



L337
GAMING

GANK

GANK DRONE Z87H3-A3X

LGA 1150 Socket | Intel® Z87 Express Chipset

Reviewer's Guide



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Designed Specifically For Gamers

L337 (leet) is the premier brand of gaming motherboards brought to you by ECS. Designed with the highest level of care, precision and technology to maximize your gaming experience. With a plethora of next generation features, L337 motherboards have the greatest long-term expandability and ultra high quality components for overclocking your system to exceed even the highest potential of competitive motherboards. L337 Gaming Motherboard is hands-down the choice of professional gamers everywhere.

L337 (leet): The term leet is used as an adjective to describe formidable prowess or accomplishment, especially in the fields of online and competitive gaming.

L337 was created to dedicate efforts in developing products focused on gamers. We believe in the spirit of competition and the fruits of our labor will be passed to our customers as we strive to tailor our products for them.

Battle Ready for the Real World



Proud Sponsor of Team Complexity

L337 is proud to announce we are now official sponsors of Complexity Gaming and their entire stable of amazingly talented professional gamers. Complexity Gaming continues to be a leading organization in every major competitive gaming titles. Now powered by L337 products, Complexity gaming will continue to strive towards gaming excellence with the best gaming hardware on the planet.

To learn more about this and all the Complexity Gaming Team visit the official Complexity Website **www.complexitygaming.com**

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L337 GANK DRONE Features

The best value motherboard for gamers on the market. Get top performance, extreme gaming features and at a great price.

Key Features

- Dual PCI Express Gen3 x 16
- Intel® I217-V GIGA LAN
- Realtek ALC1150 8CH HD Audio
- Intel® 22nm CPU support
- Thermal Design Power up to 125W support
- Applied Golden Solid Capacitor
- 6-Phase Power Design
- Supports 4 Dual-Channel DDR3 up to 3000/2933/2800/2667/2400/2133/1866/1600
- Supports NVIDIA® 2-Way SLI™ & Supports AMD® 2-Way CrossFireX™
- ADS (Anti-Dust Shield) provides effective protection on memory DIMMs and PCIe slots against harmful dust
- Supports DirectX®11.1 for accelerated Blu-Ray 3D and DivX decoding
- Supports 3 Independent Displays (HDMI+DVI+D-Sub)
- Supports ECS Durathon Technology to ensure the stability, reliability and performance of system
- EZ Charger provides a fast way to charge your smart devices, even if the PC is off
- ESD Protection prevents computers from electrostatic discharge damage to enhance its durability and lifespan.
- Supports Intel® Smart Response Technology, Smart Connect Technology & Rapid Start Technology
- Supports GUI UEFI for tweaking BIOS in Graphical Interface within a multi-language environment
- ECS MIB X - A friendly interface for overclocking, especially for gamers
- ECS Intelligent EZ Utility : eBLU, eDLU, eOC, eSF
- Free Bundle:Norton Internet Security, CyberLink PowerDVD, CyberLink PowerDirector 9, Muzee, MAGIX with trial version

Retail Bundle

- SATA 6Gb/s *2pcs
- SLI bridge cable 10cm *1pc
- Double layer I/O shield *1pc
- Manual *1pc
- QIG *1pc
- DVD *1pc

Software Bundle

- Norton 2013
- Muzee
- Cyberlink
- MAGIX
- Sound Blaster Cinema

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Custom Heatsink Design

L337 heatsink offers extreme cooling and heat dissipation of up to 10% more, and the stylish design represents the architectural homage of L337 spirit.



Anti-Dust Shield

ADS (Anti-Dust Shield) exclusive L-shaped aluminum baffles designed for effectively protecting memory DIMMs and graphics card PCIe slots from the dust.



Ice Crystal Chokes

1.5X greater stability offering 50° wider temperature range and reducing heat by 13% more than standard ferrite chokes, even under full loading operations.



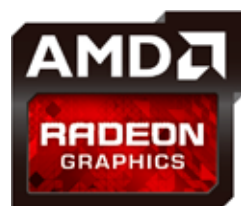
Gen 3 PCI-Express

The new 3rd generation of PCI-Express bus is designed to fully take advantage of high performance graphics cards offering the highest data throughput for gaming performance and quality.



