NVIDIA A2000 Ampere Architecture User Guide

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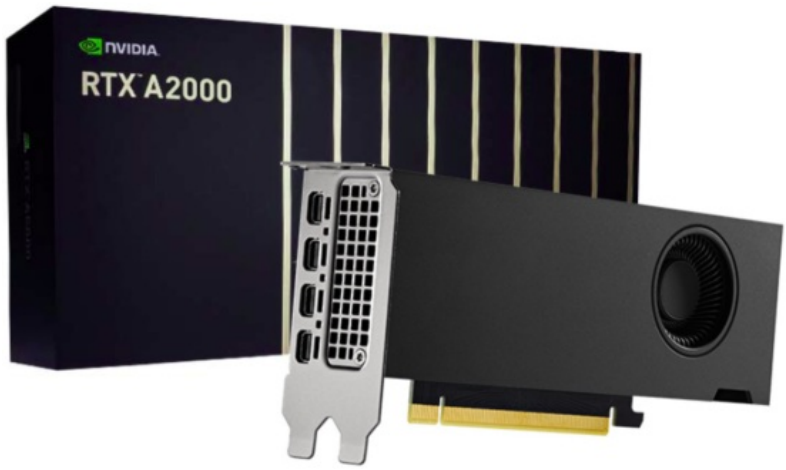


Contents

MINIMUM SYSTEM REQUIREMENTS

Thank you for choosing an NVIDIA RTX™ Ampere architecture-based graphics card. Before you begin set-up, review the following Minimum System Requirements list to ensure your system meets the minimum hardware and

software specification for your graphics card.

Minimum System Requirements

- **Motherboard:** PCI Express x16 slot
- **Operating System:**
  - Microsoft® Windows® 10 (64-bit).
  - **Linux, 64-bit on:**
    - Red Hat Enterprise Linux 7.x
    - SUSE Linux Enterprise Desktop 15.x
    - OpenSUSE 15
    - Fedora 31
    - Ubuntu 18.04
  - FreeBSD 11.x
  - Solaris 11
- **Processor:**
    - Intel Core i5, or Xeon processor or later.
    - AMD Ryzen or Epyc class processor or later
- **System Memory:**
  - Greater than or equal to GPU memory; twice the GPU memory recommended.

EQUIPMENT

Included equipment with each NVIDIA RTX Ampere architecture-based graphics card.

EQUIPMENT	RTX A 6000	RTX A 5000	RTX A 4000	RTX A 2000	RTX A 1000	RTX A 400
Quick Start Guide	✔	✔	✔	✔	✔	✔
Support Guide	✔	✔	✔	✔	✔	✔
DisplayPort to HDMI Adapter	1	1	1	–	–	–
Auxiliary Power Cable(2x 8-pin Pie to 1x 8-pin CPU)	1	–	–	–	–	–
Mini-DisplayPort-to-DisplayPort Adapter	–	–	–	1	1	1
Full Height Bracket	–	–	–	1	1	1
Low Profile Bracket	–	–	–	1	1	1

Attention: Static electricity can severely damage electronic components. Take the following precautions when installing your new NVIDIA RTX graphics card:

- Before touching any electronic parts, discharge the static electricity from your body by touching the internal metal frame of your system while it is unplugged.
- Do not remove your card from the packaging until you are ready to install it. Whenever you remove a card from

your system, always place it back in the packaging.

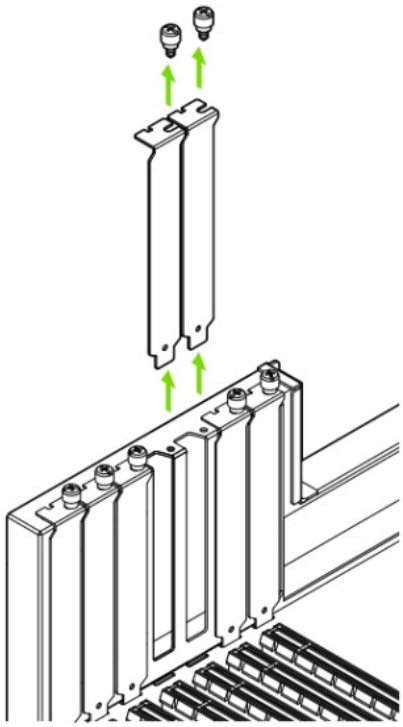
- Do not allow clothing or jewelry touch any electronic parts.
- When handling your graphics card, hold it by the edges and avoid touching any circuitry or the Pie connector.

