

Space-saving workstation for maximum computing power requirements

Working without any delays and even better multitasking – these possibilities are now within reach. With the H7 5820S, Shuttle offers a highly reliable partner for the most demanding applications. At a height of just 19 cm, this machine is one of the smallest – and fastest – PCs ever developed. Now it's on you to equip it with the components that meet your requirements best, e.g. Matrox M-series graphics cards for professional 2D applications and NVIDIA Quadro cards for 3D applications, Intel Core i7 processor with up to six cores, up to 16 GB DDR3 memory, 2 TB hard disks, Blu-ray disc writer and Windows 7. What are your computing needs?

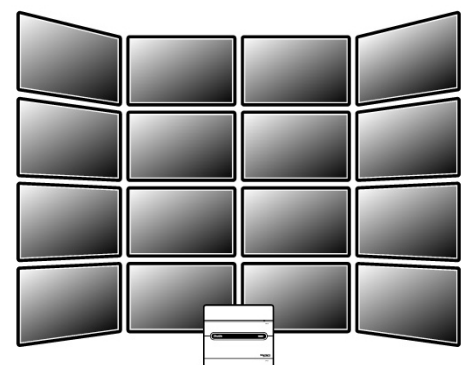
Feature Highlights

Basis	<ul style="list-style-type: none"> Based on the XPC Barebone H7 5820S
H7 chassis	<ul style="list-style-type: none"> Black aluminium chassis Drive bays: 1x 5.25", 2x 3.5"
Chipset	<ul style="list-style-type: none"> Intel X58 Express + ICH10R
Processor	<ul style="list-style-type: none"> Intel® Core™ i7, Socket 1366 With Quad-Core or Hexa-Core Shuttle I.C.E. Heatpipe cooling
Memory	<ul style="list-style-type: none"> Up to 16 GB DDR3-1333
Graphics card	<ul style="list-style-type: none"> Matrox M91xx LP series (for 2D, multimonitoring) or NVIDIA Quadro series (for 3D, CAD/DCC)
Storage	<ul style="list-style-type: none"> DVD writer or Blu-ray combo/writer Up to two 3.5" drives: hard disks or SSDs
Connectors	<ul style="list-style-type: none"> 7.1-ch HD-audio with S/PDIF output Dual GigaBit LAN (supports Teaming) 2x USB 3.0 (front) 10x USB 2.0 (1x front, 8x rear, 1x onb.) 2x External SATA (1x front, 1x rear) One front USB is combined with eSATA
Power supply	<ul style="list-style-type: none"> 500 Watt mini power supply 80 PLUS Bronze compliant
Warranty	<ul style="list-style-type: none"> 24 Months Pick-Up-And-Return Service
Application	<ul style="list-style-type: none"> Professional Graphics Workstation

XPC System H7 5820S



Images for illustration purposes only.



Multi-monitoring with up to 2 graphics cards supports up to 16 displays.

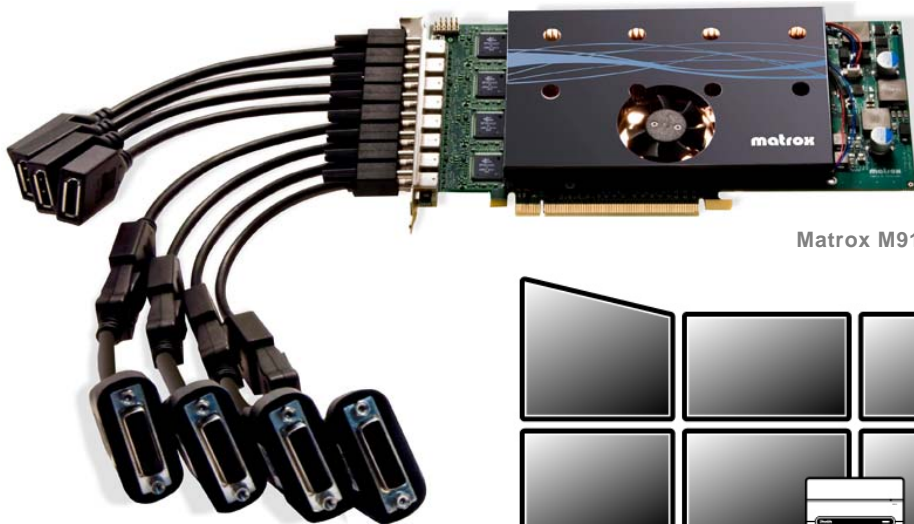
Shuttle XPC H7 5820S – Highend Grafics Workstation

