

### Mini-PC complete system with Intel "Sandy Bridge" technology

This model combines superb energy efficiency with high computing power. It also offers all the latest connection options, e.g. USB 3.0 and SATA 6 Gbit/s. The choice of compatible CPU models includes Intel Core i3, Core i5 and Core i7, which can then be combined with up to 16 GB RAM and a powerful 3D graphics card. Experience the second generation of Intel Core processors now.

### xpoc System H7 6700H



Images for illustration purposes only.

#### Feature Highlights

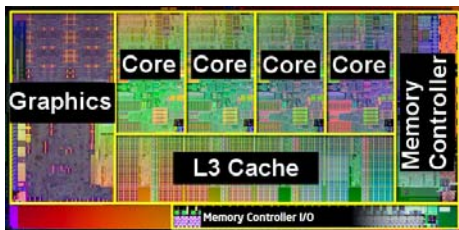
<b>H7 chassis</b>	<ul style="list-style-type: none"> <li>Black aluminium chassis (12.8 litre)</li> <li>Bays: 1x 5.25" external, 2x 3.5" int./ext.</li> </ul>
<b>O.S.</b>	<ul style="list-style-type: none"> <li>Windows 7 Home Premium / Professional</li> </ul>
<b>CPU</b>	<ul style="list-style-type: none"> <li>Intel processor with socket 1155</li> <li>Range: Pentium or Core i3 / i5 / i7</li> <li>Shuttle I.C.E. Heat-pipe cooling system</li> </ul>
<b>Chipset</b>	<ul style="list-style-type: none"> <li>Intel H67 Express PCH (Southbridge)</li> </ul>
<b>Graphics</b>	<ul style="list-style-type: none"> <li>Integrated Intel HD graphics with HDMI 1.4a and DVI-I outputs <u>or</u></li> <li>AMD/ATI or NVIDIA graphics card PCI-Express 16X</li> </ul>
<b>Memory</b>	<ul style="list-style-type: none"> <li>Up to 16GB DDR3-1333 memory</li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>DVD writer or Blu-ray combo/writer</li> <li>Serial ATA hard disk or SSD (8.9cm/3.5")</li> <li>Optional 2nd hard disk or card reader</li> </ul>
<b>Other connectors</b>	<ul style="list-style-type: none"> <li>7.1-ch HD-audio, SPDIF output</li> <li>GigaBit LAN (RJ45)</li> <li>4x USB 3.0 (2x front, 2x rear)</li> <li>7x USB 2.0 (1x front, 4x rear, 2x onboard)</li> <li>optional: RS232 COM-Port</li> <li>optional: Mini-PCIe WLAN-n module</li> </ul>
<b>Power supply</b>	<ul style="list-style-type: none"> <li>300 Watt power supply (80 PLUS Bronze)</li> </ul>
<b>Warranty</b>	<ul style="list-style-type: none"> <li>24 Months Pick-Up-And-Return Service</li> </ul>
<b>Application</b>	<ul style="list-style-type: none"> <li>Home-Media</li> </ul>
<b>BTO</b>	<ul style="list-style-type: none"> <li>It is possible to modify certain components of this configuration. Please refer to the "Shuttle Systems Configurator".</li> </ul>

## Shuttle XPC Barebone H7 6700H – Special Product Features



### The H3 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 front panel and cover of the H3 chassis is made of aluminium. This leads to a stylish-robust appearance and makes it a popular design. The drives and media connectors on the front are easy to access in daily use.



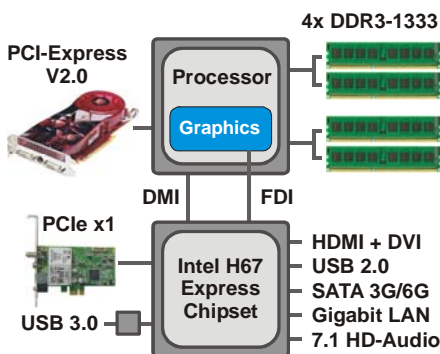
### Supports Intel 32nm Sandy Bridge Processors

Sandy Bridge is the codename for Intel's new 32nm processor microarchitecture introduced in early 2011. It is the most sweeping architectural transition from Intel since the introduction of Pentium 4. In addition to two or four CPU cores, the design incorporates the memory controller, PCIe links and the graphics processor. This integration brings higher performance, lower platform power consumption and more compact packaging. The integrated graphics processor (IGP) has become more capable. It can decode and encode H.264 high-definition video streams. The architecture provides a high-bandwidth, ring-style interconnect between the cores with their associated L3 cache partitions and the IGP. This also allows the IGP to expand its available bandwidth by making use of the L3 cache.



