

Mini-PC Barebone for Intel Core i7 Processors

This new flagship spearheads Shuttle's squad of high-performance Mini-PCs. It is based on the Intel X58 Express Chipset making it ready to run Intel Core i7 processors for the first time. A fast processor is of course nothing without a lot of memory. Up to 16GB of blazingly fast DDR3 modules are supported by four DIMM slots. To complement this, the SX58H7 already comes supplied with two Gigabit network connectors. Concentrated performance in a small space - so even applications from the professional sector as well as brand-new games do not present any problem at all for the XPC Barebone SX58H7.

XPC Barebone SX58H7



Note: optical drive sold separately. Images for illustration purposes only.

Feature Highlights

H7 chassis	<ul style="list-style-type: none"> Black aluminium chassis (glossy) Drive bays: 1x 5.25", 2x 3.5"
Chipset	<ul style="list-style-type: none"> Intel X58 Express + ICH10R
CPU	<ul style="list-style-type: none"> Socket 1366 Supports Intel® Core™ i7 processors models 920, 940 and 965XE Supports 4.8/6.4 GT/s QPI Vapor Chamber ICEvo Heatpipe cooling
Slots	<ul style="list-style-type: none"> 2x PCI-Express x16 (v2.0) Supports Ati CrossFire & NVIDIA SLI ***
Memory	<ul style="list-style-type: none"> Supports 4x DDR3-1066/1333/1600(OC)* Supports Triple Channel + 1 Up to 16 GBytes total size
Drive connectors	<ul style="list-style-type: none"> 3x SATA (internal) 3x External SATA (1x front, 2x rear) Supports RAID, NCQ, eSATA power supply 1x IDE ATA 133
Other connectors	<ul style="list-style-type: none"> 7.1-ch HD-audio, SPDIF output Dual GigaBit LAN (supports Teaming) USB 2.0 (2x front, 4x rear, 6x onboard)
Power supply	<ul style="list-style-type: none"> 500 Watt mini power supply 80 PLUS Bronze compliant
Application	<ul style="list-style-type: none"> Performance

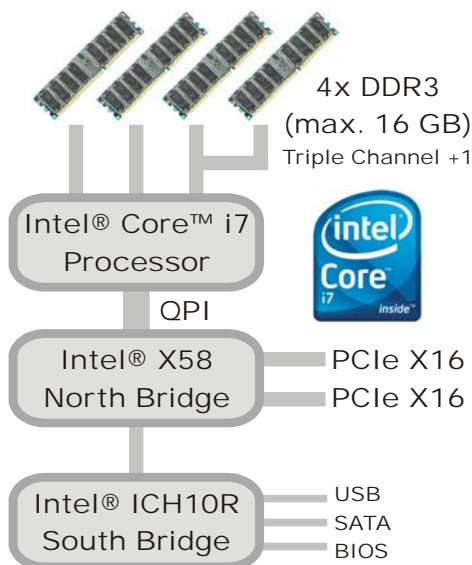


Shuttle XPC Barebone SX58H7 – Special Product Features



New H7 chassis with enhance expansion ability

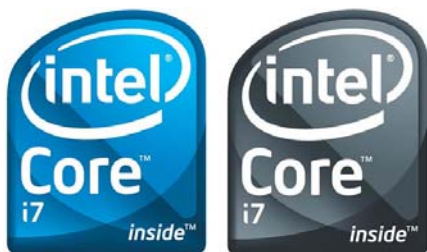
The new H7 chassis dimensions have grown slightly in contrast to the previous G-Series adding various of welcome improvements to the Shuttle XPC Barebone SX58H7. The larger power supply fan of 5cm in size helps to cut down on noise level even more also providing a better thermal efficiency for the entire system. The front panel sports an eSATA port for instant access to an external hard disk. With a renewed mainboard layout, the SX58H7 is capable of running dual-slot graphics cards and up to four memory modules with a max. capacity of 16GB.



Based on new Intel Nahalem architecture

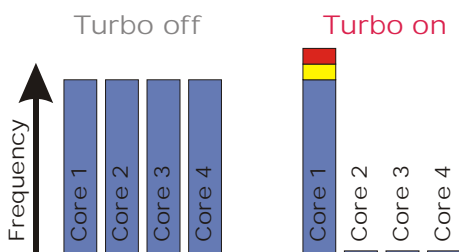
The Shuttle XPC Barebone SX58H7 is based on the new core microarchitecture, codenamed Nehalem, which brings some major changes not only to the the processor architecture but also the system architecture. These are most significant changes:

- The memory controller has moved from the chipset to the processor and features a triple channel DDR3 interface.
- The Intel® QuickPath Interconnect (QPI) replaces the legacy front side bus between processor and chipset.