Golden Solid Capacitors

Golden Solid Caps offer up to 6X longer lifespan than standard electrolytic capacitors. They also offer better heat resistance with up to 200K hours (22 Years) of operation under 65°C.



2-Way SLI™ & CrossfireX™

The most advance technologies of multi-graphics processing, supporting NVIDIA® 2-Way SLI™ and AMD 2-Way CrossFireX™ to deliver up to 1.9X performance over a single GPU system.



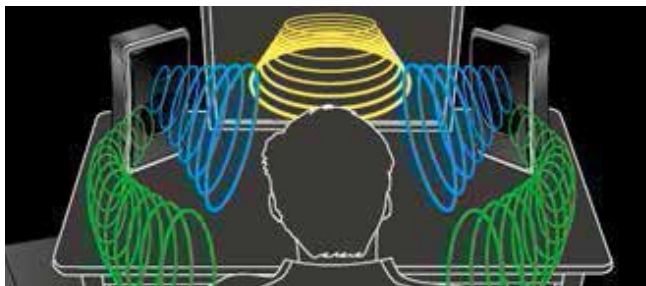
DDR3 3000+ (OC)

4 Dual-Channel Overclockable DDR3 memory 1600Mhz double up to 3000+ with BIOS adjustable clock rates giving you a huge boost.



Sound Blaster Cinema

Sound Blaster Cinema Audio Controls and Intelligence which includes SBX Surround, SBX Crystalizer, SBX Bass, SBX Dialog Plus and SBX Smart Volume.



8-Channel HD Audio

Enjoy high clarity, theater quality HD audio from your computer. Perfect for watching movies and listening to music in surround sound, powered by REALTEK.



3-Way Video Output

Integrated video gets you running with high quality digital output including DVI, HDMI, & D-Sub VGA output. Triple output with 3-Way video across 3 screens simultaneously.



Intel® I217-V Gigabit LAN

Intel® Ethernet Controller I217-V features high performance with reduced CPU overhead, reduced power and energy savings.



DirectX 11.1

DirectX 11.1 - The Latest Compute Shaders, Direct 2D, Multithreaded Rendering and Tessellation for rich realistic graphics and fluid gameplay performance.



EZ GUI UEFI

User friendly GUI BIOS interface lets you quick and easily configure your BIOS with mouse input. MIB X offers BIOS based O.C. profiles for the CPU and DRAM to get max performance.

6G eSATA 3.0

The 6G eSATA external expansion port is perfect for external access to SATA storage devices for fast access to data and applications.

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BIOS Options

CPU Ratio	16-80
Graphics Core Ratio Limit	10-60
Graphics Voltage	0-255
Memory Frequency	800-3000 MHz
tCL	4-18
tRCD	4-18
tRP	4-18
tRAS	10-40
tWR	5-16
tRFC	1-511
tRRD	4-15
tWTR	4-15
tRTP	4-15
tCWL	5-12
tREFI	1-65530
tFAW	10-54

3DMark 11

3DMark11 Score P15671 | Graphics Score 20937 | Physics Score 9218 | Combined Score 8535

3DMARK 11
ADVANCED EDITION

Basic Advanced Results Help More

Your 3DMark 11 Score

P15671

Store, share and compare your result with thousands of others online.

[View Result at 3DMark.com](#)

Automatically view results at 3DMark.com ☒

Result Details

Graphics Score	20937	GT1	98.43
Physics Score	9218	GT2	96.82
Combined Score	8535	GT3	129.06
		GT4	63.67
		PT	29.27
		CT	39.70

Run Details

GPU: NVIDIA GeForce GTX 770

CPU: Intel(R) Core(TM) i7-4770K CPU @ 3.50GHz

Time: 9/13/2013 10:41:08 AM

[Load](#) [Save](#)

CPU-Z 1.65

Intel® Core i7-4770K CPU @ 3.50GHz | RAM Speed 2933MHz

ID : 2899128 Submitted by Z87H3-A3X | Mon, 09 Sep 2013 13:03:34 +0200 | Validated by CPU-Z 1.65

