



NITRO+ SPECIAL EDITION

AMD
RADEON
RX 6900 XT

SAPPHIRE

SAPPHIRE NITRO+ AMD Radeon™ RX 6900 XT Special Edition Gaming Graphics Card with 16GB GDDR6, AMD RDNA™ 2. SKU Number: 11308-03

DIMENSIONS:

- 310(L)X 134.3(W)X 55.3(H)mm
- 4 x Maximum Display Monitors support
- 3 x DP / 1 x HDMI

MAXIMUM DISPLAY RESOLUTION

- HDMI™: 7680x4320
- DisplayPort1.4: 7680x4320



SYSTEM REQUIREMENTS

- PCI® Express® compatible motherboard with one x16 PCIe slot.
- Minimum 850W or greater power supply NOTE: Minimum recommended system power supply wattage is based on the specific graphics card and the typical power requirements of other system components. Your system may require more or less power. OEM and other pre-assembled PCs may have different power requirements.
- Minimum 8GB of system memory. Recommended 16GB.
- Installation software requires a keyboard, a mouse, and a display.
- A display with HDMI, or DisplayPort, or USB-C is required.
- Supported operating systems include Linux®, Windows® 7*, Windows® 10, and Windows 8.1. 64-bit operating system required. (*Does not support all features including but not limited to Hardware Raytracing.)
- DirectX® 12 and Vulkan® support
- For information on AMD Radeon™ VR Ready Premium visit amd.com/VRready.

Specification

- GPU: AMD Radeon™ RX 6900 XT Graphics
- Stream Processors: Up to 5120 unit
- Compute Units: 80
- Ray Accelerators: 80
- Infinity Cache: 128MB
- Game Clock: MHz
- Boost Clock: Up to MHz
- Memory Speed: Gbps
- Memory Size: 16384 MB
- Memory Interface: 256 bit DDR6
- Firmware: Dual UEFI BIOS
- Form Factor: 3 slot, ATX
- Cooler Fan: 3 Axial Fan, Two-Ball bearing
- Back Plate: Yes
- Bus Support: x16 PCIe4.0
- External Power: 2 x 8p + 1 x 6p
- ARGB Fan Bundled: Yes

NITRO+ Product Features

- Software BIOS Switch
- NITRO Glow ARGB
- Fan Check
- Max Boost
- Quick Connect Fan
- External RGB LED Synchronization
- Hybrid Fan Blade
- Wave Fin Design
- V-Shape Fin Design
- Integrated Cooling Module

AMD Radeon™ Product Features

- AMD RDNA™ 2 Architecture
- DirectX® 12 Ultimate
- Hardware Raytracing
- 7nm GPU
- GDDR6 Memory
- PCI® Express 4.0 Support
- AMD FreeSync™ Technology
- DisplayPort™ 1.4 with DSC
- HDMI™ 2.1 VRR
- Video Streaming up to 8K
- Radeon™ VR Ready Premium
- AMD FidelityFX
- Radeon™ Image Sharpening
- Radeon™ Anti-Lag
- Radeon™ Software
- Game Driver Optimizations
- High Performance 4K Gaming

Primary Settings

Game Clock*	Up to MHz
Boost Clock	Up to MHz
Memory Clock	Gbps
TGP	w

Secondary Settings

Game Clock*	Up to MHz
Boost Clock	Up to MHz
Memory Clock	Gbps
TGP	w

Software Switch Mode

Primary setting (Default)	Secondary Settings
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* Boost Clock is the maximum frequency achievable on the GPU running bursty workload. Boost clock achievability, frequency, and sustainability will vary based on several factors, including but not limited to: thermal conditions and variation in application and workloads.

Game Clock is the expected GPU clock when running typical gaming applications, set to typical TGP (Total Graphics Power). Actual individual game clock results may vary.

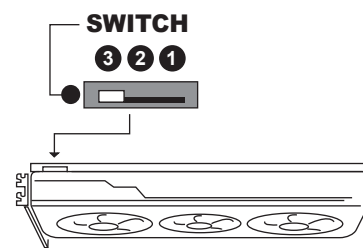
Max Boost

The Max Boost switch increases the boost clock and power limit to unleash the gaming performance of the card. Planning to overclock or looking for maximum performance?

