

GAINWARD

Premium Brand of #1 NVIDIA Board Partner

Gainward GeForce GTX 970 Phantom 4GB

Specifications

Process Technology	28nm	Base Clock	1152 MHz
Processor Cores	1664 cores	Boost Clock	1304 MHz
Memory Amount	4096MB	Memory Clock	3500 MHz
Memory Type	256b GDDR5	Memory Bandwidth	224 (GB/Sec)

Key Features

- Next generation NVIDIA Maxwell architecture
- NVIDIA GPU Boost 2.0
- NVIDIA Dynamic Super Resolution technology
- NVIDIA MFAA technology
- NVIDIA GameStream technology
- NVIDIA GameWorks technology
- NVIDIA SHIELD ready
- NVIDIA Adaptive Vertical Sync
- NVIDIA G-SYNC ready
- Microsoft DirectX 12 support
- NVIDIA PhysX technology
- NVIDIA CUDA technology
- NVIDIA 3D Vision and NVIDIA Surround ready
- NVIDIA SLI technology
- PCI Express 3.0 support
- OpenGL 4.5 and OpenCL support
- Support for four concurrent displays



Output Support



HDMI : (max. resolution)
4096x2160@60Hz
miniDP *2 : (max. resolution)
4096x2160@60Hz
DVI-I : (max. resolution)
2560x1600@60Hz

Dimension

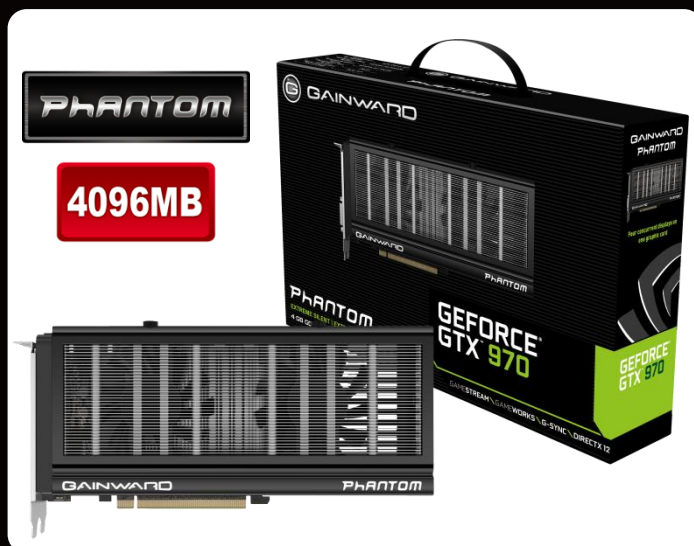
Board: 247mm(L)x112mm(W)
Cooler :2.5 slot
Bracket: 2 slot

Accessory

1. Driver Disc
2. Manual
3. Power cable
4. DVI to VGA dongle



4096MB



Gainward Unique Features

- Phantom cooler with Removable fan design



The new Phantom comes with brand new fans design (patent M456684/ZL201320139962.6) that includes

- 1) Removable fan design – each fan body can be removed to clean if necessary
- 2) 4 pieces of copper heat-pipe and copper base - better thermal performance
- 3) solid structure

- Expertool II



Gainward's Expertool II – the brand-new utility adds flexible fan curve control and BIOS saving feature for powerful GTX 970 card.

Minimum system requirements

Graphics card require:

- PCI Express-compliant motherboard with two and half width x16 graphics slot
- Two 6-pin PCI Express supplementary power connectors
- Minimum 500W or greater system power supply
- Microsoft Windows 8, 7, Windows Vista

GW GTX970_Phantom_4GB_bar code: 426018336-3453

GAINWARD

Premium Brand of #1 NVIDIA Board Partner



■ Phantom cooler with Removable fan design

Gainward GTX 970 Phantom 4GB, continue the elegant design of the Phantom cooler. The new Phantom comes with brand new fans design (patent M456684/ZL201320139962.6) that includes

- 1) Removable fan design – each fan body can be removed to clean if necessary
- 2) 4 pieces of 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 970 Phantom 4GB delivers an extreme gaming performance for enthusiast gamers.

■ Extreme silent acoustics in heavy loading mode

With the new Phantom cooler, Gainward GTX 970 Phantom 4GB with factory over-clocked speed gets **9dB** quieter lower than reference board (reference clock) under full load operation.

■ Extreme cool temperature in heavy loading mode

Thanks to the new Phantom cooler, Gainward GTX 970 Phantom 4GB with factory over-clocked speed performs **7.5° C** lower GPU temperature than reference board with reference clock.

All display ports located in a row, leave enough space on the top for the hot air to flow out.

All the connectors are metal-shielding, for EMI shielding and dustproof

Four simultaneous displays on one single GTX 970 Phantom 4GB board, up to three UHD (4K) monitors surround and an accessory display.

■ Superior Hardware Design

With the experience of the Gainward's award winning high-performance/wide-bandwidth hardware design, GeForce GTX 970 Phantom 4GB, again, with re-designing the entire hardware, that brings –

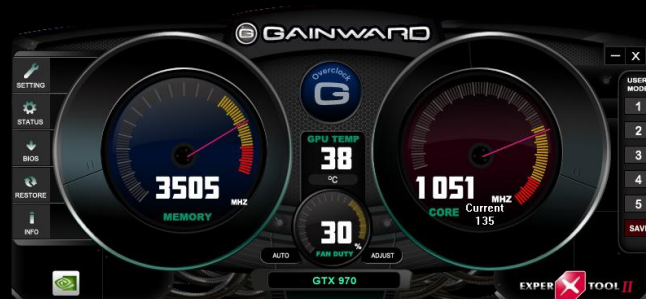
- 1) lower energy loss
- 2) lower EMI level
- 3) higher stability under high current operation (heavy loading operation).

■ DrMOS

Gainward continues using DrMOS in those 4 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 970 Phantom 4GB gains not only more power efficiency but better performance while gaming.

■ Expertool II



Gainward's Expertool II – the brand-new utility adds flexible fan curve control and BIOS saving feature for powerful GTX 970 Phantom 4GB board.

GW GTX970_Phantom_4GB_bar code: 426018336-3453

© 2013 NVIDIA Corporation. NVIDIA, the NVIDIA logo, and GeForce are registered trademarks of NVIDIA Corporation in the U.S. and other countries. All rights reserved.

 **amer's Spirit!**
www.gainward.com