Configurable with PCI-Express x16 high-performance graphics cards for professional applications:

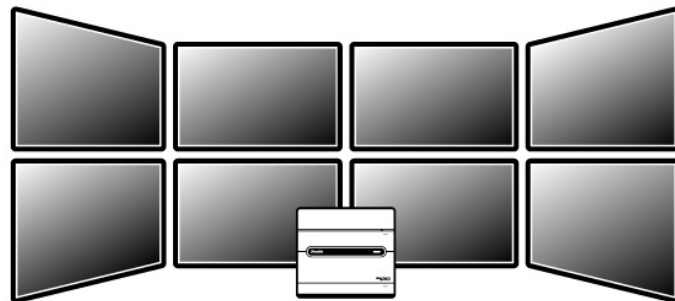
Applications	Graphics card (CUDA Cores)	Memory	Cooling	Video outputs	max. displays
for 2D high performance applications and multi-monitoring in the areas of economy, industry and public authorities	Matrox M9128 LP	1024 MB	passive	2x DP/DVI*	2
	Matrox M9138 LP	1024 MB	passive	3x DP/DVI*	3
	Matrox M9140 LP	512 MB	passive	4x DVI-I*/VGA	4
	2x Matrox M9148 LP	1024 MB	passive	2x4 DP/DVI*	8
	2x Matrox M9188 LP	2048 MB	active	2x8 DP/DVI*	16
for professional 3D applications e.g. CAD and DCC - supports DirectX 11, Shader 5.0, OpenGL 4.0	NVIDIA Quadro 600 (96)	1024 MB	active	DP + DVI-I**	2
	NVIDIA Quadro 2000 (192)	1024 MB	active	2x DP + DVI-I**	2
	NVIDIA Quadro 4000 (256)	2048 MB	active	2x DP + DVI-I**	2
	NVIDIA Quadro 5000 (352)	2560 MB	active	2x DP + DVI-I**	2

Maximum Resolution:

- DisplayPort (DP) and Dual Link DVI (**): 2560 x 1600
- Single Link DVI (*) and D-Sub/VGA: 1920 x 1200



Matrox M9188 LP



H7 5820S Multi Monitoring Solution



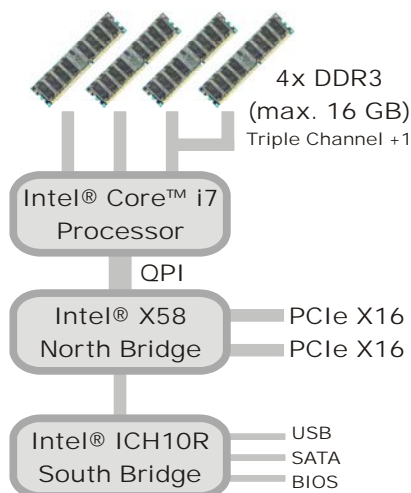
NVIDIA Quadro 5000

Shuttle XPC H7 5820S –Product Features



The H7 chassis design: a clean and modern look

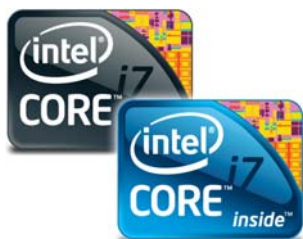
Shuttle has always placed great emphasis on the interior and exterior aesthetics of the XPC, with the belief that a good blend of style and form factor allows the XPC to be attractive, versatile, and work well in almost any environment. The chassis and case cover are made of aluminium and come with a sleek brushed metal front fascia. The drives and front panel connectors are elegantly hidden by drive doors for superior style and visual appeal..