Dual BIOS

Choose between performance mode and silent mode to enhance your gaming experience

BIOS switch setting



POSITION	MODE
1	Primary Setting
2	Secondary Setting
3	Software Switch Mode Please Switch BIOS via TriXX Primary Setting (Default) / Secondary Setting

TriXX Software: BIOS Switch

With the NITRO+ AMD Radeon™ RX 6900 XT Special Edition Graphics Card, gamers can switch from Primary setting to Secondary setting or back using our TriXX software for a quick and easy switch between your dual BIOS modes.

Power Design

The NITRO+ AMD Radeon™ RX 6900 XT Special Edition Graphics Card is designed with Digital Power specifically for GPU and memory to aid in overclocking, balancing current distribution and averaging thermal dissipation for each power phase.

Fuse Protection

In order to protect your card, the SAPPHIRE cards have fuse protection built into the circuit of the external PCI-E power connector to keep the components safe.

PCB

The exquisite PCB design delivers stable, reliable, and steady performance. It could efficiently lower PCB temperature and component signal noise.

Tri-X Cooling Technology

The Tri-X Cooling Solution is powered by three large 100mm efficient fans running anticlockwise to optimize wind flow efficiency. The tunneled fins on the fans aid in increasing the convection of airflow to ensure that Tri-X cooling is a low temperature and low noise cooling solution.



Intelligent Fan Control

Fan speed is intelligently controlled to keep the GPU, Memory, PWM IC and other components as low as possible in temperature to balance performance and fan noise.

Precision fan control

Standard industry fans may have up to 10% difference between fan rotation cycles (RPM). The Fan IC Control on SAPPHIRE graphics cards reduce differential at approximately 3%. This up to 70% improvement on accuracy ensures that cooling and noise performance of every graphics card is up to scratch.

Two-Ball Bearing Fans

These feature Dual Ball bearing fans, which have an approximately 85% longer lifespan than sleeve bearings in our tests. The improvements to the fan blades means the solution is up to 10% quieter than the previous generation.

Back Plate

The all-aluminum back plate provides additional rigidity that guarantees nothing bends and dust stays out. It also helps cool your card by increasing heat dissipation.

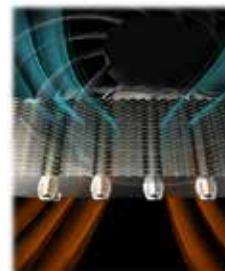
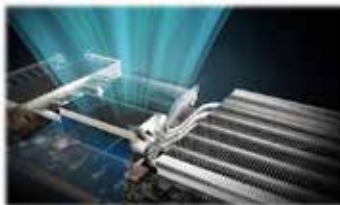


Hybrid Fan Blade

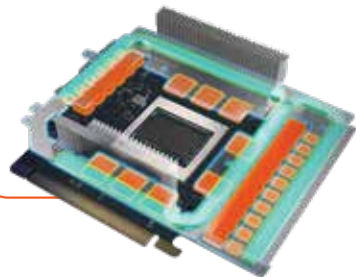
The traditional axial fan is quiet but lacks the air pressure to push down the air to the components. A blower fan has strong air pressure but is noisy at high speed. The new hybrid fan design combines the strengths by improving the downward air pressure of the axial fan design while keeping the fan noise low.

Wave Fin Design & V Shape Fin Design for Improved GPU Cooling

The all-new innovative Wave Fin Design working in tandem with our V-Shape Fin Design for GPU Cooling reduces wind friction and centralises the airflow around the GPU to dissipate heat efficiently to produce lower thermal temperatures.



Integrated Cooling Module & K6.5 Memory PAD



Cutting edge Memory & VRM Cooling with heat pipes and the next gen K6.5 Memory Pad ensures you can push your performance to new limits while keeping the SAPPHIRE NITRO+ AMD Radeon™ RX 6900 XT Special Edition Graphics Card components icy cool. The new stand-alone memory/VRM Cooling Module cools the Memory, Mosfet, and the Chokes. Heat pipes underneath the module dissipate the heat from the components with improved efficiency. When compared to the K5 memory pad, the K6.5 thermal pad delivers 38% improved thermal conductivity between components and the cooler.

TriXX Supported

The TriXX Software includes a range of features such as TriXX Boost, Software BIOS Switch and NITRO Glow ARGB LED Effect which can only be controlled via TriXX. Customize your individual style with TriXX Software and heighten your gaming experience!



Fan Check

At times fans need a service but it can be frustrating to return the entire card and wait for a replacement to be authorized. The fan Check feature allows users to check the cooler's status and immediately contact customer support through Fan Service in case of problems.