Supports new Intel Core i7 processors

SX58H7 is the first Shuttle XPC with the new Socket 1366 and supports the Intel® Core™ i7 processors models 920, 940 and 965XE. These are the first Intel processors which come with a native quad-core design, where all four cores sit on the same piece of silicon which share a massive 8MB level 3 cache. In addition, each core supports Hyper-threading which enables this processors process eight threads simultaneously, making it even more massively parallel and powerful than the current Core 2 Quad CPUs.



Built-in overlocking "Turbo" mode

Originally introduced on mobile Penryn, Turbo mode simply increases the operating frequency of the processor if conditions are cool enough for the CPU to run at the higher frequency. Each Nehalem can run its four cores at up to 133MHz higher than the stock frequency (e.g. 3.33GHz in the case of the 3.2GHz 965 model), or if only one core is active then it can run at up to 266MHz higher than stock (3.46GHz up from 3.2GHz). Benchmarks show an increase of the overall performance by 2% to 7% if Turbo mode is enabled in the BIOS setup.

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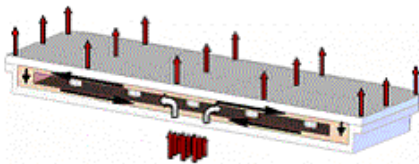
Dynamic Overclocking Technology (D.O.C.) *)

This is the overclocking function in the BIOS Setup, which is designed to detect the load balance of CPU while running programs, and to adjust the best CPU frequency automatically. When the mainboard detects CPU is running programs, it will speed up CPU automatically to make the program run smoothly and faster. When the CPU is temporarily suspending or staying in the low load balance, it will restore the default settings instead.



Integrated Cooling Evolution (I.C.Evo)

Shuttle's XPCs offer the power of a desktop PC in a form factor one-third the size. In order to ensure proper airflow inside a smaller unit, more advanced cooling technologies have been developed and implemented in the Shuttle XPC. Shuttle's industry-leading I.C.Evo heatpipe technology delivers efficient cooling and is exceptionally quiet.



New Vapor Chamber + Heatpipe Technology

The vaporizing chamber is utilized as cooler base with is similar to the thermal tubes operating principle. The thermal resistance of vapor chamber is twice lower than in usual base. At low fan speed this technology reduces the CPU temperature by 5~7°C.



PCI-Express V2.0 for high-performance graphics cards

The Shuttle XPC Barebone SX58H7 is equipped with one PCI-Express x16 Version 2.0 slot delivering a bandwidth of up to 16GB/s, twice the speed of PCI-E 1.0, thus providing plenty of potential for the newest graphics cards. It is downward compatible, allowing use for most of the present graphics cards as well.



Supports large dualslot graphics cards

The Shuttle XPC Barebone SX58H7 supports large dual-slot graphics cards like ATI Radeon HD4870 or NVIDIA Geforce GTX280 which occupy two slots. Please note, that in this case you cannot use the second slot for another expansion card.



Supports two PCI Express x16 graphics cards

The Shuttle XPC Barebone SX58H7 Deluxe supports two slots PCI Express x16 Version 2.0 delivers up to 16GB/s bandwidth per port, double that of PCIe 1.0, ensuring plenty of bandwidth for future graphics cards. Two graphics cards can be used to enable 4-monitor-operating or ATI CrossFire™ / NVIDIA SLI *** mode for leading-edge gaming performance.



Supports up to 16GB of DDR3 memory

This Shuttle XPC supports up to 16GB DDR3 memory which is ideal for workstations powered by 64-bit operating systems, enabling users to take full advantage of high-performance configurations.



500W power supply with 80 PLUS BRONZE logo

The Shuttle XPC Barebone SX58H7 is equipped with a rock stable 500W power supply which has been tested with the latest graphics cards and powerful Core i7 processors. Its 80 Plus Bronze logo indicates that it provides more than 82/85/82% energy efficiency at 20/50/100% of rated load which reduces energy consumption and increases the computers reliability.



New Era of All-Solid Capacitor Shuttle Mainboards

By using all-solid capacitors Shuttle mainboards provide industry leading stability, reliability and longevity for PC gaming and entertainment systems. The average lifespan for a solid capacitor is more than six times greater than the more common and less expensive electrolytic capacitors.