Based on new Intel Nehalem architecture

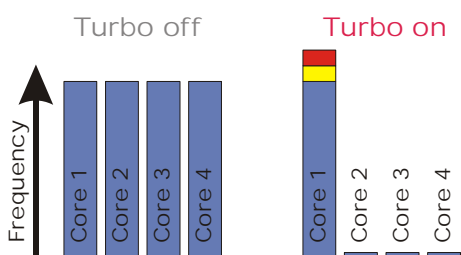
The Shuttle XPC H7 5820S is based on the new core microarchitecture, codenamed Nehalem that brings some major changes not only to the processor architecture, but also the system architecture. These are most significant changes:

- 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.



With Intel Core i7 processors (Socket 1366)

The Shuttle XPC H7 5820S comes with an Intel® Core™ i7 processor which has a native quad- or six-core design where all CPU cores sit on the same silicon die and share a massive level 3 cache. In addition, each core supports Hyper-threading enabling these processors to process eight or twelve threads simultaneously making them even more powerful and more efficient at multi-tasking than other CPUs.



Built-in overclocking "Turbo" mode

Originally introduced on mobile Penryn, Turbo mode increases the operating frequency of the processor, if conditions allow for the CPU to run at a higher frequency. Each Nehalem can run its four cores at up to 133MHz higher than its stock frequency (e.g. 3.33GHz in case of the 3.2GHz 965 model). Alternatively, if only one core is active, it can run at up to 266MHz higher than its stock speed (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.



Integrated Cooling Engine (I.C.E.)

Shuttle XPCs offer the performance of a desktop PC at a third of the size. In order to ensure proper airflow inside such a small case, more advanced cooling technologies have been developed and implemented in the Shuttle XPC. Shuttle's industry-leading I.C.E. heatpipe technology delivers efficient cooling and is exceptionally quiet.



USB 3.0 Superspeed

The Shuttle XPC H7 5820S sports two USB 3.0 ports at the front panel and eight USB 2.0 ports at the back panel. USB 3.0 achieves a maximum data rate of up to 5.0Gbps (640MBytes/sec), which is ten times faster than USB 2.0. USB 3.0 is fully compatible to USB 2.0, but not USB 1.1. At first sight USB 3.0 connectors seem no different to USB 2.0 connectors, USB 3.0 connectors have five more pins placed deep inside the connector cover. USB 2.0 can provide a maximum of 500 mA to the USB device while it's 900 mA for USB 3.0. which is particularly important for portable hard drives. USB 3.0 also comes with better power saving options, so your USB powered devices will consume less when idle.



SATA 3.0 with up to 6 Gbit/s speed

The Shuttle XPC H7 5820S has two onboard Serial ATA ports Revision 3.0 delivering super-fast 6Gbps link speeds for twice the data transfer rates of SATA Revision 2.0 (3 Gbps). A move from SATA 3 Gbit/s to SATA 6 Gbit/s allows the new generation of Solid-State Drives (SSDs) to work at their full speed. As for standard hard disks (HDDs), reading times from their built-in DRAM cache will be faster too..



Supports up to 16GB of DDR3 memory

The Shuttle XPC H7 5820S supports up to 16GB DDR3-1333 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 H7 5820S 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% of energy efficiency at 20/50/100% of rated load which reduces energy consumption and increases the computer's reliability.



External Serial ATA ports on front and back panel

In addition to the eSATA port at the back panel, the H7 5820S also comes with one eSATA port at the front panel for plugging in high-speed external hard-drives. The eSATA interface is up to three times faster than USB 2.0.