Fan Quick Connect

If there's a fan problem, you don't have to return the entire card. SAPPHIRE or our channel partners will send out a replacement fan directly to you! That means they're easy to remove, clean and replace, with just one screw holding them securely in place.



NITRO GLOW

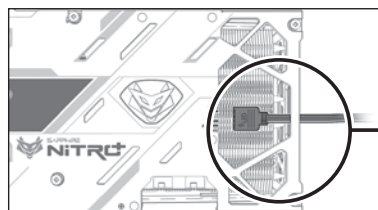


With tasteful shroud design augmented by ARGB LEDs, you can change the colors of the LEDs, for a customized design. This can be controlled via TriXX software. Choose from various different modes including Fan Speed Mode, PCB Temperature Mode or the Colourful Rainbow Mode or turn off the LEDs.



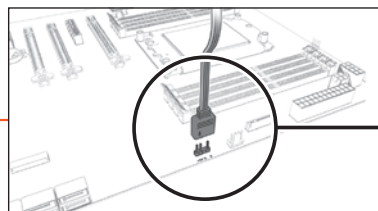
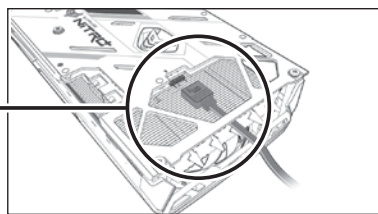
External RGB LED MB Synchronization

Synchronize addressable RGB LED effects with the motherboard by selecting "External" in TriXX software.



RGB cable (3-pin) required. Connect to the reserved 5V RGB 3-pin header on the VGA card with the RGB cable (3-pin).

Make sure the RGB cable is connected properly.



The opposite side of the RGB cable (3-pin) connects to the 5V RGB 3-pin header on the motherboard.



AMD RDNA™ 2 Architecture with Hardware Raytracing

With enhanced compute units, delivering hardware raytracing and variable rate shading, AMD RDNA™ 2 Architecture is the foundation of the next generation of enthusiast gaming platforms from desktops to gaming consoles.

High Performance 4K Gaming

With enhanced compute units delivering powerhouse performance, 4K gaming is now easily possible at smooth framerates and maximum visual settings.

AMD FidelityFX

AMD FidelityFX enables a plethora of lighting, shadow, and reflection effects in the latest games with minimal performance overhead, freeing up your graphics card to power the intense gaming experiences you demand.

Radeon™ Anti-Lag

Less lag equals more wins. Radeon Anti-Lag reduces latency, providing ultra-fast response time giving you a dynamic edge over your competition

AMD FreeSync™ Technology

Take full advantage of the AMD Radeon™ RX 6800 series graphics cards by pairing with a certified AMD FreeSync technology-enabled monitor to enable an exceptional stutter and tear-free gaming experience with high refresh rates, low latency, and stunning HDR.

HDMI™ 2.1 VRR

HDMI 2.1 VRR expands tear free gaming experiences to all HDMI 2.1 VRR enabled displays delivering fluid gaming for all AMD Radeon RX 6800 graphics card users. Get the bandwidth needed to power up to 8K HDR experiences.

PCI® Express 4.0 Support

Features PCI® Express 4.0 support, with a throughput of 16 GT/s and enables two times the bandwidth compared to PCI® Express 3.0.

SAPPHIRE's NITRO+ AMD Radeon™ RX 6900 XT Special Edition Graphics Card is engineered to deliver ultra-high frame rates and serious 4K resolution gaming. A new state-of-the-art GPU cooler with an innovative Wave Fin design working in tandem with the inventive V-Shape Fin design reduces wind friction and centralizes airflow for effective heat dissipation and a virtually silent operation. The cutting-edge Integrated Cooling Module combined with the latest K6.5 Memory Pad keep the NITRO+ AMD Radeon™ RX 6900 XT Special Edition Graphics Card's components icy cool, while the all-new Hybrid Fan Blade improves GPU and memory temperatures over the previous generation. Immersive ARGB lighting across the graphics card blends with its exquisite design to make sure gamers can yield the NITRO+ AMD Radeon™ RX 6900 XT Special Edition Graphics Card as the ultimate weapon. Go ahead and NITRO Charge your RIG with the NITRO+ AMD Radeon™ RX 6900 XT Special Edition Graphics Card to elevate your gaming experience to the next level!

