silent ECO mode



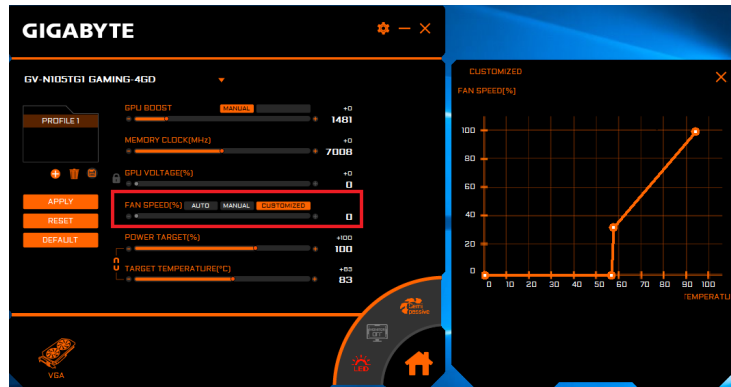
Advanced Setting

Choose PROFESSIONAL MODE, and then click on +/- or drag the control button to adjust GPU clock, memory clock, fan speed, power target, and target temperature.

Click on APPLY, the adjusted data will be saved in the profile on the upper left, click RESET to return to previous setting. Click DEFAULT to return to default setting.

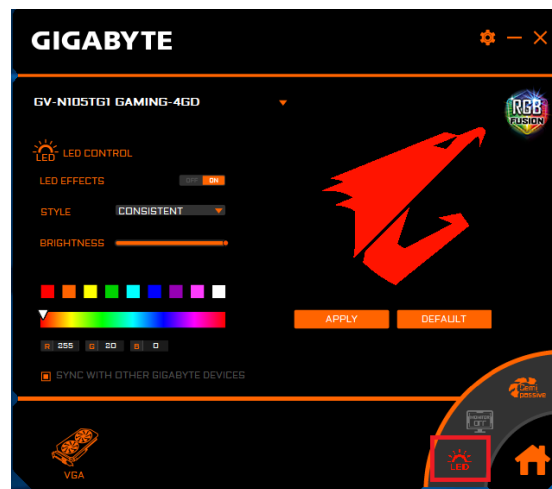


Users could also choose CUSTOMIZED for fan setting, and move the white dots on the line chart to adjust fan speed and temperature.



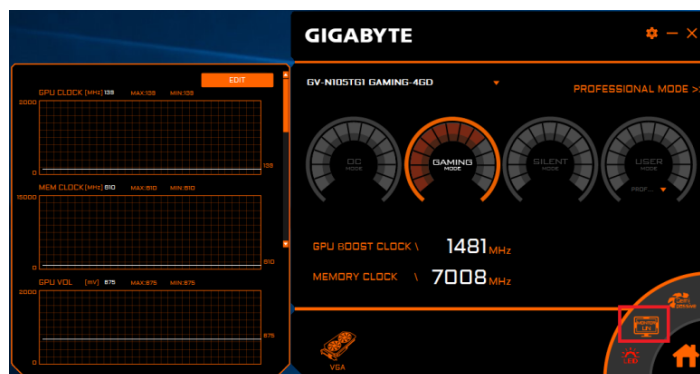
LED

Choose LED on the lower right, users could choose different styles, brightness, colors; they could also turn off the LED effects through this software.



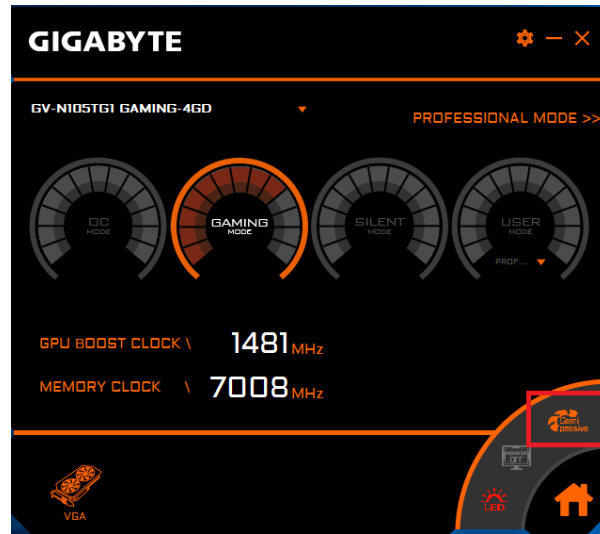
Monitor

Choose MONITOR ON/OFF on the lower right to learn information like current GPU temperature etc.



Fan control

Choose SEMI PASSIVE/ACTIVE FAN on the lower right to switch the fan mode between semi passive and continuous spin.



4. Troubleshooting Tips

The following troubleshooting tips may help if you experience problems. Contact your dealer or GIGABYTE for more advanced troubleshooting information.