### 2nd Generation Intel Core processor family

The new "Sandy Bridge" processors with Socket 1155 follows the same naming system as its predecessor "Nehalem" with Socket 1156, but are not downward compatible.



### Single-Chip Chipset: Intel H67 Express

The design of the Core i3/i5/i7 processors will eliminate the need for the traditional Northbridge found on previous generation mainboards. Thus the Shuttle XPC Barebone H7 6700H sports Intel's H67 Express Platform Controller Hub (PCH) from the Intel 6-Series "Cougar Point" family which integrates the hard drive controller, network controllers, monitor and physical interfaces, PCIe links and other input/output functionalities.



### 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.



#### 4x USB 3.0

The Shuttle XPC Barebone H7 6700H sports four USB 3.0 ports (2x front, 2x rear) besides five USB 2.0 ports. 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 to USB 1.1. At a glance, USB 3.0 connectors seem no different to USB 2.0 connectors, however USB 3.0 connectors have 5 more pins placed inside the connector itself. USB 2.0 can provide a maximum of 500mA power to the USB device while USB 3.0 can provide a maximum output of 900mA, which is important for portable hard drives. USB 3.0 also comes with better power saving features to let your devices consume less power when in idle mode.

#### SATA 3.0 with up to 6 Gbit/s speed

The Shuttle XPC Barebone H7 6700H 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..

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

The Shuttle XPC Barebone H7 6700H is equipped with one PCI-Express x16 Version 2.0 slot delivering a bandwidth of up to 16GB/s which is twice the speed of PCI-E 1.0. So there is plenty of potential for the newest graphics cards. It is downward compatible, allowing for use of most of the present graphics cards as well.

#### Built-in Intel® HD Graphics Engine

The Intel GMA HD 3000 / 2000 graphics processor has been moved onto the same die as the CPU. It supports HDMI 1.4a standard with 3D stereoscopic playback, hardware encoding for H.264 and MPEG-2 video, full 1080p high-definition video playback - including Blu-ray disc movies, DirectX 10.1 and Shader 4.1. HD 2000 has 6 execution units (similar to shader/stream processors) while HD 3000 has 12, the latter is only available on the "K" series, though the i7's allow for a higher maximum dynamic graphics frequency. With all these improvements and changes to the architecture, this GPU is comparable to entry level discrete cards like AMD Radeon HD 5450.

#### Supports Dual-Slot Graphics Cards

Despite the small housing, the H7 6700H is capable of running dual-slot (double-height) PCI Express graphics cards. Note that the integrated graphics will be disabled when using a discrete graphics card.



**HD Audio capabilities**

The Shuttle XPC Barebone H7 6700H supports 7.1 channel audio via four analog stereo audio ports or the optical S/PDIF out. In addition, HDMI combines high bandwidth video with digital audio in a single port. It supports up to 8 channels of uncompressed audio at sample sizes of 16-bit, 20-bit, and 24-bit, with sample rates of 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, and 192 kHz. HDMI also supports such as Dolby Digital and DTS, lossless compressed audio streams Dolby TrueHD and DTS-HD Master Audio.



**80 PLUS BRONZE certified Power Supply**

The Shuttle XPC Barebone H7 6700H 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% of energy efficiency at 20/50/100% of rated load which reduces energy consumption and increases the computers reliability. In addition, the power supply uses a 50mm cooling fan providing the same airflow, but spins slower than previous 40mm models to make the system run even more quietly.



**Up to 16GB of memory**

The Shuttle XPC Barebone H7 6700H can be delivered with 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.



**External Serial ATA (eSATA)**

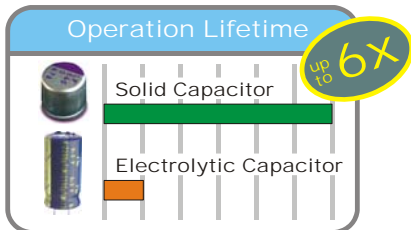
eSATA bears the following advantages:

- + Up to six times faster than USB 2.0/Firewire
- + Robust and user-friendly external connector
- + High-performance, cost-effective expansion storage
- + Up to two meter shielded cables and connectors



**Optional: Serial RS-232 port (COM)**

As an option, you can install one serial COM port (RS232) in the back panel. Today, many consumer PCs do no longer have this legacy port, since that interface has been superseded by USB. Still, they are commonly used for applications of industrial automation systems, scientific analysis, and POS systems.



