EUROCOM Scorpius

Technical Product Overview

EUROCOM Scorpius Technical Product Overview – August 28, 2012

Eurocom Corporation (www.eurocom.com), is proud to announce the launch of the new **EUROCOM Scorpius** ultra high performance notebook.

"The EUROCOM Scorpius is an out of this world High Performance Notebook Computer. Just like the mythical creature that stung and killed Orion, the EUROCOM Scorpius will take down any competition standing in its way, while allowing gamers to do the same!" exclaims Mark Bialic, Eurocom President.

Online Resources:
EUROCOM Scorpius Product Page: http://www.eurocom.com/download/m230.html
EUROCOM Scorpius Images: http://web.eurocom.com/EC/ec_images(230)

1. **DESIGN OVERVIEW**

The Scorpius was designed as a high performance notebook computer platform with long lifespan and full upgradeability. Scorpius can be customized for multiple roles such as an NVIDIA powered Quadro Workstation, a supercharged Gaming notebook or as a Professional Graphics supercomputer.

EUROCOM Scorpius is a full size notebook that supports 4 RAM slots up to 64GB, up to three internal 1TB physical drives with RAID 0/1/5, mSATA SSD, up to two 100W VGA cards running in CrossfireX or SLI configuration.

Scorpius is equipped with a full range of I/O ports, including but not limited to DisplayPort 1.2, HDMI 1.4a, four USB 3.0 and eSATA.

Using durable ABS plastics and top quality manufacturing technology, the Scorpius weighs just 3.5kg (7.7lbs) and is less than 50mm (1.9 inches) when closed, an astonishing feat of engineering considering the level of power under the hood. Its strong chassis can take unintentional abuse while on the go while being used for heavy duty computing by engineers, professionals or hardcore gamers.

2. **CHIPSETS**

The Scorpius is built on the Intel HM77 Express platform. Also present is:

A. Infineon SLB9635TTTPM 1.2 hardware-embedded encryption module for platform authentication
B. Realtek ALC892 Creative X-Fi Sound Blaster MB2 audio processor with 24bit sound output
C. Realtek RTL8411 gigabit LAN

This top end platform enables the Scorpius to provide users with the tools needed to redefine the limits of mobile performance with such features as dual SATA 6Gbp/s connections, four USB 3.0 ports, SSD caching technologies and full XTU overclocking support with unlocked CPUs.

3. PROCESSORS

Driving the system are Intel's newest 22nm Ivy Bridge processors. Scorpius has support for

A. Core i5 dual cores
B. Core i7 quad cores
C. Core i7 quad core Extreme Edition

When equipped with the quad core, Hyper-Threaded Intel Core i7-3920XM Extreme Edition processor running at up to 3.8 GHz with 8MB of L3 cache, the Scorpius delivers class-leading multi-tasking and multi-threaded performance. Mixing in full Intel XTU (Extreme Tuning Utility) support for system-wide overclocking and up to 600W of AC power lets the Scorpius easily reach beyond what was previously possible with mobile platforms.

4. GAMING GRAPHICS

The Scorpius is equipped with dual MXM 3.0B slots rated for 100W GPUs and is ready to SLI the fastest 28nm NVIDIA Kepler GPUs. Scorpius is also CrossFireX-ready for the most powerful 28nm AMD mobile cards using the all new GCN (Graphics Core Next) architecture.

A. NVIDIA GeForce GTX 680M 4GB GDDR5 w/ 1344 CUDA cores at 720MHz/1800MHz TDP 100W
B. AMD Radeon HD7970M 2GB GDDR5 AMD w/ 1280 Stream processors at 850MHz/1200MHz TDP 100W

GPU die of the NVIDIA GeForce GTX 680M

Scorpius was designed from the beginning as a no-compromise gaming platform, so there are no bottlenecks from hybrid graphics switching solutions such as Optimus or Enduro, just raw performance. There is only one quality setting for gaming on the Scorpius – "***Maximum***".

5. PROFESSIONAL GRAPHICS

EUROCOM Scorpius supports the 28nm NVIDIA Quadro workstation class graphics cards, including the Quadro K5000M, K4000M and K3000M cards. Fully OpenGL 4.1 compliant and supporting a colour depth of 10 bits per channel provides the tools graphics and multimedia professionals need to do their jobs on the go. The Eurocom Scorpius also redefines the gold standard for mobile CAD and 3D design, with the following cards being supported:

A. Quadro K5000M, 4GB GDDR5 ECC 1344 CUDA cores, TDP 100W
B. Quadro K4000M, 4GB GDDR5 960 CUDA cores, TDP 100W
C. Quadro K3000M, 2GB GDDR5 576 CUDA cores, TDP 75W

GPU die of the Quadro K5000M

For heavy duty rendering where the utmost accuracy is required, the K5000M's ECC (error correcting code) memory is up to the task. NVIDIA Quadro cards offer OpenGL quad buffered stereo support, for a smooth experience working with complex 3D models. Of course, the exceptional color output of the NVIDIA Quadro lineup exceeds the abilities of standard LCD displays. Fortunately, EUROCOM designed the Scorpius to support 95% NTSC gamut panels for maximum color fidelity.

