Ideal Mini-PC for the more demanding home user

xpc Barebone
SH55J2

The revolutionary Intel Core i3 / i5 / i7 processors based on Socket 1156 with high computing power and relatively low power consumption are outstandingly suitable for Mini-PCs. With the XPC Barebone SH55J2, Shuttle's product range now includes a model for this processor platform. Despite its compact dimensions it still manages to find space for a PCI-Express slot, DDR3 memory, HDMI interface, Gigabit LAN, 8-channel audio with S/PDIF out and an array of interfaces. With an 80-PLUS-certified 300W power supply and effective Heatpipe cooling system, the SH55J2 keeps cool under the toughest conditions.

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

Feature Highlight

J2 chassis	• Black J2 chassis with aluminum cover • Bays: 1x 5.25“ external, 2x 3.5“ internal
CPU	• Supports Socket 1156 Desktop CPUs • Supports Core i3 / i5 / i7-8xx (TDP ≤ 95W) • Shuttle I.C.E. Heat-pipe cooling system
Slots	• 1x PCI-Express x16 (v2.0), 1x PCI Supports dualslot graphics cards
Chipset	• Intel H55 Express PCH
Integrated Graphics	• Integrated Intel HD graphics in combination with Intel Core i3/i5 processor • Supports DirectX 10, OpenGL 2.1 • Output: VGA and HDMI (HDCP, 1080p)
Memory	• Supports 4x DDR3-1066/1333 • Up to 16 GBytes total size
Drive connectors	• 4x SATA (internal) • 1x External SATA (front) • 4-in-1 card reader (SD, SDHC, MMC)
Other connectors	• 7.1-ch HD-audio, SPDIF output • GigaBit LAN • USB 2.0 (2x front, 4x rear, 4x onboard) One front USB port is shared with eSATA
Power supply	• 300 Watt mini power supply (80 PLUS) • 6 pin graphics card power connector
Application	• Home-Media

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Shuttle XPC Barebone SH55J2 – Special Product Features

The new J-Chassis: a clean and modern look

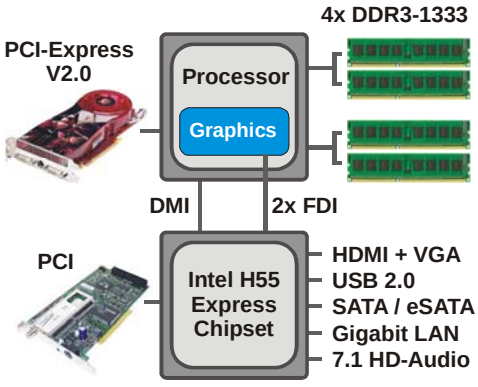
Shuttle has always placed great emphasis on the interior and exterior aesthetics of the XPC, with the belief that a good blend of style and form factor allows the XPC to be attractive, versatile, and work well in almost any environment - whether the living room, bedroom, or office. With the new J Series, Shuttle retains its trademark appearance and adds a clean, modern look to the front of the XPC. The new J Series will also be the first to bear the new XPC logo, featuring a striking "X" mark to signify the evolution of the XPC product line.

Small, but easy to install

Shuttle's XPCs offer the power of a desktop PC in a form factor one-third the size while using standard desktop components. Shuttle kept the concept of "future proofing" in mind when it designed the new J Series. The meticulously designed layout features an interior cable management system with pre-installed cables that are routed and tied down at factory to reduce clutter, increase airflow, and ease component installation. Shuttle has developed the ease of installation to an Art of Perfection.

Supports the Intel 32nm Clarkdale Processor

"Clarkdale" is the codename for Intel's dual-core processors derived from the Nehalem/Westmere architecture. The processor package contains two dies, the actual 32 nm processor with the I/O connections and the 45 nm graphics controller with the memory interface. This means, that the platform's northbridge component was relocated to the CPU package. Thanks to Hyper-Threading the Dual Core versions i3-5xx and i5-6xx shows four threads in the Task Manager. Core i5/i7 CPU's feature the ability to Turbo Boost two multiplier levels above their rated speed in certain scenarios. The Core i5-7xx and i7-8xx processor (45nm Lynnfield, without graphics core) is also supported. Please refer to the support list for detailed processor support information.