Intel Core i7 4770K

Windows 8 (6.2) 64-bit (build 9200)

CPU Arch : 1 CPU - 4 Cores - 8 Threads
CPU PSN : Intel Core i7-4770K CPU @ 3.50GHz (ES)
CPU EXT : MMX, SSE (1, 2, 3, 3S, 4.1, 4.2), EM64T, VT-x, AES, AVX, AVX2, FMA3
CPUID : 6.C.3 / Extended : 6.3C
CPU Cache : L1 : 4 x 32 / 4 x 32 KB - L2 : 4 x 256 KB
CPU Cache : L3 : 8192 KB
Core : Haswell (22 nm) / Stepping : C0
Freq : 799.99 MHz (100 * 8)

MB Brand : ECS
MB Model : Z87H3-A3X
NB : Intel Haswell rev 06
SB : Intel Z87 rev C1

GPU1 Type : NVIDIA GeForce GTX 770
GPU2 Type : NVIDIA GeForce GTX 770
DirectX Version : 11.0

RAM : 16384 MB DDR3 Dual Channel
RAM Speed : 1466.7 MHz (1:11) @ 12-14-14-34
Slot 1 : 4096MB (12800)
Slot 1 Manufacturer : Avexir
Slot 2 : 4096MB (12800)
Slot 2 Manufacturer : Avexir
Slot 3 : 4096MB (12800)
Slot 3 Manufacturer : Avexir
Slot 4 : 4096MB (12800)
Slot 4 Manufacturer : Avexir

CPU-Z - ID : 2899128

CPU Caches Mainboard Memory SPD Graphics About

Processor
Name: Intel Core i7 4770K
Code Name: Haswell Max TDP: 84 W
Package: Socket 1150 LGA
Technology: 22 nm Core Voltage: 0.693 V

Specification
Intel(R) Core(TM) i7-4770K CPU @ 3.50GHz (ES)
Family: 6 Model: C Stepping: 3
Ext. Family: 6 Ext. Model: 3C Revision: C0
Instructions: MMX, SSE, SSE2, SSE3, SSE4.1, SSE4.2, EM64T, VT-x, AES, AVX, AVX2, FMA3

Clocks (Core #0)
Core Speed: 799.99 MHz
Multiplier: x 8.0 (8 - 29)
Bus Speed: 100 MHz
QPI Link:

Cache
L1 Data: 4 x 32 KBytes 8-way
L1 Inst: 4 x 32 KBytes 8-way
Level 2: 4 x 256 KBytes 8-way
Level 3: 8192 KBytes 16-way

Selection: Processor #1 Cores: 4 Threads: 8

CPU-Z Version 1.65 [Validate] [OK]

CPU-Z Forum Banner (URL Code below)
CPU-Z
[url=http://valid.canardpc.com/2899128][img=http://valid.canardpc.com/]

3DMark Vantage

GPU Score 40810 (121.71FPS) | CPU Score 27392 (3780.45OPS)

3DMARK VANTAGE

Professional Edition

MAIN
OPTIONS
SYSTEM INFO
RESULTS
UPGRADE
ABOUT

BUILD 1.1.2

SUBMIT RESULTS

3DMARK® SCORE

GPU SCORE 40810 CPU SCORE 27392

GPU TEST 1: 121.71 FPS
GPU TEST 2: 117.30 FPS
CPU TEST 1: 3780.45 OPS
CPU TEST 2: 36.66 OPS
FEATURE TEST 1: 208.52 GTEXTLS/S
FEATURE TEST 2: 28.24 GPIXELS/S
FEATURE TEST 3: 185.82 FPS
FEATURE TEST 4: 88.92 FPS
FEATURE TEST 5: 119.43 FPS
FEATURE TEST 6: 299.61 FPS

Submit your results to the Online Result browser (CPU) and compare them to other benchmarkers' results.
Save your results on your hard drive to submit and compare them at a later date when you are online.
If you are online, submit a previously saved benchmark result to the Online Result browser.

