ASUS GTX650TI-O-1GD5

User Manual

ASUS GTX650TI-O-1GD5 GRAPHICS CARD

Model: GTX650TI-O-1GD5

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your ASUS GTX650TI-O-1GD5 Graphics Card. Please read this manual thoroughly before installation and use to ensure proper functionality and to maximize the performance of your graphics card.

The ASUS GTX650TI-O-1GD5 is a high-performance graphics solution featuring 1GB GDDR5 memory. It is designed to enhance visual experiences for computing tasks, including gaming and multimedia, by supporting advanced graphics technologies such as DirectX 11 and OpenGL 4.2.

2. Key Features

- **ASUS Dual Fan Thermal Design:** Engineered to provide efficient cooling, driving 11% greater airflow while maintaining optimal performance and acoustics.

- **DIGI+ VRM with Super Alloy Power:** Delivers precise digital power control and enhanced durability, contributing to stable operation and improved overclocking potential.

- **NVIDIA Surround Technology Support:** Capable of supporting up to 4 HD displays simultaneously, offering an immersive multi-monitor experience.

- **3D-Enabled TV Connectivity:** Allows connection to a 3D-enabled television for a cinematic Blu-Ray 3D experience.

- **1GB GDDR5 Memory:** High-speed memory for demanding graphics applications.

- **DirectX 11 & OpenGL 4.2 Support:** Ensures compatibility with modern games and applications.

3. Package Contents

Upon opening the package, please verify that all components are present and in good condition. Typical package contents include:

- ASUS GTX650TI-O-1GD5 Graphics Card

- Driver CD/DVD (or link to download drivers)

- Quick Start Guide

- Power Adapter Cable (if required for your power supply)

Note: Specific accessories may vary by region or retailer.

4. System Requirements

Before installing the graphics card, ensure your system meets the following minimum requirements:

- PCI Express-compliant motherboard with one dual-width x16 graphics slot.
- Minimum 400W or greater system power supply (with a minimum 20A on the +12V rail).
- One 6-pin PCI Express supplementary power connector.
- Minimum 2GB system memory (4GB recommended).
- Operating System: Microsoft Windows 8, 7, Vista, or XP (32-bit or 64-bit).
- CD-ROM/DVD-ROM drive or internet connection for driver installation.

5. Installation Guide

5.1. Hardware Installation

1. **Prepare Your System:** Power off your computer and unplug all cables. Open the computer case.
2. **Locate PCI Express Slot:** Find an available PCI Express x16 slot on your motherboard.
3. **Remove Slot Cover:** Remove the metal slot cover from the back of your computer case corresponding to the chosen PCI Express slot.
4. **Insert Graphics Card:** Carefully align the graphics card with the PCI Express slot and press it firmly until it is securely seated. Ensure the retention clip on the motherboard clicks into place.
5. **Secure the Card:** Secure the graphics card to the case with a screw.
6. **Connect Power:** Connect the 6-pin PCI Express power connector from your power supply to the graphics card.
7. **Close Case:** Close your computer case and reconnect all cables.

Figure 1: Overview of the ASUS GTX650TI-O-1GD5 Graphics Card, showing its dual-fan cooling system and overall design. This image illustrates the card's physical appearance and cooling solution.

5.2. Driver Installation

1. **Boot System:** Power on your computer. Windows will typically detect new hardware.

2. **Install Drivers:**

   - **From CD/DVD:** Insert the provided driver CD/DVD into your optical drive and follow the on-screen instructions.
   - **From Internet:** Visit the official ASUS support website or NVIDIA's driver download page. Search for "GTX650TI-O-1GD5" or "NVIDIA GeForce GTX 650 Ti" to download the latest drivers. Run the downloaded installer and follow the prompts.

3. **Restart Computer:** After the driver installation is complete, restart your computer for the changes to take effect.

6. Operating the Graphics Card

6.1. Connecting Displays

The ASUS GTX650TI-O-1GD5 Graphics Card supports multiple display outputs. Connect your monitor(s) to the available ports on the card. The card typically features:

- DVI-I (Digital Visual Interface - Integrated)
- DVI-D (Digital Visual Interface - Digital)

- HDMI (High-Definition Multimedia Interface)
- VGA (Video Graphics Array)

Use appropriate cables to connect your displays. For optimal performance, use DVI or HDMI connections.

Figure 2: Rear view of the ASUS GTX650TI-O-1GD5 Graphics Card, highlighting the various display output ports including DVI, HDMI, and VGA. This image helps identify the available connectivity options for monitors.

6.2. NVIDIA Control Panel

Once drivers are installed, you can access the NVIDIA Control Panel (usually via right-click on desktop or from the Windows Control Panel) to configure display settings, 3D settings, and other graphics-related options. This tool allows for fine-tuning of performance and visual quality.