Single-Chip Chipset: Intel H55 Express

The design of the new Core i3/i5 processors will eliminate the need for the traditional Northbridge found on previous generation of mainboards. Thus, the Shuttle SH55J2 sports Intel's H55 Express Platform Controller Hub (PCH) from the Intel 5-Series "Ibexpeak" family, which will integrate the hard drive controller, network controllers, monitor physical interfaces, PCI controller and other input/output functionalities.

Note: Integrated graphics is supported by Intel Pentium, Core i3-5xx and Core-i5-6xx processors.

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Integrated Cooling Engine (I.C.E.)

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.E. heatpipe technology delivers efficient cooling and is exceptionally quiet.

What does Barebone mean?

The Shuttle XPC Barebone SH55J2 consists of a stylish case with pre-installed mainboard, power supply unit (PSU) and cables. Despite its small form factor it offers outstanding connectivity, functionality and performance. For a complete PC system you still need a few components. The XPC is completely customizable, users can pick the processor, memory, storage and expansion options that fit their needs. Sometimes a discrete graphics card is needed.

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

The Shuttle XPC Barebone SH55J2 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 Dual-Slot Graphics Cards

Despite the small housing, the SH55J2 is capable of running dual-slot (double-width) PCI Express graphics cards. Please refer to the support list for detailed support information. Note, that the integrated graphics will be disabled, while using a discrete graphics card.

Supports one optical drive and two hard disks

Furthermore, users can install one optical drive and up to two hard disks into the SH55J2. But what about heat? Many of the clever design elements of the XPC get little attention. For example, the drive rack built into the SH55J2 leaves space between the hard disks to improve air flow. Intelligently-engineered airflow mechanics channels cool air to where it's needed most - protecting components and providing optimal performance.

Built-in Intel® HD Graphics Engine

The Intel Pentium, Core i3-5xx and Core-i5-6xx processors with Socket 1156 integrate the Intel® HD Graphics engine which supports full 1080p high-definition video playback, including Blu-ray disc movies. This powerful video engine provides users with a rich, new media experience to deliver smooth HD playback without the need for add-in video cards or decoders. It features Intel® Clear Video Technology, a combination of video processing hardware and software technologies designed to enhance the visual experience. In addition to video, the optimized 3D graphics engine supports DirectX 10, Shader Model 4.0

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and OpenGL 2.1 and delivers the performance and compatibility you need for entertaining, everyday gameplay for the most popular game titles.

Dual View Technology with HDMI and VGA

Dual View technology offers multiple display support on up to two separate monitors. This improves the capabilities and productivity of the user by allowing them to spread multiple windows over two monitors and view them simultaneously. The integrated Intel graphics processor delivers best-in-class 3D performance and leading graphics compatibility to play top games the way they are meant to be played.

80 PLUS BRONZE certified Power Supply

The Shuttle XPC Barebone SH55J2 is equipped with a rock stable 300W power supply which has been tested with some of the latest graphics cards and powerful Core i3/i5/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. In addition, the power supply use a 50mm cooling fan providing the same airflow, but spins slower than previous 40mm models to make the system run even more quietly.

Supports up to 16GB of memory

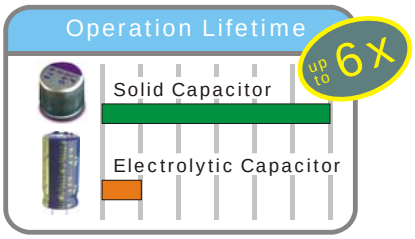
The Shuttle XPC Barebone SH55J2 supports up to 16GB DDR3-1333 memory which is ideal for workstations powered by 64-bit operating systems, enabling users to take full advantage of high-performance configurations.

Integrated card reader

Behind the lower front door you will find the I/O connectors and an integrated 4-in-1 card reader, which supports the flash memory cards SD, MMC, MS and MS Pro.