HARDWARE INSTALLATION

1. Remove the current graphics driver installed on the host system.
2. Power down your system.
3. Unplug the power cord from the AC power source.
4. Remove the side panel from your system to gain access to the motherboard.

   Note: Reference your specific computer documents for instructions on accessing the motherboard in your computer.
5. Remove the existing graphics card if present. If a retention bar is holding the card in place, remove the screw securing the card. **OR**, if there is no existing graphics card, remove the access covers from the primary x16 PCI Express slot.

   The RTX A6000, RTX A5000 and RTX A2000 are dual-slot GPUs and will require removing two adjacent slot covers. The RTX A4000, RTX A1000, and RTX A400 are single slot cards and will only require a single-slot.

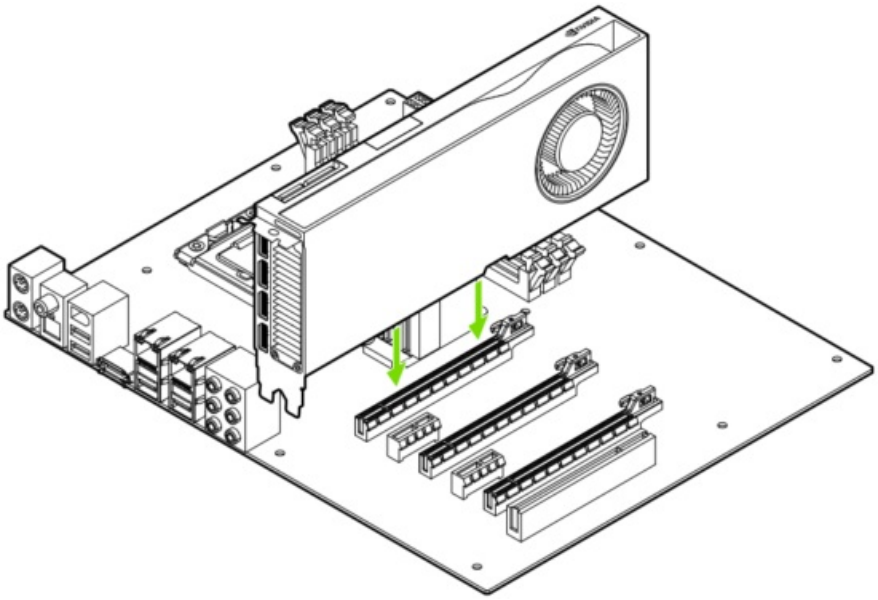


6. Install the card into the primary x16 PCI Express slot.

   Press gently on the card until it is seated securely in the slot and reattach the graphics card bracket retention mechanism.

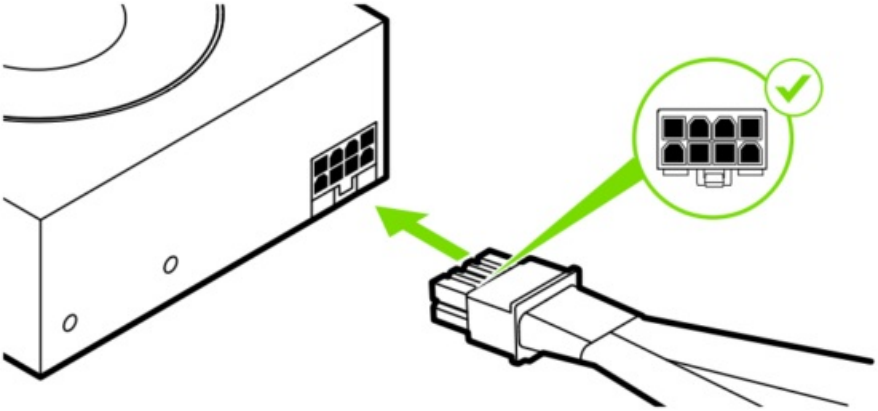
   Install the graphics card into the primary x16 PCI Express slot. The RTX A6000, RTX A5000 and RTX A2000 are dual-slot GPUs and will cover the adjacent slot.