**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.

Socket 1155 processor overview (Date: August 2011)

Name	Model	Cores	HT	Clock	Turbo	Cache	TDP	Graphics	Graphics clock
Celeron	G440	1	-	1.6 GHz	-	1 MB	35W	HD	650~1000 MHz
	G530	2	-	2.4 GHz	-	2 MB	65W	HD	850~1000 MHz
	G530T	2	-	2.0 GHz	-	2 MB	35W	HD	650~1100 MHz
	G540	2	-	2.5 GHz	-	2 MB	65W	HD	850~1000 MHz
Pentium	G620T	2	-	2.2 GHz	-	3 MB	35W	HD	650~1100 MHz
	G620	2	-	2.6 GHz	-	3 MB	65W	HD	850~1100 MHz
	G630	2	-	2.7 GHz	-	3 MB	65W	HD	850~1100 MHz
	G630T	2	-	2.3 GHz	-	3 MB	35W	HD	650~1100 MHz
	G840	2	-	2.8 GHz	-	3 MB	65W	HD	850~1100 MHz
	G850	2	-	2.9 GHz	-	3 MB	65W	HD	850~1100 MHz
	G860	2	-	3.0 GHz	-	3 MB	65W	HD	850~1100 MHz
Core i3	2100T	2	Ja	2.5 GHz	-	3 MB	35W	HD 2000	650~1100 MHz
	2100	2	Ja	3.1 GHz	-	3 MB	45W	HD 2000	850~1100 MHz
	2105	2	Ja	3.1 GHz	-	3 MB	45W	HD 3000	850~1100 MHz
	2120	2	Ja	3.3 GHz	-	3 MB	45W	HD 2000	850~1100 MHz
	2120T	2	Ja	2.6 GHz	-	3 MB	35W	HD 2000	650~1100 MHz
	2125	2	Ja	3.3 GHz	-	3 MB	65W	HD 3000	850~1100 MHz
	2130	2	Ja	3.4 GHz	-	3 MB	65W	HD 2000	850~1100 MHz
Core i5	2390T	2	Ja	2.7 GHz	3.5 GHz	3 MB	35W	HD 2000	650~1100 MHz
	2300	4	-	2.8 GHz	3.1 GHz	6 MB	95W	HD 2000	850~1100 MHz
	2310	4	-	2.9 GHz	3.2 GHz	6 MB	95W	HD 2000	850~1100 MHz
	2320	4	-	3.0 GHz	3.3 GHz	6 MB	95W	HD 2000	850~1100 MHz
	2400S	4	-	2.5 GHz	3.3 GHz	6 MB	65W	HD 2000	850~1100 MHz
	2405S	4	-	2.5 GHz	3.3 GHz	6 MB	65W	HD 3000	850~1100 MHz
	2400	4	-	3.1 GHz	3.4 GHz	6 MB	95W	HD 2000	850~1100 MHz
	2500T	4	-	2.3 GHz	3.3 GHz	6 MB	45W	HD 2000	650~1250 MHz
	2500S	4	-	2.7 GHz	3.7 GHz	6 MB	65W	HD 2000	850~1100 MHz
	2500	4	-	3.3 GHz	3.7 GHz	6 MB	95W	HD 2000	850~1100 MHz
Core i7	2500K	4	-	3.3 GHz	3.7 GHz	6 MB	95W	HD 3000	850~1100 MHz
	2600S	4	Ja	2.8 GHz	3.8 GHz	8 MB	65W	HD 2000	850~1100 MHz
	2600	4	Ja	3.4 GHz	3.8 GHz	8 MB	95W	HD 2000	850~1350 MHz
	2600K	4	Ja	3.4 GHz	3.8 GHz	8 MB	95W	HD 3000	850~1350 MHz

K = unlocked, S = Performance optimized lifestyle, T = Power optimized lifestyle, HT = Hyper Threading

Intel HD graphics HD 3000/2000 supports 12/6 Execution Units (Shader-Quads) and DirectX 10.1

Note: Intel® H67 Express Chipset does not enable overlocking features of unlocked 2nd generation Intel Core processor family (K series: Core i5-2500K and Core i7-2600K).