External Serial ATA (eSATA)

With the eSATA interface you take advantage of the following benefits:
+ Up to six times faster than USB 2.0/Firewire
+ Robust and user friendly external connection
+ High performance, cost effective expansion storage
+ Up to two meter shielded cables and connectors



Solid Capacitors

By using all-solid capacitors (except the audio part) 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.

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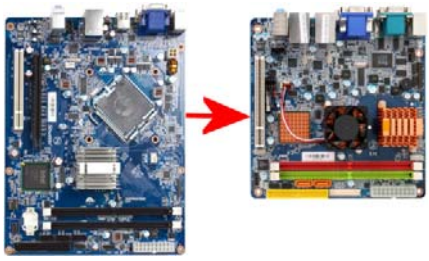

Mini-ITX Mainboard Support

Shuttle expands the capabilities of its chassis, adding support for Mini-ITX mainboards (17 x 17cm or 6.7 x 6.7 inches). Now, for the first time, the Shuttle chassis can go beyond the Shuttle mainboard, so you can easily upgrade or downgrade the mainboard to your desire, without any modifications to the chassis.

	SH55J2	SG45H7
CPU	Core i3-530 2.93GHz	Core2 Duo E8400, 3.0 GHz
Chipset	H55	G45+ICH10
Integr. Graphics	CPU	Northbridge
Idle	41 W	70 W
Full load	70 W	130 W

Low power consumption

The Shuttle XPC Barebone SH55J2 is amazingly energy-efficient thanks to the integrated graphics controller which now sits in the processor. Running it with an Intel Core i3-530 (2.93 GHz), the system barely draws 41 Watt when idle and 70 Watt under full load. The graphics controller used to be in the Northbridge of the chipset in previous platforms. When in idle mode, the SH55J2 cuts down your power bill by about 40 per cent compared to a SG45H7-based system.

Press Reviews

PC Tuner.net Italy
2010-09-08
Best Product Award
The Shuttle is a great, recommended product. It is a "powerful and flexible platform" for a fair price. Supports the latest processors. Quiet operation. Ideal for Office, living room HTPC or gamers.

Chip Romania 9/2010:
Overall Rating 10/10
Price/Performance 9/10
The processor temperature remains low even under full load, thanks to the patented heatpipe cooling. Despite the 300W power supply it runs stable even a GTX460 graphics card (with power splitter cable).

c't Magazine Germany
issue 17/2010 p. 58
Reliable even with ATI Radeon 5870
The powerful power supply and support of dual slot graphics allow reliable operation with Radeon HD 5870 graphics and Core i7-860 (95W) under full load.

CDR Info Greece
2010-09-06
Great value for your money
The case can handle a dual-slot external graphics card without any problems. Shuttle has done a good work with the acoustics. If you are looking for a new SFF this should be a smart choice.

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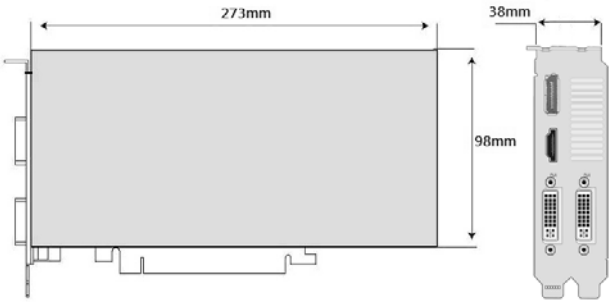
SH55J2 for exceptional graphics performance

Supports dual-slot graphics cards

The Shuttle XPC Barebone SH55J2 surpports large dual-slot graphics cards which occupy two slots. Please note, that in this case the second slot for another expansion cards cannot be used.

Maximum dimensions for graphics cards: 273 x 98 x 38mm

Despite the small cube format, XPCs still supports very large graphics cards. Please note, that graphics cards with the same model number may differ in size.



Graphics card power connectors

As the processing power of video cards has increased, so has their demand for electrical power. Since the PCI-Express connection is limited to supplying 75 Watts, the power supply of the SH55J2 provides a 6-pin Molex connector for once more 75W power consumption in order to deliver sufficient energy for reliable operation for some of the latest high-end graphics cards.