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 the XPC. An eSATA interface is up to six times faster than USB 2.0/Firewire.



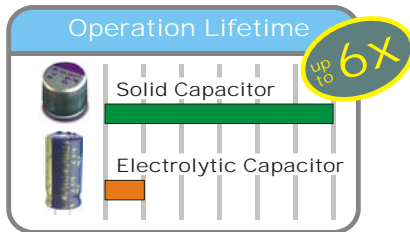
Dual Gigabit LAN with Teaming Support

This Shuttle XPC also features two high-speed Gigabit LAN ports. The teaming function allows for grouping both available network adapters together to work as one single adapter - a method to set up a virtual LAN. The benefit of this approach is to enable load balancing and failover.



HD Audio capabilities

The Shuttle XPC H7 5820S supports 7.1 channel audio via four analog stereo audio ports or the optical S/PDIF out.



Solid Capacitors

By using all-solid capacitors (except the audio part) Shuttle mainboards are long-life and provide industry leading stability and reliability. The average lifespan of one solid capacitor is more than six times greater than the more common and less expensive electrolytic capacitors.

Shuttle XPC H7 5820S Specifications

Basis	This system is based on Shuttle XPC Barebone SX58H7 Pro
Chassis	H7-type aluminum chassis, color: black Storage bays: 1 x 5.25", 2 x 3.5" (1 external) Stealthed drive doors Dimensions: 32.6 x 20.8 x 18.9/19.6 cm (LWH) without/with rubber feed Volume: 12.8 litres
Operating system	Microsoft Windows 7 Home Premium or Professional, 64 bit version Available languages: English, German, French, Dutch, Italian, Spanish, Danish
Mainboard	Mainboard FX58 Pro, Shuttle form factor, proprietary design for SX58H7 Pro Chipset: Intel X58 Express (codenamed Tylersburg) + ICH10R (I/O Controller Hub) Solid Capacitors for excellent heat resistance and enhanced system durability, much better than aluminum electrolytic capacitors
Processor	Intel® Core™ i7 processor with Socket 1366 Core-i7-900 series, Quad- or Hexa-core processors
Heatpipe	Heatpipe processor cooling: Shuttle Integrated Cooling Engine (I.C.E.) with efficient heat-pipe technology
Memory	8 or 16 GB DDR3-1333 memory
Optical drive	DVD writer or Blu-ray combo/writer (5.25")
3.5" storage	Configurable with one or two 3.5" hard drive disk(s) or SSD(s)
Graphics card	Configurable with PCI-Express x16 high-performance graphics cards for professional applications: - Matrox M91xx LP series (for 2D, multimonitoring) or - NVIDIA Quadro series (for 3D, CAD/DCC)
8-channel audio	7.1 channel High Definition Audio with Realtek ALC888 codec Analog audio: line-out (8-ch), line-in, microphone, Audio AUX-in (onboard) Digital audio: optical S/PDIF output

<i>Dual Gigabit LAN</i>	<p>2x RJ45 connectors supports Teaming-Mode**)</p> <p>Realtek 8111E Ethernet network controller</p> <p>IEEE 802.3u 1000Base-T compliant</p> <p>Supports 10 / 100 / 1.000 MBit/s operation</p> <p>Supports Wake-on-LAN</p>
<i>Front panel</i>	<p>Microphone</p> <p>Headphone (Line-out)</p> <p>2x USB 3.0</p> <p>eSATA / USB 2.0 combo port</p> <p>Power button</p> <p>Reset button</p> <p>Power LED indicator</p> <p>HDD LED indicator</p>
<i>Back panel</i>	<p>8x USB 2.0</p> <p>2x GigaBit LAN (RJ45)</p> <p>1x External Serial ATA Hotplug (eSATA)</p> <p>Power connector for eSATA hard disks (incl. cable)</p> <p>8-ch Audio line-out (2x front, 2x rear, bass/center, surround/back)</p> <p>Audio Line-in</p> <p>Digital audio: optical S/PDIF output</p> <p>Clear CMOS button</p>
<i>Power supply</i>	<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)</p>
<i>Further options</i>	<p>Further configuration options:</p> <p>It is possible to modify certain components of this configuration. Please refer to the "Shuttle Systems Configurator".</p>
<i>Warranty</i>	<p>24 Months Pick-Up-And-Return Service</p>
<i>Conformity</i>	<p>This device is classed as a technical information equipment (ITE) in class B and is intended for use in living room and office. The CE-mark approves the conformity by the EU-guidelines:</p> <ul style="list-style-type: none"> - EMV-guideline 89/336/EWG electromagnetic tolerance - LVD-guideline 73/23/EWG use of electric devices within certain voltage-limits