SUBMIT RESULTS SAVE RESULTS SUBMIT SAVED

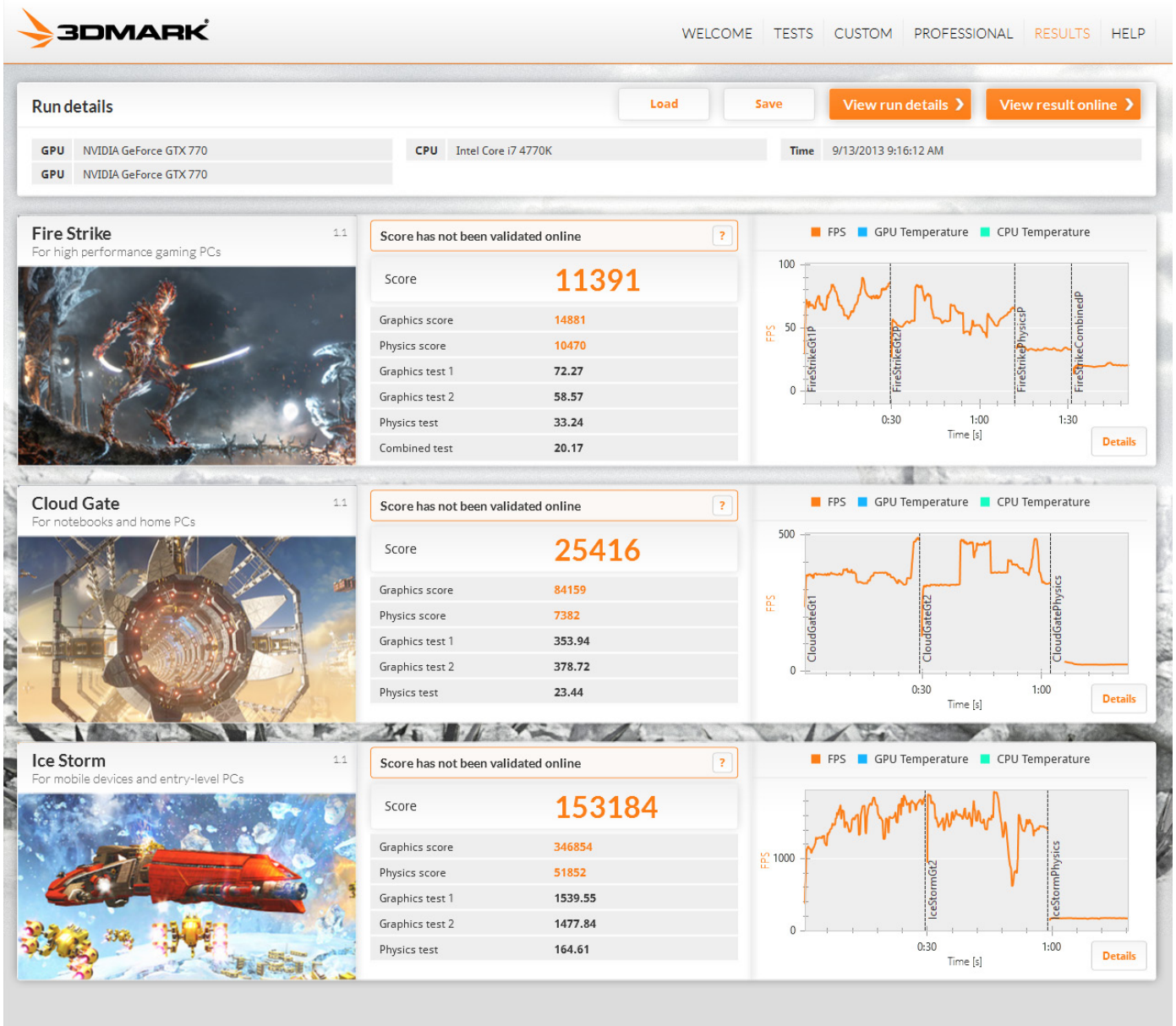
FUTUREMARK CORPORATION

3DMark

Fire Strike Score 11391 | Graphics Score 14881 | Physics Score 10470

Cloud Gate Score 25416 | Graphics Score 84159 | Physics Score 7382

Ice Storm Score 153184 | Graphics Score 346854 | Physics Score 51852



PCMark 7

PCMark7 Score 6654





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