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6TH GENERATION INTEL® CORE™
DESKTOP PROCESSORS I7-6700K AND I5-6600K
A POWERFUL SOLUTION
FOR NEXT GENERATION PCs

LOOKING FOR THE PERFECT PROCESSOR

to build your gaming rig? Want to game and stream at the same time? And want to edit your action videos and photos? We got you covered. If it is performance you crave then the flagship Intel® Core™ i7-6700K processor is what you have been waiting for, part of the new 6th Gen Intel® Core™ processor family for desktop PCs (S-series). It has a quad-core base frequency of 4GHz, 8MB of cache memory and support for up to 64GB of DDR4 RAM memory. Additionally, it is unlocked[4] so that you can squeeze every last bit of performance out of it.

TUNE KEY ASPECTS OF YOUR SYSTEM

RESPONSIVE PERFORMANCE

■ The new architecture and design of the 6th Gen Intel® Core™ processor for desktop PCs delivers:

☐ A new full range base-clock settings[1] that provide more granularity for overclocking[4] your platform. This is possible with the new Intel Core i7-6700K and i5-6600K and the Intel® Z170 chipset that also allows you to tune key aspects of your system including cores, power and memory.

☐ Support for DDR4 RAM memory technology in mainstream platforms, allowing systems to have up to 64GB of memory and higher transfer speeds at lower power when compared to DDR3 (DDR4 speed 2133 MT/s at 1.2V vs DDR3 speed 1600 MT/s at 1.5).

■ 6th Gen Intel Core i7 and Core i5 processors for desktop PCs come with Intel® Turbo Boost 2.0 Technology which gives you that extra burst of performance.[1]

■ Intel ® Hyper-Threading Technology[1] allows each processor core to work on two tasks at the same time, improving multitasking, speeding up the workflow, and accomplishing more in less time. With the Intel Core i7 desktop processor, you can have up to 8 simultaneous threads.
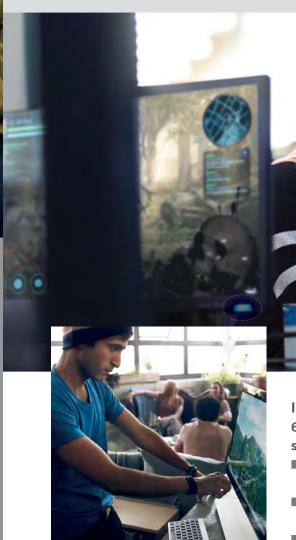
STUNNING VISUALS

- Videos come to life in Ultra HD 4K so users can enjoy amazing and vibrant multimedia experiences on Ultra HD and 4K displays (up to 4096x2304 resolution).[1] To deliver this experience, Intel® Core™ i7-6700K and i5- 6600K processors incorporate support for HEVC, VP8 and VP9.

- Intel® Quick Sync Video technology accelerates most video capabilities, allowing users to create and share in real-time and multi-task without interruption.

- 6th Gen Intel Core i7 and Core i5 processors support graphics programmability features such as OpenCL 2.0 so programmers can easily take advantage of the graphics compute capabilities.

- With native support for the new DirectX 12[5] API, 6th Gen Intel Core processors can provide a better experience for gaming and graphics that take advantage of DirectX 12.

CREATE AND SHARE IN REAL-TIME

INCREASED SECURITY

6th Gen Intel® Core™ processors offer hardware-level security features such as:

- Intel® Software Guard Extensions (Intel® SGX) that help protect your system and your data.[1]
- Intel® Memory Protection Extensions[1] that help protect an application's run-time integrity.
- Intel® Device Protection Technology with BIOS Guard 2.0[1] and Intel® Device Protection Technology with Boot Guard help protect your system during boot.

Whether you use your PC for gaming, rendering, editing or creating, the 6th Gen Intel Core i7-6700K and i5-6600K processors deliver a great PC experience.