6. MEMORY

The Scorpius has 4 memory slots ready for up to 64GB of dual channel DDR3 1866MHz 204 pin SODIMM. Support is also available for 1333MHz and 1600MHz modules. RAM can be configured as:

A.	8GB (1x8GB or 2x4GB)	B.	12GB (3x4GB)
C.	16GB(2x8GB or 4x4GB)	D.	24GB (3x8GB)
E.	32GB (4x8GB)	F.	64GB (4x16GB)

With such massive amounts of RAM available, the Scorpius becomes a flexible tool for virtualization and high performance computing. 64GB support will be available once 16 GB SO-DIMMS reach the market.

7. STORAGE

The EUROCOM Scorpius can fit up to three storage drives with the third drive being co-shared with the optical drive. Users have the choice of:

Mechanical HDDs (SATA 3Gbp/s) – 500GB 7200RPM, 750GB 7200RPM, 1TB 5400RPM
SSDs -Intel 520 Series (SATA 6Gbp/s) up to 480GB or Crucial M4 (SATA 6Gbp/s) drives up to 512GB
Seagate Hybrid HDDs - 500GB 7200RPM w/ NAND 4GB cache (SATA 3Gbp/s), 750GB 7200rpm w/ NAND 8GB cache (SATA 6Gbp/s)

A fast and powerful mSATA SSD (up to 512GB) is ideal for Intel's Smart Response SSD-caching technology. Intel Smart Response is an intelligent caching setup that monitors data reads and writes on your system drive and caches the most frequently accessed data to an SSD. This results in a significant speed boost, as the data is ready for when your system needs it. RAID 0/1/5/10 is also supported for increased performance or redundancy. SATA port distribution is two 6Gbp/s (HDD 0, 1) and two SATA 3Gbp/s (ODD & mSATA). Users have the choice to configure the Scorpius with a quad layer UJ-260 Blu-Ray burner, able to burn up to 128GB per disc, perfect for permanent backups.

8. SECURITY

The Scorpius carries a range of security and anti-theft features, including:

A. Infineon SLB9635TT TPM 1.2 encryption module
B. Biometric fingerprint scanner
C. Kensington lock slot
D. Intel Anti-Theft Technology via the HM77 Express Chipset

Infineon TPM module

The TPM module provides both users and network admins with a secure hardware verification method. The biometric fingerprint scanner can replace insecure passwords, meaning only assign users can access the system. The Kensington slot is present to enable the Scorpius to be locked down and tethered in a public place, to prevent theft. Finally, should the worst happen and the Scorpius is stolen, the system can be locked down and its location can be monitored through the Intel Anti-Theft feature in the HM77 chipset.

9. AUDIO

The premium features of the EUROCOM Scorpius continue in the audio department with two 2W ONKYO speakers and a subwoofer, with the on-board Realtek ALC892 Sound Blaster® X-Fi™ MB2 audio processor delivering crisp and clear 24 bit audio, superior to that of standard audio chipsets. With external 7.1CH audio output support including S/PDIF, the Scorpius integrates seamlessly with high quality audio entertainment systems or production quality setups.

10. VIDEO OUT

The Scorpius is also well suited for the highest resolution external monitors with its dual video outs.

A. HDMI 1.4a - up to 3840x2160(Quad HD)
B. DisplayPort1.2 - up to 3840x2160(Quad HD)

Both ports can transmit audio over the display cable and the DisplayPort can also be converted to output to DVI Dual link via an active adapter. Users requiring 3 or more high resolution displays can expand their desktops with the Matrox TripleHead2Go DisplayPort Edition.
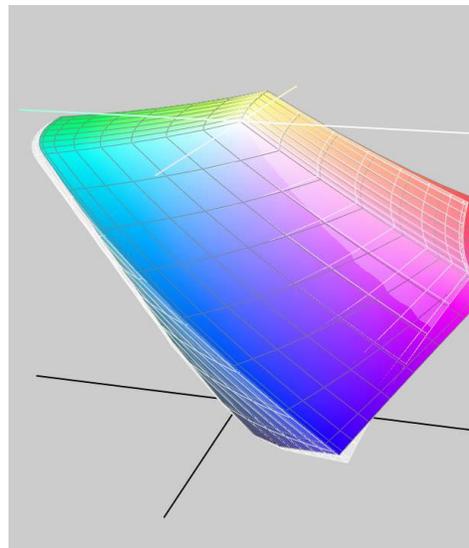
11. LCD

The Scorpius' 17.3" Full HD 1920x1080 display can be configured with the choice of glossy or matte panels based on user preference. For users demanding the most accurate color reproduction available in a notebook, EUROCOM has high gamut panels available. All panels have a high level of brightness and a contrast ratio of 500:1 as well as wide viewing angles. Eurocom also offers professional colour calibration services.