   The RTX A4000, RTX A1000, and RTX A400 are single slot cards.

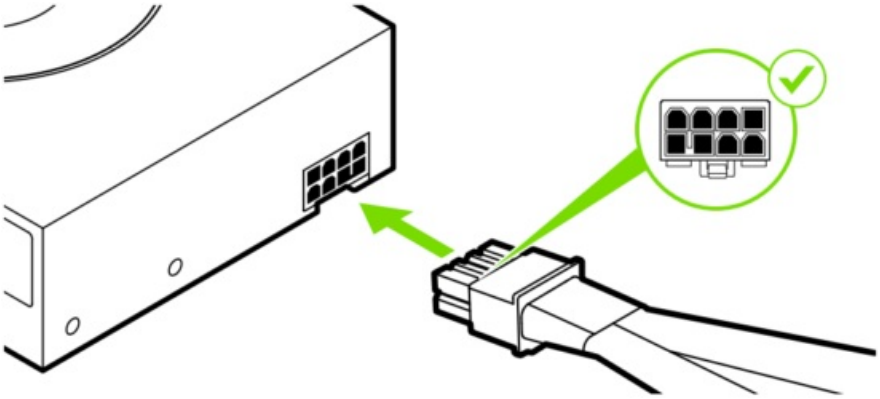


Attention: This GPU card should not be installed with the I/O brackets facing downwards.

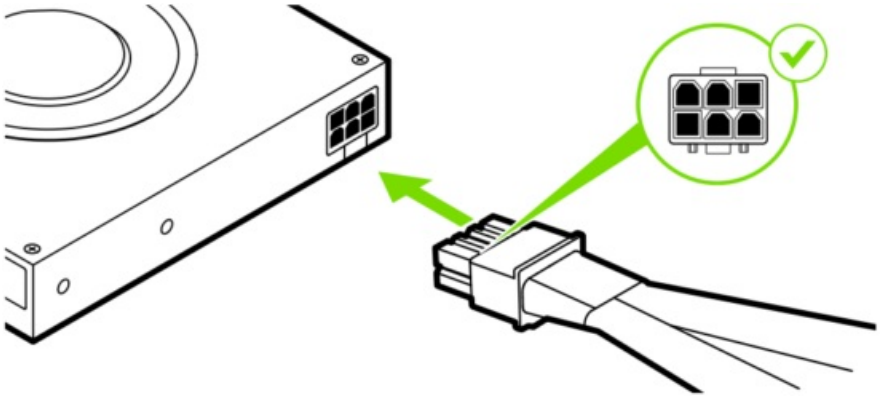
7. Secure the card to the system frame using the screw(s) removed in **step 5**.
8. Connect the auxiliary power cable from the power supply to the back edge of the RTX A6000, RTX A5000 and RTX A4000. Note that the RTX A2000, RTX A1000, and RTX A400 do not use a power cable.
   For the RTX A6000 connect two separate PCI Express 8-pin cables from the system power supply to the NVIDIA Dual PCI Express 8-pin power adapter as necessary.



The RTX A5000 uses a PCI Express 8-pin cable.



The RTX A4000 uses a PCI Express 6-pin cable.

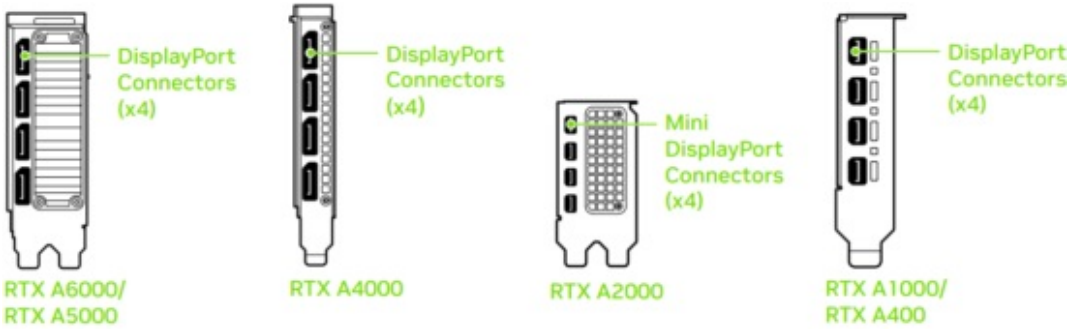


Note: Use the recommended power connector guidelines at www.nvidia.com/workstationpowerguidelines.