Please refer to the support list for detailed processor support information at [global.shuttle.com](http://global.shuttle.com).

Shuttle Mini PC with H67 chipset available in two chassis designs:

**H3 6700H**

Open front



**H7 6700H**

With front doors



## Shuttle XPC Barebone H7 6700H Specifications

<i>Basis</i>	This PC system is based on Shuttle XPC Barebone SH67H7
<i>Chassis</i>	Black aluminum chassis Storage bays: 1 x 5.25" (external), 2 x 3.5" (1x internal, 1x external) Dimensions: 32.5 x 20.8 x 18.9/19.6 cm (LWH) without/with rubber feet Volume: 12.8 litres
<i>Operating system</i>	Windows 7 Home Premium or Professional 32 Bit or 64 Bit version English, German, French, Spanish, Italian, Dutch, Danish
<i>Mainboard &amp; Chipset</i>	Shuttle FH67, Shuttle form factor, proprietary design for Shuttle XPC Chipset/Southbridge: Intel® H67 Express (Codename: Cougar Point) Platform Controller Hub (PCH) as Single-Chip-Solution Passive chipset cooling with heat sink The Northbridge is integrated into the processor. Solid Capacitors for sensitive areas provide excellent heat resistance for enhanced system durability AMI BIOS, SPI Interface, 32MBit Flash-ROM
<i>Processor</i>	Intel Core i3 / i5 / i7 or Pentium desktop processors Codename "Sandy Bridge", 32nm process technology Socket 1155 (LGA 1155) The Processor integrates PCI-Express, memory controller and the graphics engine on the same die
<i>Processor Cooling</i>	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
<i>Memory</i>	Up to 16 GB DDR3-1333 standard desktop memory in 4 x 240 pin DIMM slots
<i>Optical drive</i>	DVD writer or Blu-ray combo/writer (5.25")
<i>3.5" storage</i>	Configurable with one or two 3.5" drives: e.g. hard disk(s), SSD, card reader

<p><i>Integrated graphics</i></p>	<p>Intel® HD Graphics 2000/3000 integrated in the processor                  Supports Pixel Shader 4.1, DirectX 10.1                  Maximum shared memory size: 1692MB                  Supports HDMI 1.4a, max. resolution up to 1920x1200 @ 60Hz                  Supports DVI, max. resolution up to 1920x1200 @ 60Hz                  Supports D-Sub, max. resolution up to 2048x1536 @ 75Hz (optional VGA-to-DVI-adapter required)                  Supports Blu-ray Stereoscopic 3D with HDMI 1.4a                  Supports HDCP function with DVI and HDMI ports                  Supports Full HD 1080p Blu-ray (BD) / HD-DVD playback with DVI and HDMI ports                  Supports Dual-Independent-Display via HDMI and DVI-I port **)                  HDMI supports HD-video plus multi-channel digital audio on a single cable</p>
<p><i>Optional graphics card</i></p>	<p>AMD/ATI or NVIDIA PCI-Express x16 graphics card                  Supports Dual-slot (double-width) graphics cards - in this case the second PCI-Express slot will be occupied.                  If a discrete graphics card is used, the onboard graphics will be deactivated.</p>
<p><i>8-channel audio</i></p>	<p>7.1 channel High Definition Audio with Realtek ALC888 codec                  Azalia standard support                  Analog: line-out (7.1-ch), line-in, microphone, AUX input (onboard)                  Digital: optical S/PDIF-out (Digital Audio also via HDMI output)</p>
<p><i>Gigabit LAN</i></p>	<p>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)</p>
<p><i>Front Panel</i></p>	<p>Microphone input                  Headphone output                  2x USB 3.0                  External Serial ATA (eSATA 3Gb/s) + USB 2.0 Combo                  Power button                  Power indicator ( LED)                  Hard disk drive indicator ( LED)                  Reset button</p>
<p><i>Back Panel</i></p>	<p>HDMI rev. 1.4a (supports digital audio) **)                  DVI-I (supports analog VGA with optional adapter) **)                  4x USB 2.0                  2x USB 3.0                  GigaBit LAN (RJ45)                  8-ch Audio line-out (2x rear/front, bass/center, surround/back)                  Audio Line-in                  External Serial ATA (eSATA 3Gb/s)                  Digital Audio: optical S/PDIF output                  Clear CMOS button                  optional: Serial port (RS-232)                  optional: integrated WLAN module</p>

