



Sandy Bridge and Vengeance

A technical overview of the latest from Intel and Corsair

A new year is upon us, and Intel has just launched its 2nd generation Core series i5 and i7 CPUs just in time for anyone looking to start off the new year by building a brand new PC. Intel's latest generation CPU is code named "Sandy Bridge" and uses an all new 32nm micro architecture, compared to last year's lineup of 45nm "Nehalem" branded CPUs. Luckily we at Corsair are fully prepared for the new Sandy Bridge CPUs with the launch of our new Vengeance series memory which was released just a few weeks ago, but before we get into that, let's talk a little about the new chip from Intel.

Sandy Bridge will initially be aimed at the mainstream user looking for an affordable quad core CPU. The ultra high end CPU market will still be dominated by the existing Core i7 Nehalem 900 series CPUs which support triple channel memory operation. Intel calls Sandy Bridge its second generation Core series CPU and the new part numbers will reflect this.

Intel® Core™ i7 – 2600K processor

The new additions to the CPU part number are the "Generation" and the "Letter Suffix". The generation indicator is pretty self explanatory but the letter suffix makes choosing your CPU a little more complicated. There will be **K**, **S**, and **T** versions of many of the Sandy Bridge SKUs, and here are the differences.

"K" indicates an unlocked CPU, similar to the current i7 "X" series CPUs.

"S" indicates "Performance Optimized Lifestyle". "S" versions will run at a lower base frequency, but through the utilization of Intel's Turbo Boost Technology, they will max out at the same frequency as non-S parts. The "S" parts will run at 65 watts, while non-S parts operate at 95 watts.

"T" indicates "Power Optimized Lifestyle". The "T" versions will run at even lower base frequencies than the "S" series counterparts, and will also run at lower maximum Turbo Boost frequencies. The benefit of the "T" version comes from its power consumption; these chips use only 35 or 45 watts depending on the specific CPU model.

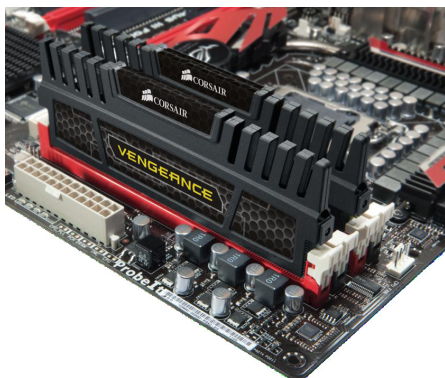


With the new CPU comes a new CPU socket to support it, the Intel LGA 1155. While this means that you will need a new motherboard to use Sandy Bridge, the socket itself is dimensionally laid out the same way as the current LGA 1156 so you will be able to use your existing Corsair CPU cooler with the new motherboards. The first chipsets to launch with support for LGA 1155 will be the Intel P67 and H67. The P67 is aimed towards the mid to high performance user, and the H67 will cover the mid to lower end. One major difference between the two chipsets is that the H67 will support the integrated graphics which are built right into the new Sandy

Bridge chips. With P67 you will need to use your own discrete graphics card. While integrated graphics is not new (Clarkdale and Arrandale support this already), this is a second generation on-die GPU which Intel has stated will double the performance of the first generation versions.

Now let's talk about Sandy Bridge's memory support. The first chipsets and CPUs will support dual channel memory operation and when it comes to memory, the chipset you choose will be an important factor. The H67 chipset will only support up to the maximum officially supported frequency (currently 1333MHz), while the P67 chipset will have an unlocked memory multiplier, giving you much more flexibility with your memory configuration.

When building a system with brand new technology choosing the right memory can be difficult, but with Vengeance, it couldn't be easier. All of our Vengeance memory is rated for 1.5v and is fully supported by Sandy Bridge. With the H67 chipset you will likely be limited to running the memory at 1333MHz due to a lack of configuration options in the BIOS, but our Vengeance memory will operate at that spec without any problems, even if it's tested and rated for higher speeds. With the P67 chipset you will be able to take advantage of the full speed of our Vengeance memory, and our current lineup of Vengeance supports speeds of up to 1866MHz. Vengeance parts are available as either 2GB or 4GB modules. This means that with a Sandy Bridge CPU and Vengeance memory, you are able to max out your memory to 16GB, which is enough for even the most demanding user.









With our current lineup of memory, Vengeance fits in right between our standard XMS and our high end Dominator parts. The aggressive styling of our Vengeance memory is clearly reminiscent of our Dominator brand, but now with Vengeance we have the ability to offer memory rated at the most popular specifications, at a more attractive price! While Vengeance is an ideal candidate for your new Sandy Bridge build, they are also fully supported by many of the other current DDR3 chipsets as well, including the X58, P55, and H55 to name a few. Kits of Vengeance memory are available in up to 24GB configurations (X58 only) and fully support XMP (Xtreme Memory Profile) for the easiest configuration

possible. So whether you are looking for compatibility, performance or overclocking ability with your new build, Vengeance has you covered!

For more information about overclocking with Vengeance, check out the following entry in our Blog: http://www.corsair.com/blog/vengeance_overclocking/



Buyer's Guide for Intel Processors January 2011

		CORSAIR RECOMMENDS...			
Which processor do I have?	What kind of system am I building?	For 64-bit Windows 7, heavy multi-tasking:		For 32-bit OS, two or three concurrent tasks:	
Core i7 "SandyBridge" LGA-1155 Dual Channel memory Core i7-2600K, 2600 Core i5-2500K, 2500, 2400, 2300	EXTREME		1866MHz, CL9, 8GB CMZ8GX3M2A1866C9		1866MHz, CL9, 4GB CMT4GX3M2A1866C9T
	PERFORMANCE		1600MHz, CL9, 16GB CMZ16GX3M4A1600C9		1600MHz, CL8, 4GB CMP4GX3M2B1600C8T
	BANG for BUCK		1600MHz, CL9, 8GB CMZ8GX3M2A1600C9		1600MHz, CL9, 4GB CMX4GX3M2A1600C9