External Serial ATA ports on front and back panel

In addition to the two eSATA ports at the back panel, the SX58H7 also comes with one eSATA at the front panel for plugging in high-speed external hard-drives. The eSATA interface is up to three times faster than the USB 2.0 standard.



Supports RAID functionality

This Shuttle XPC features several internal and external Serial ATA connectors which also support the high performance RAID functions level 0, 1, 5 and 0+1. It is the ideal solution to enhance hard disk performance and data back up protection without the cost of add-on cards.



Dual eSATA with External Power

The back panel provides two external Serial ATA ports and a power port. The included cables make it a snap to connect two external hard drive to your XPC. The Serial ATA interface is up to six times faster than USB 2.0/Firewire.



Dual Gigabit LAN with Teaming Support

This XPC features even two high-speed Gigabit LAN ports. The teaming function allows you to group both available network adapters together to function as a single adapter - a method of creating a virtual LAN. The benefit of this approach is that it enables load balancing and failover.

*) Overclocking Warning: Please note there is a certain risk involved with overclocking, including adjusting the setting in the BIOS or using third-party overclocking tools. Overclocking may affect your system stability or even cause damage of the components and devices of your system. It is done at your own risk and expense. Shuttle cannot be held responsible for possible damage caused by overclocking.

Shuttle XPC Barebone SX58H7 Specifications

Chassis	<p>H7-type aluminum chassis, color: black</p> <p>Front panel with glossy finish and painted, shining top cover</p> <p>storage bays: 1 x 5.25", 2 x 3.5" (1 internal)</p> <p>stealthed drive doors</p> <p>Dimensions: 32.5 x 20.8 x 18.9 cm (LWH), 12.8 litres</p> <p>Weight: 3.8 kg net / 5.2 kg gross</p>
Mainboard	<p>Shuttle FX58, Shuttle form factor, proprietary design for XPC SX58H7</p> <p>Chipset: Intel X58 Express (codenamed Tylersburg) + ICH10R (I/O Controller Hub)</p> <p>Solid Capacitors for excellent heat resistance for enhanced system durability</p>
Power Supply	<p>500 Watt mini PSU, AC input voltage: 100~240V</p> <p>80PLUS Bronze certified (>82/85/82% energy efficiency at 20/50/100% load)</p> <p>Active PFC circuit (Power Factor Correction)Processor support</p>
Processor Support	<p>Socket 1366 supports</p> <p>Intel® Core™ i7 models 920 (2.66 GHz), 940 (2.93 GHz), 965XE (3.2 GHz)</p> <p>Please refer the support list for detailed processor support information: http://global.shuttle.com/support_list.jsp</p> <p>The previous Front Side Bus (FSB) by the new QPI (QuickPath Interconnect) which features up to 6.4GT/s (3.2GHz) and a maximum transfer rate of 25.6GB/s.</p> <p>Supports Dynamic Overclock feature (DOC):</p> <p>Easily overclock function to be enabled through a simple BIOS setting. *)</p>
Processor Cooling	<p>Shuttle I.C.E. (Integrated Cooling Engine)</p> <p>advanced I.C.E. Heatpipe technology, linear controlled 92mm fan</p> <p>SilentX cooling and noise reduction technology with Active Airflow</p>
OASIS cooling	<p>OASIS Cooling Technology: additional fanless heat-pipe design covering the MOSFET modules (VRM), north- and southbridge.</p>
Memory Support	<p>4 x 240 pin slots, supports 3+1 channel configuration (Triple Channel)</p> <p>Supports DDR3-1066/1333 SDRAM memory</p> <p>Supports DDR3-1600 in overclocking mode *)</p> <p>Max. 4 GB per DIMM, up to a total size of 16 GB</p> <p><u>Warning:</u> DIMMs with voltage over 1.65V may damage your CPU.</p> <p>Shuttle recommends you install the DIMMs with voltage setting below 1.6V.</p>
Expansion Slots	<p>2x PCI-Express x16 Version 2.0 expansion slots for x16 graphics cards (full 16 lanes each slot)</p> <p>Supports Dual Graphics card by ATI CrossFireX™ or NVIDIA SLI™ Technology. ***</p> <p>Two graphics cards can be used to enable 4-monitor-operating or ATI CrossFireX™ mode for leading-edge gaming performance.</p> <p>Supports two single-slot or one double-width graphics card.</p>
8-channel Audio	<p>7.1 channel High Definition Audio with Realtek ALC888 codec</p> <p>analog: line-out (8-ch), line-in, microphone, CD-in, AUX; digital: optical S/PDIF-out</p>

