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Fact Sheet

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INTEL® 4 SERIES CHIPSET FAMILY DELIVERS ENHANCED GRAPHICS CAPABILITIES

TAIPEI, Taiwan, June 3, 2008 – Intel Corporation launched today new technologies featuring significant advances in video and graphics, performance and energy efficiency. The Intel® 4 Series Chipset family, consisting of the Intel® G45, G43, P45 and P43 Express Chipsets, will turn the PC into a center of high-end entertainment and communications.

The new Intel G45 Express Chipset, featuring the updated Intel® Graphics Media Accelerator X4500HD, delivers new levels of visual performance and quality, including several “firsts” for Intel platforms:

- First Intel platform to integrate complete hardware High Definition (HD) pipelines for Blu-ray and other HD content playback.
- First Intel platform to post-process HD content for improved visual quality.
- First Intel platform with integrated DisplayPort and HDMI with HDCP (High-Bandwidth Digital Content Protection) keys for digital content link protection.

Today’s news underscores Intel’s balanced platform approach to computing: Systems should have adequate memory, disk space, processor performance and graphics horsepower to view and edit HD video, create content, edit photos, manage office tools and navigate social media sites.

The Intel® P45 Express Chipset, a follow up to the popular Intel® P35 Express Chipset, is designed to deliver performance features to mainstream platforms. This new chipset adds support for next-generation PCI Express 2.0 with new dual graphics configurations and the ability to tune performance beyond its baseline specification.

Here are more details on the new chipsets, and Intel’s demonstrations at Computex.

Intel® G45 Express Chipset

Delivering advancements in video, graphics, responsiveness and scalability, the G45 Express Chipset is built for the ultimate media experience. The G45 Express Chipset enables a full Blu-ray experience, even when background tasks are running, and can be designed into innovative

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new small form factors to advance the Home Theater PC landscape. Key features of the G45 Express Chipset include:

Enhanced Video Playback and Advanced Digital Display Support

- **Intel® Graphics Media Accelerator X4500HD (Intel® GMA X4500HD)** – With built-in support for full 1080p HD video playback, including Blu-ray, this powerful engine provides users with a rich, new media experience that delivers smooth HD playback without the need for add-in video cards or decoders. The GMA X4500HD comes with **Intel® Clear Video Technology**, a combination of video processing hardware and software technologies designed to deliver stutter-free HD playback, video image enhancement and vibrant color controls. Intel Clear Video Technology allows the PC to connect to a wide range of digital displays by supporting the latest digital display interfaces, including High-Definition Multimedia Interface (HDMI), which supports all HD formats including 720p, 1080i and 1080p, DisplayPort, and TV Tuner Wizard.

Graphics Enhancements

- With optimized performance and support for Microsoft DirectX* 10 and Shader Model 4.0, Intel G45 Express Chipset delivers excellent 3-D graphics and outstanding graphics responsiveness. OpenGL* 2.0 support will be added with a driver update in the third quarter of 2008. These 3-D graphics enhancements deliver the performance and compatibility you need for everyday gameplay for the most popular game titles.

Faster System Performance

- **Intel G45 Graphics Memory Controller Hub (GMCH)** – The G45 GMCH incorporates a 1333 front side bus supporting all 45nm Intel desktop microprocessors including the Intel® Core2™ Duo E8000 series and Intel® Core2 Quad E9000 series. The G45 memory controller significantly increases overall system performance by reducing memory access latency with Intel Fast Memory Access and supporting a wide range of DDR2 and DDR3 memory speeds.

Power Savings

- The Intel® 4 Series Express chipsets include support for dual channel DDR3 memory technology up to 1066 MHz. The key advantages of DDR3 are the higher bandwidth and the increase in performance at a lower power than DDR2. The DDR3 SDRAM devices operating at 1066 MHz, offer peak data transfer rates of up to 17 GB/s (when operated in dual-channel interleaved mode), enabling the Intel® 4 Series Express chipsets to take advantage of the higher bandwidth, faster system performance and higher performance per watt at 1066MHz¹.
- The Intel® 4 Series Express chipsets introduce support for low-power states that create the foundation for new levels of platform energy efficiency. Intel® 4 Series Express chipsets and many of Intel's new 45nm dual and quad core CPU's introduced in the second half of 2008 will support the new low-power states².