*) Overclocking Warning

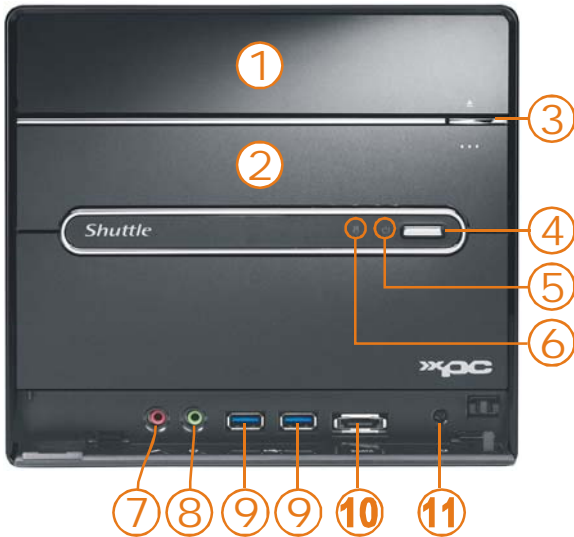
Please note there is a certain risk involved with overclocking, including adjusting the setting in the BIOS or using third-party overclocking tools. Overclocking may affect your system stability or even cause damage of the components and devices of your system. It is done at your own risk and expense.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

**) Teaming Mode

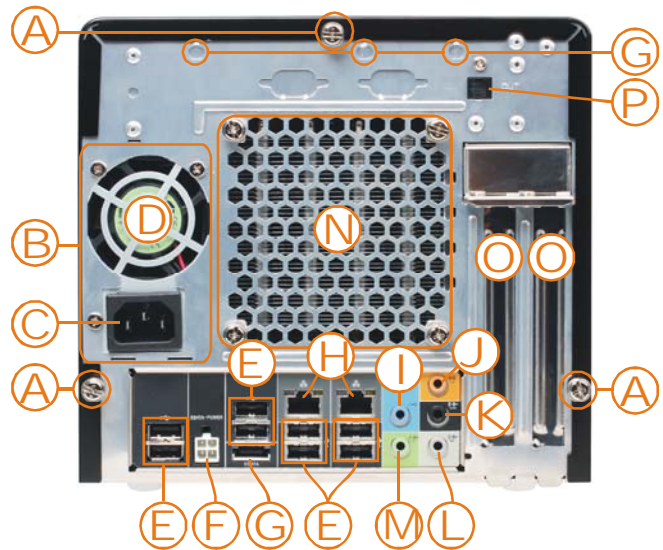
The teaming function allows for grouping both available network adapters together to work as one single adapter - a method to set up virtual LAN. The benefit of this approach is to enable load balancing and failover.