Note the near complete coverage of the Adobe RGB colour space with the Scorpius' high gamut glossy panel.

Coloured areas represent reproducible colours.

Shaded areas show the small percentage of out of gamut colours.

12. NETWORKING

The Scorpius is ready for wireless HD multimedia streaming with its Full HD 2MP webcam. With 3 built-in antennas for maximum wireless reception, the Scorpius can fit a range of high performance WLAN cards to suit the user's needs.

A. BigFoot Networks Killer 1103 - 450Mbp/s Wireless N
B. Intel Centrino Ultimate-N 6300 – 450Mbp/s Wireless N
C. BigFoot Networks Killer 1202 – 300Mbp/s Wireless N + Bluetooth 4.0
D. Intel Centrino 6235 – 300Mbp/s Wireless N + Bluetooth 4.0

The Scorpius also carries a Realtek RTL8411 gigabit RJ45 LAN port, capable of support jumbo frames up to 9K bytes. It also supports PXE booting, making network deployment of system images quick and efficient.

13. KEYBOARD

The EUROCOM Scorpius comes with a 102 key backlit full size keyboard with separate numeric keypad. The backlit keys help to increase usability in dim lighting conditions by ensuring operators can see the keyboard in nearly any environment. Like nearly everything else on the Scorpius, the keyboard is customizable, with 7 selectable backlight colour and lighting patterns to suit their preferences.

14. POWER AND BATTERY

All features in the Eurocom Scorpius are powered by a 300W AC adapter so the Scorpius is ready to handle any workload. Overclockers will be able to take advantage of an optional second adapter for a total of 600W power, more than enough for even the most aggressive overclocks. With a removable 8-cell 89.21W/Hr. Lithium Ion battery, the Scorpius can deliver up to 1.5 hours of full power battery life under heavy use.

15. OVERCLOCKING & XTU

Intel XTU (Extreme Tuning Utility) support is enabled on the Scorpius platform, allowing enthusiasts to push the limits of their hardware. XTU allows users to adjust CPU and system clocks, as well as monitor the system for stability. Unlocked CPUs such as the 3920XM can be overclocked through multiplier adjustment. EUROCOM applies IC Diamond thermal paste in all their systems, for maximum thermal performance.

16. BENCHMARKS

The Scorpius posted extremely high benchmark scores in industry standard tests. Its dual 680Ms in SLI surpass a reference design desktop 680M by nearly 500 points in 3DMark11 (Performance Mode), in addition to having four times the total VRAM of its desktop counterpart. This is a revolution in mobile graphics technology.

EUROCOM Scorpius		
GPU	2x AMD Radeon HD 7970M	2x NVIDIA GeForce GTX 680M
CPU	Intel Core i7-3720QM	Intel Core i7-3610QM
RAM	16GB DDR3-1600	8 GB (2x4) DDR3-1600
HDD	500 GB Seagate Momentus 7200 rpm SATA 3Gb/s	750 GB Seagate Momentus 7200 rpm SATA 3Gb/s
mSATA	80GB Intel 310	
Operating System	Windows 7 Pro	Windows 7 Pro
Display	17.3" Matte 1920x1080 Chimei Innolux N173HGE-L11	17.3" Matte 1920x1080 Chimei Innolux N173HGE-L11

BIOS	1.00.05	1.00.05
EC	1.00.03	1.00.03
Driver	8.973-120605a-142268c	306.09

3DMark Vantage (1280x1024)	P30935	P37146
3DMark11 (1280x1024)	P9882	P9922
Unigine Heaven 2.1 FPS	116.4	103.5
Unigine Heaven 2.1 Score	2933	2606
Unigine Heaven 3.0 fps	137.7	132.9
Unigine Heaven 3.0 Score	3469	3348

CineBench 11.5 OpenGL Test (fps)	69.08	46.24
CineBench 11.5 CPU Test	6.74	6.21

Geekbench 2.2.7	10596	10011

SPECviewperf® 11 64bit		
catia-03	8.44	3.09
ensight-04	49.41	23.11
lightwave-01	28.27	15.61
maya-03	13.65	13.65
proe-05	2.69	1.28
sw-02	26.21	10.43
tcvis-02	6.87	0.92
snx--01	14.07	2.07

About Eurocom:

Eurocom is a leading developer of long lifespan, fully upgradable notebooks, high performance mobile workstations and mobile servers since 1989. Eurocom has produced many firsts and continues to engineer solutions that inspire and enable individuals and companies to reach great possibilities. For more information on Eurocom please visit www.eurocom.com.

Online Resources:

EUROCOM Scorpius Product Page: http://www.eurocom.com/download/m230.html
Online Press Release: http://www.eurocom.com/download/r146.html
Online .pdf of the Technical Paper: http://web.eurocom.com/ec/data/whitepaper/9.pdf
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