9. Install the side panel removed in **step 4**.

CONNECTING TO THE DISPLAY

1. Connect the display cable(s) to your GPU.
2. Reconnect your power cord to the workstation.



SOFTWARE INSTALLATION AND CONFIGURATION

Driver Installation: With the hardware installed, it is now time to install the graphics driver.

1. Power up your computer, start Windows or Linux, and login with an account that has Administrator rights.

   Note: Since there is no GPU driver currently loaded, the display may run at reduced resolution or image quality.
2. Download and install the driver.
   - Go to www.nvidia.com/drivers and set the “Product Type” to NVIDIA RTX / Quadro.
   - Use the various drop down menus to select your graphics card, operating system and then set the “Download Type” to Production Branch.
   - Launch the downloaded executable file, then follow the installer guides to complete installation. The installer may require you to reboot your system once the driver installation is complete.

Congratulations! Your NVIDIA RTX graphics card is now ready to use!

COMPLIANCES

The NVIDIA RTX Ampere architecture graphics cards (Compliance Models: PG133, PG132, PG190, PG192) are compliant with the following regulations:

- Federal Communications Commission (FCC)
- Underwriters Laboratories (UL)
- Innovation, Science and Economic Development Canada (ISED)
- European Conformity; (CE)
- Australian Communications and Media Authority (RCM)
- UK Conformity Assessed (UKCA)
- Voluntary Control Council for Interference (VCCI)
- Korea Certification (KC)
- Bureau of Standards, Metrology & Inspection (BSMI)
- Ukraine Technical Regulations (UA TR)
- Moroccan regulatory framework (CMIM)

UNITED STATES

Federal Communications Commission (FCC)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including any interference that may cause undesired operation of the device.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Warning: The FCC requires that you be notified that any changes or modifications to this device not expressly approved by the manufacturer could void the user’s authority to operate the equipment.

Underwriters Laboratories (UL)

CANADA

Innovation, Science and Economic Development Canada (ISED)

CAN ICES-003(B)/NMB-003(B)

This device complies with Innovation, Science and Economic Development Canada (ISED) license-exempt RSS standard(s).
Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

EUROPEAN UNION

European Conformity; (CE)

Santa Clara, California, USA

This device bears the CE mark accordance with Directive 2014/30/EU and 2011/65/EU.

This device complies with the following Directives:

- EMC Directive 2014/30/EU
- RoHS Directive 2011/65/EU for hazardous substances

A copy of the Declaration of Conformity to the essential requirements may be obtained directly from NVIDIA GmbH (Bavaria Towers – Blue Tower, Einsteinstrasse 172, D-81677 Munich Germany).

AUSTRALIA AND NEW ZEALAND

Australian Communications and Media Authority (RCM)

This product meets the applicable EMC requirements for Class B, I.T.E equipment and applicable radio equipment requirements

GREAT BRITAIN (ENGLAND, WALES AND SCOTLAND)

UK Conformity Assessed (UKCA)

This device complies with the following Regulations:

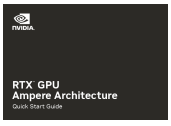
- SI 2016/1091: Electromagnetic Compatibility (EMC)
- SI 2012/3032: The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (As Amended)

A copy of the Declaration of Conformity to the essential requirements may be obtained directly from NVIDIA Ltd. (100 Brook Drive, 3rd Floor Green Park, Reading RG2 6UJ, United Kingdom).

JAPAN

Voluntary Control Council for Interference (VCCI)

Documents / Resources

	NVIDIA A2000 Ampere Architecture [pdf] User Guide A2000 Ampere Architecture, A2000, Ampere Architecture, Architecture

References

- User Manual