6TH GEN INTEL® CORE PROCESSOR™ FEATURES AT A GLANCE

FEATURES[1]	BENEFITS
Intel® Turbo Boost Technology 2.0[1]	Dynamically increases the processor's frequency, as needed, by taking advantage of thermal and power headroom when operating below specified limits.
Intel® Hyper-Threading Technology[1]	Delivers two processing threads per physical core. Highly threaded applications can get more work done in parallel, completing tasks sooner.
Intel® Built-In Visuals	Intel® HD Graphics — Play HD videos with exceptional clarity, view and edit even the smallest details of photos, and play today's modern games. Intel® Quick Sync Video — Delivers excellent video conferencing capability, fast video conversion, online sharing, and fast video editing and authoring. Intel® Clear Video HD—Visual quality and color fidelity enhancements for HD playback and immersive web browsing.
Integrated Memory Controller	Now supporting DDR4 offers stunning memory read/write performance through efficient prefetching algorithms, lower latency, and higher memory bandwidth as compared to previous generations.
Intel® Smart Cache	Dynamically allocates shared cache to each processor core, based on workload, reducing latency and improving performance.
Intel® Virtualization Technology[1]	Allows one hardware platform to function as multiple "virtual" platforms. Offers improved manageability by limiting downtime and maintaining productivity by isolating computing activities into separate partitions.
Intel® Advanced Encryption Standard New Instructions (Intel® AES-NI)[1]	A fast, secure AES engine for a variety of encryption apps, including whole disk encryption, file storage encryption, conditional access of HD content, internet security, and VoIP. Consumers benefit from protected internet and email content, plus fast, responsive disk encryption.[7]
Intel® Power Optimizer & Processor C-States	Intel® Power Optimizer increases periods of silicon sleep state across the platform ingredients, including the CPU, chipset, and third-party system components, to reduce power
CPU/Memory/Graphics Overclocking[4]	On select products, CPU/graphics and memory can be run at frequencies above the rated frequency of the part resulting in higher performance.
Intel® Secure Key[8]	Security hardware-based random number generator that can be used for generating high-quality keys for cryptographic (encryption and decryption) protocols. Provides quality entropy that is highly sought after in the cryptography world for added security.
Intel® Transactional Synchronization Extensions (TSX)[1]	TSX-NI is a set of instructions focused on enterprise-level multi-threaded performance scaling, making parallel operations more efficient via improved control of software threads and locks. This offers performance benefits for enterprise-level big data analytics/business intelligence and visualization apps, which involve multi-user collaboration. Available on the Core™ I7 and Core™ i5 processors with Intel® vPro™ Technology and unlocked processors.
Intel® Advanced Vector Extensions 2.02 (Intel®AVX2)	AVX 2.0 is an extension of AVX 1.0 with new optimized instructions to deliver enhanced performance on floating point–intensive apps. AVX 2.0 adds 256-bit integer instructions and new instructions for FMA (Fused Multiply Add). FMA delivers better performance on media and floating point computations, including face recognition; professional imaging; high-performance computing; consumer video and imaging; compression; and encryption.