- Check whether the card is seated properly in the PCI Express x16 slot.
- Ensure that the display cable is securely fastened to the card's display connector.
- Make sure that the monitor and computer are plugged in and receiving power.
- If necessary, disable any built-in graphics capabilities on your motherboard. For more information, consult your computer's manual or manufacturer.

(NOTE: Some manufacturers do not allow the built-in graphics to be disabled or to become the secondary display.)

- Make sure you selected the appropriate display device and graphics card when you install the graphics driver.
- Restart your computer.
Press <F8> on your keyboard after system starts up. When the Windows Advanced Options Menu appears, select Safe Mode and press <Enter>. After getting into Safe Mode, in Device Manager, check whether the driver for the graphics card is correct.
- If you are not able to find the desired monitor color/resolution settings: The color and screen resolution options available for selection depend on the graphics card being installed.

- ✂ If necessary, adjust your monitor's setting using monitor's adjust panel to make the screen looks focused, crisp, and sharp.



5. Appendix

5.1. Regulatory Statements

Regulatory Notices

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Our Commitment to Preserving the Environment

In addition to high-efficiency performance, all GIGABYTE VGA Cards fulfill European Union regulations for RoHS (Restriction of Certain Hazardous Substances in Electrical and Electronic Equipment) and WEEE (Waste Electrical and Electronic Equipment) environmental directives, as well as most major worldwide safety requirements. To prevent releasing harmful substances into the environment and to maximize the use of our natural resources, GIGABYTE provides the following information on how you can responsibly recycle or reuse most of the materials in your "end of life" product:

- **Restriction of Hazardous Substances (RoHS) Directive Statement**
GIGABYTE products have not intended to add hazardous substances (Cd, Pb, Hg, Cr+6, PBDE and PBB). The parts and components have been carefully selected to meet RoHS requirement. Moreover, we at GIGABYTE are continuing our efforts to develop products that do not use internationally banned toxic chemicals.
- **Waste Electrical & Electronic Equipment (WEEE) Directive Statement**
GIGABYTE will fulfill the national laws as interpreted from the 2002/96/EC WEEE (Waste Electrical and Electronic Equipment) directive. The WEEE Directive specifies the treatment, collection, recycling and disposal of electric and electronic devices and their components. Under the Directive, used equipment must be marked, collected separately, and disposed of properly.



● WEEE Symbol Statement



The symbol shown on the left is on the product or on its packaging, which indicates that this product must not be disposed of with other waste. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure.

The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local government office, your household waste disposal service or where you purchased the product for details of environmentally safe recycling.

- When your electrical or electronic equipment is no longer useful to you, "take it back" to your local or regional waste collection administration for recycling.
- If you need further assistance in recycling, reusing in your "end of life" product, you may contact us at the Customer Care number listed in your product's user's manual and we will be glad to help you with your effort.

Finally, we suggest that you practice other environmentally friendly actions by understanding and using the energy-saving features of this product (where applicable), recycling the inner and outer packaging (including shipping containers) this product was delivered in, and by disposing of or recycling used batteries properly. With your help, we can reduce the amount of natural resources needed to produce electrical and electronic equipment, minimize the use of landfills for the disposal of "end of life" products, and generally improve our quality of life by ensuring that potentially hazardous substances are not released into the environment and are disposed of properly.



● China Restriction of Hazardous Substances Table

The following table is supplied in compliance with China's Restriction of Hazardous Substances (China RoHS) requirements:



关于符合中国《电子信息产品污染控制管理办法》的声明
Management Methods on Control of Pollution from Electronic Information Products
(China RoHS Declaration)

产品中有毒有害物质或元素的名称及含量
Hazardous Substances Table

部件名称 (Parts)	有毒有害物质或元素 (Hazardous Substances)					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
PCB板 PCB	○	○	○	○	○	○
结构件及风扇 Mechanical parts and Fan	×	○	○	○	○	○
芯片及其他主动零件 Chip and other Active components	×	○	○	○	○	○
连接器 Connectors	×	○	○	○	○	○
被动电子元器件 Passive Components	×	○	○	○	○	○
线材 Cables	○	○	○	○	○	○
焊接金属 Soldering metal	○	○	○	○	○	○
助焊剂, 散热膏, 标签及其他耗材 Flux, Solder Paste, Label and other Consumable Materials	○	○	○	○	○	○
○:表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006标准规定的限量要求以下。 Indicates that this hazardous substance contained in all homogenous materials of this part is below the limit requirement SJ/T 11363-2006						
×:表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006标准规定的限量要求。 Indicates that this hazardous substance contained in at least one of the homogenous materials of this part is above the limit requirement in SJ/T 11363-2006						
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