Is the 300W power supply sufficient?

Manufacturers of graphics cards state for their devices what minimum power output a PC's power supply must be able to deliver to ensure stable operation, for example 500W for ATI's Radeon HD5770. Shuttle's SH55J2 however, equipped with a 300W power supply, still meets the requirements of the graphics cards listed in the Shuttle compatibility list, because the barebone's power supply is especially designed for such a small system which won't allow for installing as many expansion cards and hard drives as a big tower PC. Only graphics cards such as the NVIDIA Geforce GTX460, GTX465, GTX480 and ATI Radeon HD4870 X2 will need the PC to be upgraded with the optional 500W power supply (PC63J).

Compatibility list

Please find compatible components like processors and graphics cards on the support list at **global.shuttle.com**. Please note that only a limited choice of components available on the market can be tested. Naturally, the list is kept up to date and extended constantly when new components become available.

ATI Radeon HD5870, HD5850, HD5770, HD4870, HD4850, HD4670, ...

NVIDIA GeForce GTX465, GTX280, GTX260, 9600GT, 8800GT/GTX/GTS,...

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Shuttle XPC Barebone SH55J2 Specifications

Chassis	J2-type, color: black Case cover made of aluminum, body made of steel storage bays: 1 x 5.25" (external), 2 x 3.5" (internal) Front door for I/O ports / card reader and optical drive Kensington Security Slot at the back panel (also called a K-Slot or Kensington lock) as a part of an anti-theft system Dimensions: 33 x 21,5 x 19 cm (LWH), 13.5 litres Weight: 7.0 kg net / 7.8 kg gross Compatible with Mainboards in Shuttle or Mini-ITX Form Factor
Mainboard and Chipset	Shuttle FH55, Shuttle form factor, proprietary design for XPC SH55J2 Chipset: Intel® H55 Express (Codename: Ibex Peak, 65nm process) Platform Controller Hub (PCH) as Single-Chip-Solution
BIOS	AMI BIOS, SPI Interface, 16MBit Flash-ROM Supports PnP, ACPI 3.0 Supports boot up from external USB flash memory
Power Supply	300 Watt mini PSU, AC input voltage: 100~240V 80 PLUS® certified (80% or greater energy-efficient) Active PFC circuit (Power Factor Correction) ATX main power connectors: 2x10 and 2x2 pins Graphics card power connector: 6 pin (75W) Other connectors: 3x SATA, 2x Molex, 1x Floppy CPU and RAM are required to switch on the power supply.
Processor Support	Socket 1156 supports Intel Core i3 / i5 /i7-8xx desktop processors Supports Intel QuickPath Interconnect (QPI) at 4.8 and 6.4 GT/s Supports maximum TDP = 95W (power consumption) The Processor integrates PCI-Express and memory controller ' and the graphics engine as an option. Please refer to the support list for detailed processor support information.
Processor Cooling	Shuttle I.C.E. (Integrated Cooling Engine) advanced I.C.E. Heatpipe technology, linear controlled 92mm fan SilentX cooling and noise reduction technology with Active Airflow
Memory Support	4 x 240 pin slots Supports DDR3-1066/1333 SDRAM memory (PC3-8500/10600) Supports DDR3-1600 (PC3-12800) in overclocking mode *) Supports 2+2 Dual Channel mode Supports max. 4 GB per DIMM, maximum total size of 16 GB

