intel® experience what's inside™

POWERHOUSE PERFORMANCE AND AMAZING STORAGE

THE INTEL® CORE™ I7-69XX/68XX PROCESSOR FAMILY AND INTEL® X99 CHIPSET PLATFORM

The new Intel® Core™ i7-69xx/68xx processor family and Intel® X99 chipset create an amazing desktop PC platform for extreme gamers, enthusiasts, and content creators.

This new platform is equipped with features that maximize the capabilities and performance within the gaming, overclocking, and digital content creation space.

AMAZING PERFORMANCE

The combination of the new Intel Core i7-69xx/68xx processor family and the Intel X99 chipset provides an amazing platform for extreme performance and mega-tasking needs of gamers, enthusiasts and content creators. The first-ever Intel 10 core desktop processor platform delivers over 2X better multi-threaded performance[1] over the latest 4-core platform, With the new Intel® Turbo Boost Max Technology 3.0[2] and features such as Intel® Turbo Boost Technology 2.0[3] and Intel® Hyper-Threading Technology[4], the platform delivers the processing power exactly where and when you need it. From quick and efficient photo and video editing to effective music creation and a visually stunning gaming experience, you will get amazing power and performance for all your computing needs.

HIGH-END AND EXCLUSIVE PC EXPERIENCE

AMAZING I/O AND STORAGE CAPABILITIES

With up to 40 PCI Express* (PCIe) 3.0 lanes from the processor, 10 SATA ports, 14 USB ports, and 8 PCIe 2.0 lanes from the chipset, this platform offers mind-blowing I/O and storage capabilities for the most demanding users. The high-speed I/O interface delivers blazingly fast performance and expandability. Intel® Rapid Storage Technology[5] delivers storage performance and other capabilities, which allows for improved platform responsiveness. The extensive I/O, coupled with massive storage and better responsiveness, offers the end user a high-end and exclusive PC experience.

NEW MEMORY CAPABILITIES

The new Intel Core i7-69xx/68xx processor family and Intel X99 chipset introduce the first Intel desktop quad-channel DDR4 at 2400 MHz that can support up to four unbuffered DIMMs (non-ECC) per memory channel. With a max DRAM density of 4 Gb and 8 Gb[6], the platform encompasses advanced memory technology to meet the enthusiast's overclocking[7] needs.

## OVERCLOCKING OPTIONS FOR PROFESSIONAL & HOME USERS

ENTHUSIASTS PLATFORM FOR GAMING AND CONTENT CREATION

The platform's enthusiast-centric configuration emphasizes power-packed, high-end gaming and content creation to maximize the user's experience. With up to 40 lanes of PCI Express 3.0 from the processor and 8 lanes of PCI Express 2.0 from the chipset, the platform offers the flexibility to plug in up to four discrete graphics cards and/or PCIe based storage solutions to provide extreme performance. With all of the processor's cores unlocked, there are more overclocking options for professional and home users. The quad-channel memory and up to 20 processing threads speeds RAW photos/HD video editing.

UNLOCKED FLEXIBILITY AND FREEDOM

The Intel X99 chipset enables the performance tuning features of the new unlocked Intel Core™ i7-69xx/68xx processor family, allowing the user to change the core and DDR4 memory frequencies without having to run any other part of the system above specifications.
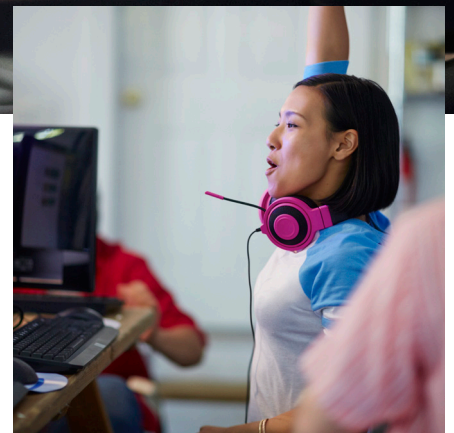
QUICKLY CONNECT TO YOUR DIGITAL LIFE

FAST AND LOW-POWER PERIPHERALS

The Intel X99 chipset integrates several capabilities to provide flexibility for connecting I/O devices. Integrated USB 3.0 support helps you quickly connect to your digital life. The latest Intel® Rapid Storage Technology[5] driver enables the full Serial ATA (SATA) interface speed of up to 10 Gb/s to support next-generation SSDs and traditional HDDs. Intel® Rapid Recover Technology helps provide a fast, easy-to-use method for the end user to recover their data and return their system to an operational status. Dynamic Storage Accelerator unleashes the performance of your SSDs. It increases storage I/O performance by dynamically adjusting system power management policies to deliver up to a 15 percent[8] performance boost compared to default power management.