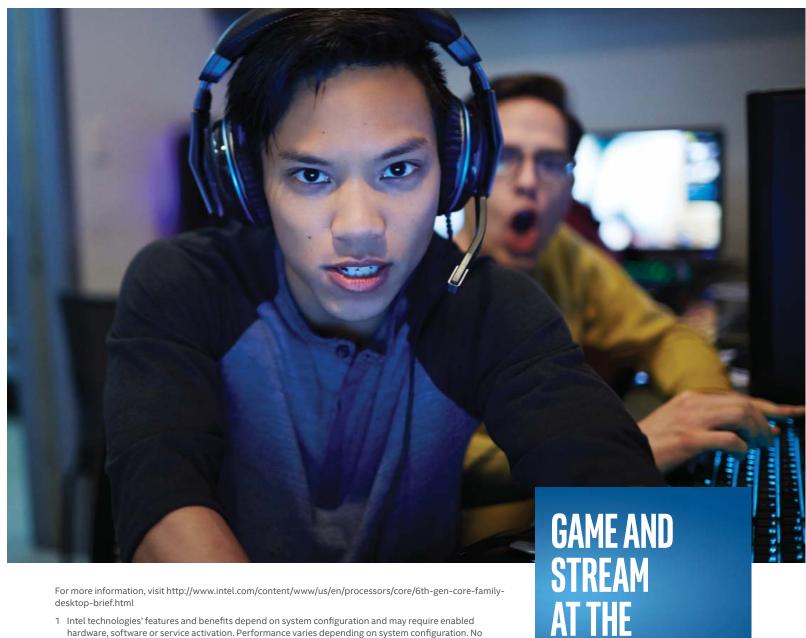## 6TH GEN INTEL® CORE PROCESSOR™ FEATURES AT A GLANCE

FEATURES[1]	BENEFITS
Intel® OS Guard[1]	A hardware-based security feature that protects the OS (operating system) kernel. OS Guard helps prevent use of malicious data or attack code located in areas of memory marked as user mode pages from taking over or compromising the OS kernel. OS Guard is not application-specific and protects the kernel from any application.
VMCS shadowing	VMCS shadowing allows a Virtual Machine Manager (VMM) running in a guest (nested virtualization) to access a shadow VMCS memory area using the normal VMRead/VMWrite instructions. This technology reduces overhead for a more natural and responsive user experience. It also allows users to take control of their personal and professional data and apps while being protected by game-changing security.
Intel® Ready Mode Technology[1]	Provides quick access to your PC with applications that are up-to-date and constantly connected.
Intel® Identity Protection Technology[1]	Help protect your One Time Password (OTP) credentials and PKI certificates and add a layer of encrypted second factor authentication for online transactions. Log into your system or make secure credit card purchases on your system using near-field communication (NFC)–enabled cards.
PCI Express* 3.0 Interface	Offers up to 8 GT/s for fast access to peripheral devices and networking with up to 16 lanes.[3] PCI Express ports can be configured as 1x16, 2x8, or 1x8 and 2x4 depending on motherboard designs.
Green Technology	Manufactured with lead-free and halogen-free component packages
Conflict Free	"Conflict-free" means "DRC conflict-free", which is defined by the Securities and Exchange Commission rules to mean products that do not contain conflict minerals (tin, tantalum, tungsten and/or gold) that directly or indirectly finance or benefit armed groups in the Democratic Republic of the Congo (DRC) or adjoining countries.

HELPS PROTECT YOUR SYSTEM AND YOUR DATA

6TH GEN INTEL® CORE PROCESSOR™ COMPARISON

FEATURES	6TH GEN INTEL® CORE™ i7-6700K PROCESSOR	6TH GEN INTEL® CORE™ i5-6600K PROCESSOR
Intel® Turbo Boost Technology[1] Maximum Single Core™ Turbo Frequency (GHz)	4.2	3.9
Base Frequency (GHz)	4.0	3.5
Number of Processor Cores/Threads	4/8	4/4
Cache Memory (MB)	8	6
Intel® Turbo Boost Technology 2.0[1]	Yes	Yes
Number of Memory Channels[1]	2 (DDR4 2133MT/s at 1.2V or DDR3L up to 1600MT/s at 1.35V)	2 (DDR4 2133MT/s at 1.2V or DDR3L up to 1600MT/s at 1.35V)
Intel® Hyper-Threading Technology[1]	Yes	No
Intel® Smart Cache	Yes	Yes
Intel® AES–New Instructions (AES–NI)[1]	Yes	Yes
Intel® Advanced Vector Extensions (AVX) 2.0[2]	Yes	Yes
CPU/Graphics/Memory Overclocking[4]	Yes	Yes
Intel® Iris™ Pro Graphics	No	No
Intel® Quick Sync Video[1]	Yes	Yes
Intel Clear Video HD[1]	Yes	Yes
Intel® Virtualization Technology[1] (Intel® VT)	Yes	Yes
Intel® TSX-NI[1]	Yes	Yes
Intel® Identity Protection Technology[1]	Yes	Yes
Intel® Software Guard Extensions (Intel® SGX)[1]	Yes	Yes
Intel® Boot Guard[1]	Yes	Yes
Intel® OS Guard[1]	Yes	Yes
Intel BIOS Guard[1]	Yes	Yes
Conflict Free	Yes	Yes

GAME AND STREAM AT THE SAME TIME

For more information, visit http://www.intel.com/content/www/us/en/processors/core/6th-gen-core-family-desktop-brief.html

1   Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer or learn more at [intel.com]

2   Intel® Advanced Vector Extensions (Intel® AVX)* are designed to achieve higher throughput to certain integer and floating point operations. Due to varying processor power characteristics, utilizing AVX instructions may cause a) some parts to operate at less than the rated frequency and b) some parts with Intel® Turbo Boost Technology 2.0 to not achieve any or maximum turbo frequencies. Performance varies depending on hardware, software, and system configuration and you should consult your system manufacturer for more information. *Intel® Advanced Vector Extensions refers to Intel® AVX, Intel® AVX2 or Intel® AVX-512. For more information on Intel® Turbo Boost Technology 2.0, visit http://www.intel.com/go/turbo

3   Actual number of ports available may vary by processor number and system configuration. Please refer to the specifications corresponding to the processor number of interest or consult your system vendor for more information.

4   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

Not all features available on all processors or chipsets for more information on which processors support the capability, see ark.intel.com.

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

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