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Integrated graphics	The Intel Core i3/i5 32nm Clarkdale processor integrates the Intel® HD Graphics engine with Flexible Display Interface (FDI) Resolution max. 1920 x 1200 (supports 720p, 1080i und 1080p) Decodes MPEG-2, H.264 and VC-1 in hardware (supports Blu-ray) Supports DirectX 10, OpenGL 2.1, Shader 4.0, Shared Memory: bis zu 768MB Supports Dual-Independent-Display via HDMI and VGA port **)
Expansion Slots	1x PCI-Express v2.0 slot (PEG, for graphics cards only) 1x PCI 32 bit slot Supports Dual-slot (double-width) graphics cards - in this case the PCI slot will be occupied. If a discrete graphics card is used, the onboard graphics will be deactivated.
8-channel Audio	7.1 channel High Definition Audio with Realtek ALC888 codec Azalia standard support Analog: line-out (8-ch), line-in, microphone, AUX input (onboard) Digital: optical S/PDIF-out, also via HDMI output
Gigabit-LAN Controller	Realtek RTL 8111E Ethernet network controller PCI Express interface IEEE 802.3u 1000Base-T compliant Supports 10 / 100 / 1.000 MBit/s operation Supports Wake-on-LAN (WOL) Drive connectors
Card reader	Integrated USB 2.0 multi format card reader in the front panel supports: Secure Digital (SD, SDHC), MultiMediaCard (MMC), Memory Stick (MS Pro/Pro Duo/Pro-HG)
Drive connectors	4x Serial ATA (3 Gbit/s) 1x External Serial ATA (3 Gbit/s) at the front panel
Front panel connectors and buttons	Microphone input Headphone output USB 2.0 eSATA / USB 2.0 combo port 4-in-1 Card Reader (SD, SDHC, MMC, MS/Pro/Duo) Power button Power indicator (white LED) Hard disk/Optical disk drive indicator (blue LED)
Back panel connectors	HDMI (digital video out with digital audio) **) D-Sub VGA (analog video out) **) 4x USB 2.0 GigaBit LAN (RJ45) 8-ch Audio line-out (2x rear/front, bass/center, surround/back) Audio Line-in Digital Audio: optical S/PDIF output Clear CMOS button

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Other connectors (onboard)	4x USB 2.0 (two sets with 2x5 pins) 2x fan connectors (4 pins and 3 pins) Audio AUX input
Accessories	Multilanguage XPC Installation Guide 32/64bit driver disk for Windows XP/Vista/7 Preinstalled cables: 2x SATA, Power Cord Screws Heatsink Compound
Certifications Compliance	EMI: FCC, CE, BSMI, C-Tick Safety: ETL, CB, BSMI, TÜV Other: RoHS, Eup Lot6, Energy Star 5.0Conformity

***) 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.

****) the video outputs (VGA and HDMI)** cannot be used, If a PCI-Express graphics card is installed.

	Socket 1156 Processor Overview *)					
Codename	**Clarkdale (32nm)**				**Lynnfield (45nm)**	
Name	**Pentium**	**Core i3**	**Core i5**	**Core i5**	**Core i5**	**Core i7**
Cores	2	2	2	2	4	4
Hyper-Threading	-	Yes	Yes	Yes	-	Yes
Cache	3MB	4MB	4MB	4MB	8MB	8MB
Turbo Mode	-	-	Yes	Yes	Yes	Yes
Integrated Graphics	**Yes**	**Yes**	**Yes**	**Yes**	-	-
GPU clock	533 MHz	733 MHz	733MHz	900MHz	-	-
DDR3 Support	2x1333/1066	2x1333/1066	2x1333/1066	2x1333/1066	2x1333/1066	2x1333/1066
Processor Models (Clock rate GHz, normal/Turbo)	**G6950** (2.8)	**550** (3.20) **540** (3.06) **530** (2.93)	**680** (3.60/3.86) **670** (3.46/3,73) **660** (3.33/3.60) **655k** (3.20/3.45) **650** (3.20/3.45)	**661** (3.33/3.60)	**760** (2.80/3.33) **750** (2.66/3.20) **750s** (2.40/2.80)	**880** (3.06/3.73) **875k** (2.93/3.60) **870** (2.93/3.60) **870s** (2.66/3.60) **860** (2.80/3.46) **860s** (2.53/3.46)

*) Date: August 2010. Please refer to the support list for detailed processor support information. (www.shuttle.com)