INTEL® X99 CHIPSET FEATURES AT A GLANCE

FEATURES	BENEFITS
Supports Intel® Core™ i7 processors in the LGA2011-v3 socket	Supports both the Intel® Core™ i7-69xx/68xx processor family with the NEW Intel® Turbo Boost Max Technology 3.0 and Intel® Core™ i7-59xx/58xx processor Family.
Overclocking[7]	The Intel® X99 chipset enables overclocking features of new unlocked Intel Core i7 processors.
Intel® Rapid Storage Technology[5]	With additional hard drives added, helps provide quicker access to digital photo, video, and data files, and data protection against an HDD failure with RAID 0, 1, 5, and 10.
Intel® Rapid Recover Technology	Intel's latest data protection technology helps provide a recovery point that can be used to quickly recover a system should a hard drive fail, or there is data corruption. The clone can also be mounted as a read-only volume to allow a user to recover individual files.
Intel® High Definition Audio[9]	Integrated audio support enables premium digital surround sound and delivers advanced features such as multiple audio streams and jack re-tasking.
Intel® Smart Response Technology[10]	Implements storage I/O caching for fast response times of application startup and quick access to user data.
Universal Serial Bus 3.0	Integrated USB 3.0 support helps provide greater enhancement in performance with a design data rate of up to 5 Gb/s with up to six USB 3.0 ports.
Universal Serial Bus 2.0	High-speed USB 2.0 support with a design data rate of up to 480 Mb/s with up to 14 USB 2.0 ports.
Serial ATA (SATA) 6 Gb/s	Next-generation high-speed storage interface supporting up to 6 Gb/s transfer rates for optimal data access with up to ten SATA ports.
eSATA	SATA interface designed for use with external SATA devices. Provides a link for 3 Gb/s data speeds to eliminate bottlenecks found with current external storage solutions.
SATA Port Disable	Enables individual SATA ports to be enabled or disabled as needed. This feature helps provide added protection of data by preventing malicious removal or insertion of data through SATA ports. Especially targeted for eSATA ports.
PCI Express* 2.0 Interface	Offers up to 5 GT/s for fast access to peripheral devices and networking with up to eight PCI Express* 2.0 x1 ports, configurable as x2, x4, and x8 depending on desktop motherboard designs.
Intel Core i7 processor, PCI Express 3.0 Interface	Intel X99 chipset-based platforms enable the processor PCI Express 3.0 port to be configurable as a 2x16 and 1x8 or 5x8.[11]
USB Port Disable	Enables individual USB ports to be enabled or disabled as needed. This feature helps provide added protection of data by preventing malicious removal or insertion of data through USB ports.
Intel® Integrated 10/100/1000 MAC	Support for the Intel® Ethernet Connection I218-V.
Green Technology	Manufactured with lead-free and halogen-free[12] component packages.

AN AMAZING PLATFORM FOR EXTREME PERFORMANCE

For more information, visit www.intel.com/content/www/us/en/chipsets/performance-chipsets/laptop-desktop-performance-chipsets.html

1   Based on measured Cinebench* R15 (Intel® Core™ i7-6950X Processor vs. Intel® Core™ i7-6700K Processor). Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For more information go to http://www.intel.com/performance.

2   Requires a system with Intel® Turbo Boost Max Technology 3.0. Intel Turbo Boost Max Technology 3.0 is only available on select Intel® processors. Consult your PC manufacturer. Performance varies depending on hardware, software, and system configuration. For more information, visit http://www.intel.com/content/www/us/en/architecture-and-technology/turbo-boost/turbo-boost-max-technology.html

3   Requires a system with Intel® Turbo Boost Technology. Intel Turbo Boost Technology and Intel Turbo Boost Technology 2.0 are only available on select Intel® processors. Consult your PC manufacturer. Performance varies depending on hardware, software, and system configuration. For more information, visit http://www.intel.com/go/turbo

4   Available on select Intel® Core™ processors. Requires an Intel® HT Technology-enabled system. Consult your PC manufacturer. Performance will vary depending on the specific hardware and software used. For more information including details on which processors support HT Technology, visit http://www.intel.com/info/hyperthreading

5   Intel® Rapid Storage Technology requires the computer to have an Intel® RST-enabled Intel® chipset, the RAID controller in the BIOS enabled, and the Intel RST software driver installed. Please consult your system vendor for more information.

6   Subject to availability.

7   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. Intel assumes no responsibility that the processor, including if used with altered clock frequencies and/or voltages, will be fit for any particular purpose. For more information, visit http://www.intel.com/consumer/game/gaming-power.htm

8   Dynamic Storage Accelerator performance is dependent upon several factors including workload, storage configuration, operating system, and CPU C-state transition efficiency. Intel analysis has found that Dynamic Storage Accelerator performance mode, 2 SSD RAID 0 provides up to a 15 percent performance gain as compared to default power management. Test configuration: 3 GHz processor, 2 x 2 GB @ 1333 MHz RST 12.0.0.1075OS HDD: Western Digital Black WD2002FAEX 2 TB; Intel® SSD 320 Series; OS Tested: RAID 0, Two Disk; Windows* 7 SP1 build 7601; Benchmark software: PCMark* Vantage 1.0.2 patch 1901..

9   Requires an Intel® HD Audio enabled system. Consult your PC manufacturer for more information. Sound quality will depend on equipment and actual implementation. For more information about Intel® HD Audio, refer to http://www.intel.com/design/chipsets/hdaudio.htm

10 Intel® Smart Response Technology requires a select Intel® Core™ processor, an enabled chipset, Intel® Rapid Storage Technology software, and a properly configured hybrid drive (HDD + small SSD). Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

11 5x8 configuration requires additional system clocks to be provided by third party components.

12 Applies only to brominated and chlorinated flame retardants (BFRs/CFRs) and PVC in the final product. Intel components as well as purchased components on the finished assembly meet JS-709A requirements, and the PCB/Substrate meet IEC 61249-2-21 requirements. The replacement of halogenated flame retardants and/or PVC may not be better for the environment.

FTC Optimization Notice
Intel's compilers may or may not optimize to the same degree for non-Intel microprocessors for optimizations that are not unique to Intel microprocessors. These optimizations include SSE2, SSE3, and SSE3 instruction sets and other optimizations. Intel does not guarantee the availability, functionality, or effectiveness of any optimization on microprocessors not manufactured by Intel.

Microprocessor-dependent optimizations in this product are intended for use with Intel microprocessors. Certain optimizations not specific to Intel microarchitecture are reserved for Intel microprocessors. Please refer to the applicable product User and Reference Guides for more information regarding the specific instruction sets covered by this notice.

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products.