6.3. NVIDIA Surround Technology

To utilize NVIDIA Surround Technology for multiple displays, ensure your monitors are connected and configured through the NVIDIA Control Panel. This feature allows you to span a single game or application across multiple displays for an expanded field of view.

7. Maintenance

Regular maintenance helps ensure the longevity and optimal performance of your graphics card:

- **Keep Drivers Updated:** Periodically check the NVIDIA or ASUS website for the latest graphics drivers. Updated drivers often include performance improvements and bug fixes.
- **Clean Dust:** Every few months, or as needed, power off and unplug your computer. Open the case and use compressed air to gently remove dust buildup from the graphics card's fans and heatsink. Dust can impede cooling and reduce performance.
- **Ensure Proper Airflow:** Make sure your computer case has adequate airflow. Avoid blocking vents and ensure case fans are functioning correctly to dissipate heat effectively.

8. Troubleshooting

If you encounter issues with your graphics card, consider the following troubleshooting steps:

- **No Display/Black Screen:**
  - Ensure the monitor cable is securely connected to both the graphics card and the monitor.
  - Verify the graphics card is fully seated in its PCI Express slot.
  - Confirm the 6-pin power connector is properly attached to the graphics card.
  - Test with a different monitor or cable if possible.

- **Driver Issues:**
  - Uninstall existing graphics drivers using Display Driver Uninstaller (DDU) in Safe Mode, then perform a clean installation of the latest drivers from the official NVIDIA or ASUS website.
  - Ensure your operating system is up to date.

- **Performance Problems (Low FPS, Stuttering):**
  - Check for overheating. Use monitoring software to check GPU temperatures. Clean dust if necessary.
  - Ensure your power supply meets the minimum wattage and amperage requirements.
  - Close unnecessary background applications.
  - Verify game/application settings are not excessively high for your hardware.

- **Artifacts/Graphical Glitches:**
  - This can indicate overheating or unstable overclocking. Reduce clock speeds if overclocked.
  - Reinstall drivers.
  - If issues persist, the card may be faulty.

If these steps do not resolve the issue, contact ASUS customer support for further assistance.

9. Specifications

Feature	Detail
Graphics Engine	NVIDIA GeForce GTX 650 Ti
Video Memory	1GB GDDR5
Memory Interface	128-bit
Memory Speed	5400 MHz
Max Resolution	2560x1600
Output Ports	1 x DVI-I, 1 x DVI-D, 1 x HDMI, 1 x VGA
Power Connector	1 x 6-pin PCI Express
Dimensions (LxWxH)	8.39 x 2.3 x 4.72 inches
Weight	2.55 pounds
Manufacturer	ASUS
Date First Available	November 3, 2012

10. Warranty and Support
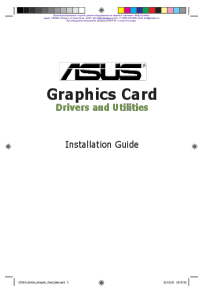
ASUS products are manufactured to the highest quality standards. This product is covered by a limited warranty. For detailed warranty information, including terms, conditions, and registration, please refer to the warranty card included with your product or visit the official ASUS support website.

For technical support, driver downloads, FAQs, and troubleshooting guides, please visit the ASUS support website:

www.asus.com/support/

When contacting support, please have your product model number (GTX650TI-O-1GD5) and serial number ready.

Related Documents - GTX650TI-O-1GD5

	ASUS Graphics Card Installation Guide: Drivers and Utilities This installation guide from ASUS provides comprehensive instructions for installing and managing drivers and utilities for ASUS graphics cards, including the GPU Tweak utility. It covers driver installation and uninstallation for various Windows versions and offers troubleshooting tips.
	ASUS Graphics Card Installation and Driver Setup Guide Comprehensive guide for installing ASUS Graphics Cards, connecting displays, and setting up drivers. Includes safety information and support links.
	ASUS GPU Tweak II User Manual: Optimize Graphics Card Performance Comprehensive user manual for ASUS GPU Tweak II, detailing how to monitor, tune, and optimize your ASUS graphics card settings for enhanced gaming and performance. Learn about Simple Mode, Professional Mode, and Gaming Booster features.
	ASUS GPU Tweak II User Manual: Optimize Your Graphics Card Performance Explore the ASUS GPU Tweak II User Manual to learn how to monitor and adjust settings for your ASUS graphics card. Discover Simple Mode, Professional Mode, Gaming Booster, and Live Update features for optimal performance.
	ASUS GPU Tweak II User Manual - Optimize Graphics Card Performance User manual for ASUS GPU Tweak II, a utility for monitoring and optimizing ASUS graphics card settings. Features Simple Mode, Professional Mode, and Gaming Booster for enhanced gaming performance. Includes system requirements and installation guide.
	ASUS GPU Tweak II User Manual A comprehensive user manual for ASUS GPU Tweak II, detailing features like Simple Mode, Professional Mode, Gaming Booster, and Live Update for optimizing ASUS graphics card performance.