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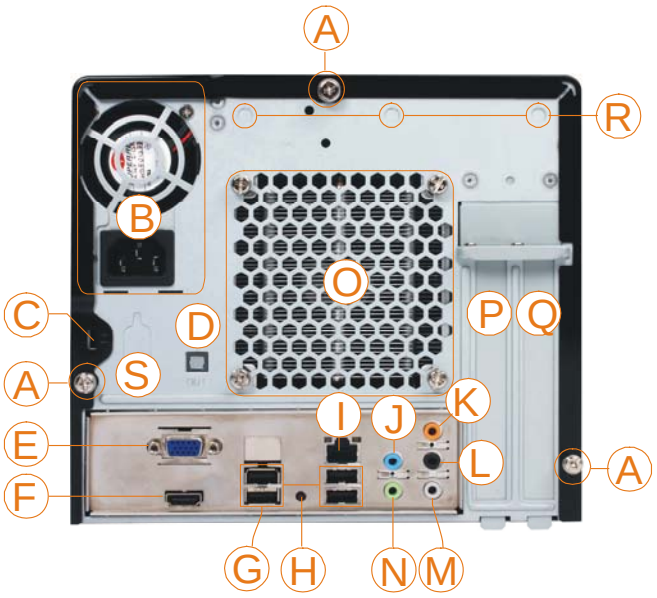
Shuttle XPC Barebone SH55J2 – Connectors and Components

Front Panel

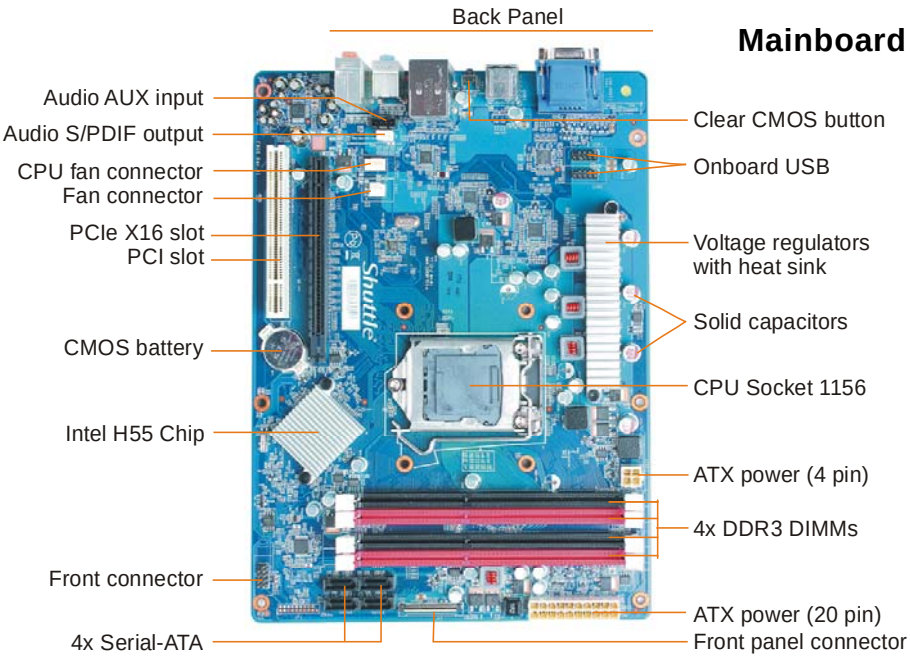
Back Panel



1	Bay for optical drive	**A**	Three thumbscrews	**J**	Audio Line-in
2	Eject button	**B**	Power supply with fan and AC power socket	**K**	Audio Center/Bass
3	Power switch, Power LED	**C**	Hole for Kensington lock	**L**	Audio Surround-Back
4	4-in-1 card reader	**D**	S/PDIF output	**M**	Audio Surround-Side
5	USB 2.0 port	**E**	VGA video port *)	**N**	Audio Surround-Front
6	Microphone input	**F**	HDMI video port *)	**O**	Heat pipe cooling fan
7	Headphone output	**G**	4x USB 2.0 ports	**P**	PCI-Express x16 slot
8	eSATA+USB combo port	**H**	Clear CMOS button	**Q**	PCI slot
		I	Gigabit LAN port (RJ45)	**R**	Optional WLAN
				S	Optional serial port

*) Remark:: the video outputs VGA (E) and HDMI (F) cannot be used, If a PCI-Express graphics card is installed.

Mainboard



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