



GAINWARD

Premium Brand of #1 NVIDIA Board Partner

Gainward GeForce GTX 770 Phantom <<7Gbps memory>>

Specifications

Process Technology	28nm	Base Clock	1085 MHz
Processor Cores	1536 cores	Boost Clock	1137 MHz
Memory Amount	2048MB	Memory Clock	3505 MHz
Memory Type	256b GDDR5	Memory Bandwidth	224.3 (GB/Sec)

Key Features

- Kepler architecture with 7Gbps memory
- NVIDIA GPU Boost 2.0
- NVIDIA Adaptive Vertical Sync
- NVIDIA TXAA and FXAA technology
- NVIDIA SHIELD gaming portable Ready
- Microsoft DirectX 12 API (feature level 11_0) with DirectCompute 5.0 support
- NVIDIA PhysX technology
- NVIDIA CUDA technology
- NVIDIA 3D Vision and NVIDIA Surround Ready
- NVIDIA SLI Ready
- PCI Express 3.0 support
- OpenGL 4.4 and OpenCL Support
- Support for four concurrent displays including:
 - DisplayPort 1.2
 - DVI *2 (dual-link)
 - HDMI

HDMI
HDCP
COMPLIANT



Output Support



DVI-I, DVI-D, HDMI,
DisplayPort

Dimension

PCB: 274mm(L)x112mm(W)
Cooler :2.5 slot
Bracket: 2 slot

Accessory

1. Driver CD
2. Manual
3. Power cable
4. HDMI to DVI dongle
5. DVI to VGA dongle



Gainward Unique Features

■ Phantom cooler with Removable fan design



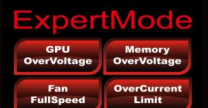
The new Phantom comes with brand new fans design (patent pending) that includes

- 1) Removable fan design – each fan body can be removed to clean if necessary
- 2) 5 pieces of 8mm copper heat-pipe and copper base - better thermal performance
- 3) solid structure

■ QuattroPorts



■ Expertool II with ExpertMode



Minimum system requirements

Graphics card require:

- PCI Express-compliant motherboard with two and half width x16 graphics slot
- One 8-pin and One 6-pin PCI Express supplementary power connectors
- Minimum 600W or greater system power supply (with a minimum 12V current rating of 42A)
- Microsoft Windows 8, 7, Windows Vista, Windows XP

GW GTX770_Phantom_bar code: 426018336-3293



GAINWARD

Premium Brand of #1 NVIDIA Board Partner



■ New Phantom Cooler Design

Gainward GTX 770 Phantom, continue the elegant design of the Phantom cooler. The new Phantom comes with brand new fans design (patent pending) that includes

- 1) Removable fan design – each fan body can be removed to clean if necessary
- 2) 5 pieces of 8mm copper heat-pipe and copper base - better thermal performance
- 3) solid structure

With this new outstanding innovated thermal design and optimized product design Gainward GTX 770 Phantom delivers an extreme gaming performance for enthusiast gamers.

■ Extreme silent acoustics in 3D heavy loading under factory over-clocked speed

With the new Phantom cooler, Gainward GTX 770 Phantom with factory over-clocked speed gets 7.8dB quieter or 60% lower than reference board under full load operation.

■ Extreme cool in 3D heavy loading under factory over-clocked speed

Thanks to the new Phantom cooler, Gainward GTX 770 Phantom with factory over-clocked speed performs 15° C lower GPU temperature than reference board with reference clock.

■ QuattroPorts



Four simultaneous displays on one single GeForce GTX 770 Phantom board.

- With 3D Vision Surround (3x 3D monitors) and an accessory display for email, chat, web browsing and more.

For three DVI monitors – NV Surround application, using the HDMI to DVI dongle for the GTX 770 Phantom card is the easiest way to enjoy the multi-monitor gaming environment.

■ Superior Hardware Design

With the experience of the Gainward's award winning high-performance/wide-bandwidth hardware design, GeForce GTX 770 Phantom, again, with re-designing the entire hardware, that brings –

- 1) lower energy loss
- 2) lower EMI level
- 3) higher stability under high current operation (heavy loading operation).

■ Factory over-clocked

Gainward GeForce GTX 770 Phantom works not only much higher clock speed than reference board - offers unbelievable performance but provides reliability and extra over-clocking capability.

■ 8-phase PWM

Gainward adds three extra phases for power supply for GPU core that helps to supply more fuel to the 3D graphics engine and share the current load with other 5 phases to reduce the max operating current of each phase. With those 8 phases work together, Gainward GTX 770 Phantom can be over-clocked easily and safely, the overall efficiency can be improved, the choke noise and EMI noise also be reduced.

■ DrMOS

Gainward continues using DrMOS in those 8 phases PWM for core power circuit. DrMOS is designed to handle high current with low noise operation and less heat generating.

Thanks to superior hardware design, Gainward's GeForce GTX 770 Phantom gains not only more power efficiency but better performance while gaming.

■ Expertool II and ExpertMode



ExpertMode



Gainward proudly releases the Expertool II – the brand-new utility to tap into this powerful GTX 770 Phantom. ExpertMode of the new Expertool II provides,

- 1) GPU OV, 2) memory OV and more for the hardcore Ocer to trick for the board for extremely over-clocking.

GW GTX770_Phantom_bar code: 426018336-3293