<i>Dual Gigabit LAN</i>	2x RJ45 connectors supports Teaming-Mode**) Realtek RTL8111C Ethernet network controller IEEE 802.3u 1000Base-T compliant Supports 10 / 100 / 1.000 MBit/s operation Supports Wake-on-LAN
<i>Drive connectors</i>	Serial-ATA II, 3 Gb/s (300 MB/s) bandwidth 3x internal (SATA) plus 3x external (eSATA) Intel Matrix Storage Technology enabled striping and mirroring Supports RAID mode 0, 1, 5, 10 Supports Native Command Queuing (NCQ) 1x IDE ATA 133 drives
<i>Front panel connectors</i>	Microphone Headphone (Line-out) 2x USB 2.0 External Serial ATA Hotplug (eSATA) Power button Reset button Power indicator (blue LED) HDD indicator (orange LED)
<i>Back panel connectors</i>	6x USB 2.0, 2x GigaBit LAN (RJ45) 2x External Serial ATA Hotplug (eSATA) Power connector for two eSATA hard disks (incl. cable) 8-ch Audio line-out (2x rear/front, bass/center, surround/back) Audio Line-in, Digital Audio: optical S/PDIF output Clear CMOS button
<i>Optional accessories</i>	Wireless LAN Antenna (PN20) PS/2 Mouse & Keyboard connectors (PS10)
<i>Other connectors</i>	6x USB 2.0 (three sets with 2x5 pins) 2x fan connectors (4 pins and 3 pins) Headers for PS/2 mouse and PS/2 keyboard
<i>Accessories</i>	Driver CDROM Quick Installation Guide 1x SATA cable 1x Power cord 2x2 pin to 2 eSATA power cable Screws, Heatsink compound

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**) Teaming Mode

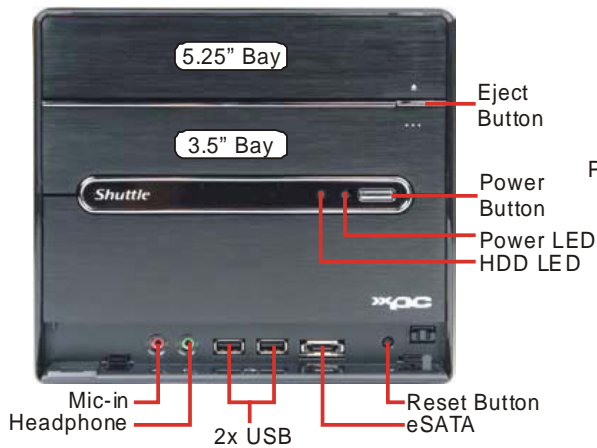
The teaming function allows you to group both available network adapters together to function as a single adapter - a method of creating a virtual LAN. The benefit of this approach is that it enables load balancing and failover.

***) SLI support

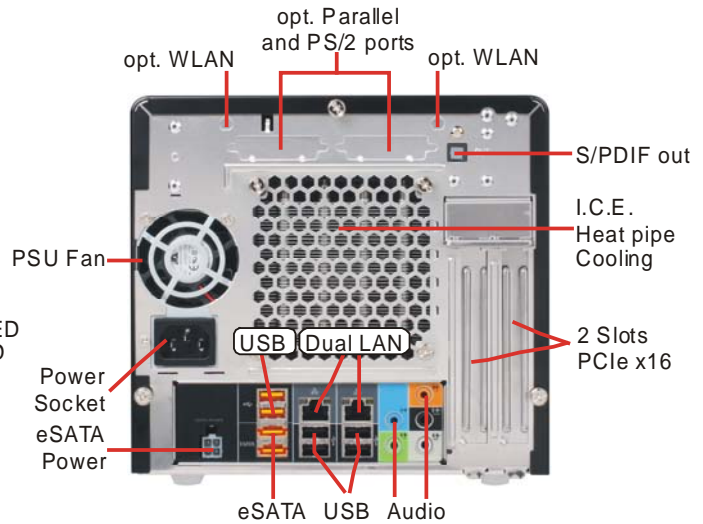
At the time of the first delivery of the Shuttle XPC Barebone SX58H7 SLI certification for Intel chipsets could not be completed on behalf of Nvidia. It is expected to launch a BIOS update shortly to enable this function.

Shuttle XPC Barebone SX58H7 – Connectors and Components

Front Panel



Back Panel



Mainboard