Flexibility for I/O Devices

- **Intel® Matrix Storage Technology** – Combined with native support of external SATA ports (eSATA), this provides the flexibility to add an external drive for increased data storage with up to six times faster performance than USB* 2.0 or IEEE 1394 400⁴.

- **Intel® Rapid Recover Technology** – Provides a fast, easy-to-use method for consumers to recover their data and return their system to an operational status.
- **Intel® Turbo Memory** – Paired with the Intel G45 Express Chipset, Intel Turbo Memory allows consumers to easily control the applications or data in the cache. This boosts performance by increasing the speed of application-loading and concurrent performance enhancements.
- **Intel® Quiet System Technology (Intel QST)** – This technology helps reduce system noise and heat through more intelligent fan speed controls.

Intel® G43 Express Chipset

The Intel® G43 Express chipset delivers impressive graphical features for everyday computing:

- Intel Clear Video Technology guarantees smooth, sharp HD playback.
- Enhanced 3-D graphics engine with full support of Microsoft Windows Vista Premium.
- Integration with digital display interfaces such as HDMI, DVI, DisplayPort and HDCP with dual independent display.

Intel® P45 Express Chipset

The Intel P45 Express Chipset, which supports the latest 45nm Intel Dual- and Quad Core processors, pushes the limits of innovation with capabilities designed to deliver quality performance that meets the demands of the fastest platforms.

- **PCI Express 2.0** – The Intel P45 Express Chipset is driving PCI Express 2.0 to mainstream users, delivering up to 16GBs bandwidth, twice the bandwidth of PCI Express 1.0. This improved graphics bandwidth capability enables much higher levels of performance on graphics intensive applications such as high-end gaming and video rendering.
- **New Dual Graphics Configurations** – The Intel P45 Express Chipset supports either a 1x16 or 2x8 PCI Express 2.0 configuration for expandable discrete graphics capability.
- **Intel® Extreme Tuning Utility** – With overclocking³ brought to the mainstream, users have the ability to easily tune the system for optimum performance, enabling power users to achieve performance levels beyond its industry-leading baseline performance.

Intel at Computex

Intel is showcasing a range of HD visual experiences delivered by the Intel G45 Express Chipset, including downloaded HD content, Blu-ray movies, home movies and photos.

- **Mainstream Platform Performance** – Demonstrations of PCI Express 2.0 and DDR3 Memory Technology show unquestioned platform performance leadership.
- **Performance Tuning** – The Intel® X48 Express Chipset, launched in early 2008, and the new Intel® P45 Express Chipset, enable extreme power users to tune their PC system to achieve optimized performance. Demonstrations highlight Intel® Extreme Tuning, a simple-to-use, wizard based tool for manual or auto PC tuning.
- **HD Media and Graphics** – The industry's best HD platform featuring the combined horsepower of the Intel G45 Express Chipset plus a 45nm Intel processor. Demonstrations highlight HD video, HD Boost encoding and Blu-ray decoding. 3-D enhancements and mainstream gaming also are presented.

1 Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit Intel Performance Benchmark Limitations http://www.intel.com/performance/resources/benchmark_limitations.htm.

2 New low-power states not available in Intel® X48 Express Chipset

3 Warning: Altering clock frequency and/or voltage may (i) reduce system stability and useful life of the system and processor; (ii) cause the processor and other system components to fail; (iii) cause reductions in system performance; (iv) cause additional heat or other damage; and (v) affect system data integrity. Intel has not tested, and does not warranty, the operation of the processor beyond its specifications.

4 Performance based on interface speed specifications for eSATA, USB 2.0 and IEEE 1394 400.

*Other names and brands may be claimed as the property of others.

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