Shuttle XPC H7 5820S – Connectors and Components

Front Panel



Back Panel



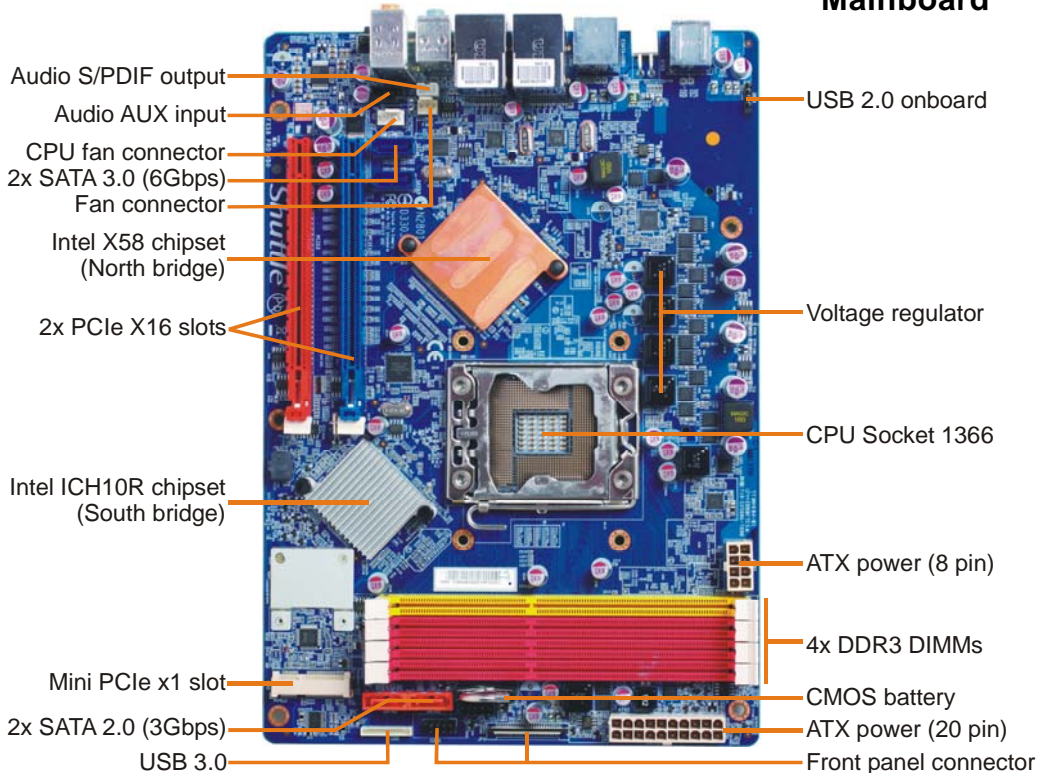
- 1 5.25" bay for optical drive
- 2 3.5" bay
- 3 Eject button
- 4 Power switch
- 5 Power LED
- 6 Hard disk LED
- 7 Microphone input
- 8 Headphone output
- 9 USB 2.0 port
- 10 eSATA+USB combo port
- 11 Reset Button

- A Three thumbscrews
- B Power supply (PSU)
- C AC power socket
- D Power supply fan
- E 8x USB 2.0 ports
- F Power output for eSATA
- G eSATA port
- H Dual Gigabit LAN

- I Audio Line-in
- J Audio Center/Bass
- K Audio Surround-Back
- L Audio Surround-Side
- M Audio Surround-Front
- N Heat-pipe cooling fan
- O 2x PCIe X16 slots
- P Optical S/PDIF output

Back Panel

Mainboard



- Audio S/PDIF output
- Audio AUX input
- CPU fan connector
- 2x SATA 3.0 (6Gbps)
- Fan connector
- Intel X58 chipset (North bridge)
- 2x PCIe X16 slots
- Intel ICH10R chipset (South bridge)
- Mini PCIe x1 slot
- 2x SATA 2.0 (3Gbps)
- USB 3.0

- USB 2.0 onboard
- Voltage regulator
- CPU Socket 1366
- ATX power (8 pin)
- 4x DDR3 DIMMs
- CMOS battery
- ATX power (20 pin)
- Front panel connector