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USER MANUAL

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1. Product Overview

This manual provides instructions for the installation, operation, and maintenance of your ASUS GTX680-2GD5 GeForce Graphics Card. This high-performance graphics card is designed to enhance your computing experience with advanced visual capabilities and efficient processing.



Image 1.1: The ASUS GTX680-2GD5 graphics card shown alongside its retail packaging.

Key features of the ASUS GTX680-2GD5 include:

- **GPU Tweak Utilities:** Real-time and intuitive graphics tuning for clock speeds, voltages, and fan performance.
- **NVIDIA Adaptive V-Sync:** Adjusts VSync to current frame rates for smoother gameplay.
- **PCI-Express 3.0:** Provides double the bandwidth per lane compared to PCIe Gen 2 for faster GPU-CPU communication.
- **28nm GPU:** Designed for lower power consumption and more efficient transistor performance.
- **SLI Support:** Enables multi-GPU technology for enhanced performance.

2. Setup and Installation

Before beginning installation, ensure your computer is powered off and disconnected from the power source. It is recommended to wear an anti-static wrist strap to prevent damage from static electricity.

1. **Prepare Your System:** Power off your computer and unplug all cables. Open the computer case.
2. **Locate PCIe Slot:** Identify an available PCI-Express 3.0 x16 slot on your motherboard.
3. **Install the Graphics Card:** Carefully align the graphics card with the PCIe slot and press down firmly until it is securely seated. Ensure the retention clip (if present) locks into place.
4. **Secure the Card:** Use a screw to fasten the graphics card bracket to the computer case.
5. **Connect Power Cables:** Connect the required PCIe power connectors from your power supply to the graphics card. Refer to your power supply and graphics card documentation for specific power requirements.
6. **Close Case and Connect Peripherals:** Close your computer case, reconnect all cables (monitor, keyboard, mouse, power), and power on your system.
7. **Install Drivers:** Once your operating system loads, install the latest NVIDIA drivers for the GeForce GTX 680 from the official NVIDIA website or the ASUS support page.

3. Operating Your Graphics Card

After successful installation and driver setup, your ASUS GTX680-2GD5 graphics card is ready for use. To optimize performance and monitor its status, utilize the following tools and features:

- **Driver Installation:** Always ensure you have the latest NVIDIA GeForce drivers installed. These drivers provide performance optimizations, bug fixes, and support for new games and applications. Visit the official NVIDIA website for driver downloads.
- **ASUS GPU Tweak Utilities:** This exclusive ASUS software allows you to monitor and fine-tune your graphics card. You can adjust clock speeds, voltages, and fan settings to achieve desired performance levels. It also provides a monitoring widget for real-time multi-parameter information.
- **NVIDIA Adaptive V-Sync:** This feature dynamically adjusts vertical sync to match current frame rates, reducing screen tearing and stuttering for a smoother visual experience. It can be enabled or disabled through the NVIDIA Control Panel.
- **SLI Configuration:** If you have two compatible ASUS GTX680-2GD5 cards, you can configure them in an SLI (Scalable Link Interface) setup for increased graphics performance. Refer to NVIDIA's SLI documentation for detailed setup instructions.
- **Display Connections:** Connect your monitor(s) to the available VGA, DVI, HDMI, or DisplayPort outputs on the graphics card. The card supports a maximum digital resolution of 2560x1600.

4. Maintenance

Proper maintenance ensures the longevity and optimal performance of your graphics card.

- **Keep Drivers Updated:** Regularly check for and install the latest graphics drivers from NVIDIA. Driver

updates often include performance improvements and compatibility fixes.

- **Dust Removal:** Periodically clean dust from the graphics card's heatsink and fan using compressed air. Ensure the computer is powered off and unplugged before cleaning. Excessive dust can impede cooling and lead to overheating.
- **Ensure Proper Airflow:** Make sure your computer case has adequate ventilation to prevent heat buildup. Ensure case fans are functioning correctly and not obstructed.
- **Monitor Temperatures:** Use ASUS GPU Tweak or other monitoring software to keep an eye on your graphics card's temperature, especially during heavy load. If temperatures consistently run high, review your system's cooling.

5. Troubleshooting

If you encounter issues with your ASUS GTX680-2GD5 graphics card, refer to the following common troubleshooting steps:

- **No Display Output:**
 - Ensure the monitor cable is securely connected to both the graphics card and the monitor.
 - Verify that the graphics card is fully seated in its PCI-Express slot.
 - Check that all required PCIe power connectors are properly attached to the graphics card.
 - Test with a different monitor or cable if possible.
- **Low Performance in Games/Applications:**
 - Ensure you have the latest graphics drivers installed.
 - Check in-game graphics settings; they might be set too high for your system configuration.
 - Monitor GPU temperature to ensure it's not overheating and throttling performance.
 - Verify that your power supply unit (PSU) meets the minimum wattage requirements for your system, including the graphics card.
- **Driver Installation Issues:**
 - Download drivers directly from the official NVIDIA or ASUS support website.
 - Uninstall any previous graphics drivers using a utility like Display Driver Uninstaller (DDU) before attempting a clean installation of new drivers.
 - Ensure your operating system is up to date.
- **System Instability or Crashes:**
 - Check for overheating.
 - Ensure your power supply is stable and sufficient.
 - Run memory diagnostic tools to check for RAM issues.
 - If overclocking, revert to default settings to rule out instability caused by overlocks.

6. Technical Specifications

Below are the key technical specifications for the ASUS GTX680-2GD5 Graphics Card:

Feature	Specification
Graphics Coprocessor	GeForce GTX 680
Brand	ASUS
Graphics RAM Size	2 GB
Graphics RAM Type	GDDR5
Video Output Interface	VGA, DVI, HDMI, DisplayPort
Graphics Processor Manufacturer	NVIDIA
Compatible Devices	Desktop
Display Resolution Maximum	2560x1600
Graphics Card Interface	PCI Express 3.0
Memory Clock Speed	6008 MHz
Item Weight	2.86 Pounds
Manufacturer	ASUS Computer International Direct

7. Warranty and Support

For detailed warranty information, please refer to the warranty card included with your product or visit the official ASUS website. ASUS provides technical support and resources to assist you with any product-related inquiries.

Online Support: Visit the ASUS support website for driver downloads, FAQs, and troubleshooting guides.

Contact Support: For further assistance, please contact ASUS customer service through their official channels.