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<i>Power supply</i>	<p>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 power connector: 6 pins</p>
<i>Optional accessories</i>	<p>Backpanel COM port adapter for the RS232 serial interface              Wireless LAN Modul 802.11n (Mini-PCIe card)              500W Power supply, 80Plus Bronze (PC63)</p>
<i>Further configuration options</i>	<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>Compliance</i>	<p>EMI: FCC, CE, BSMI, C-Tick              Safety: ETL, CB, BSMI, TÜV              Other: Windows 7 Premium Logo, RoHS, Eup Lot6, Energy Star</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"> <li>- EMV-guideline 89/336/EWG electromagnetic tolerance</li> <li>- LVD-guideline 73/23/EWG use of electric devices within certain voltage-limits</li> </ul>

**\*) Overclocking Warning**

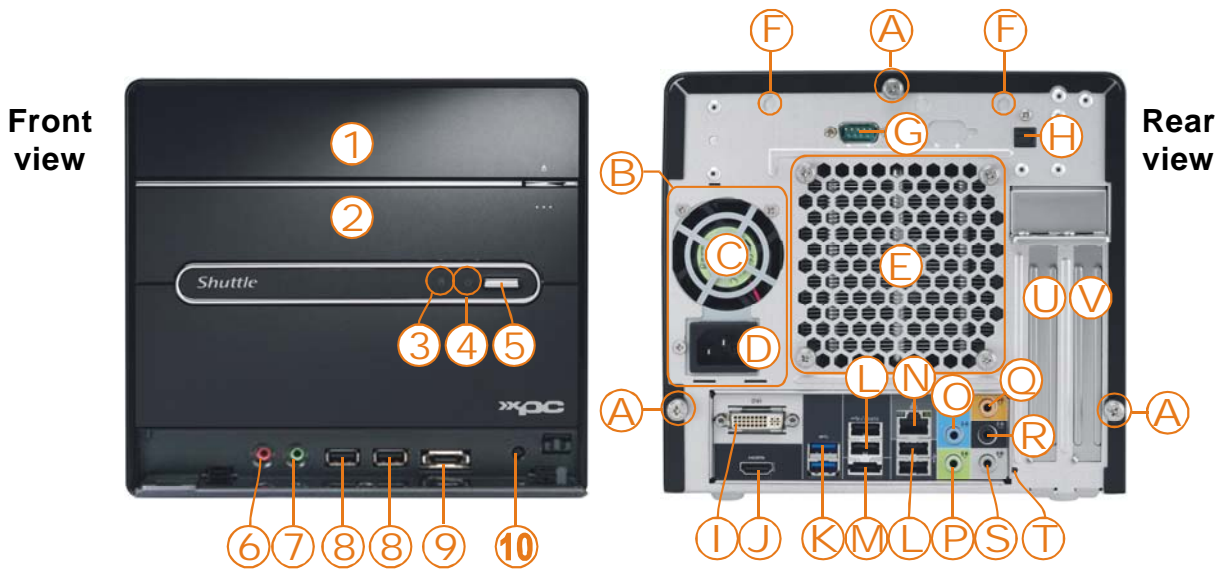
Please note there is a certain risk involved with overclocking, including adjusting the setting in the BIOS or using third-party overclocking tools. Overclocking may affect your system stability or even cause damage of the components and devices of your system. It is done at your own risk and expense. Shuttle cannot be held responsible for possible damage caused by overclocking. Intel® H67 Express Chipset does not enable overclocking features of unlocked 2nd generation Intel Core processor family (K series: Core i5-2500K and Core i7-2600K).

**\*\*)** the video outputs (HDMI und DVI-I) are deactivated, if a PCI-Express graphics card is installed.

**\*\*\*)** The Unified Extensible Firmware Interface (UEFI) is required when booting from hard disks larger than 2.2 TB under Windows 64 bit operating systems such as Windows 7, Windows Vista SP1 and Windows Server 2008/2003 SP1.



Shuttle XPC Barebone H7 6700H – Connectors



- |                                   |  |                        |
|-----------------------------------|--|------------------------|
| 1 5.25" bay for the optical drive | A Three thumbscrews                    | K 2x USB 3.0           |
| 2 3.5" bay                        | B Power supply                         | L 4x USB 2.0           |
| 3 Hard disk LED indicator         | C Power supply fan                     | M External Serial-ATA  |
| 4 Power LED indicator             | D AC power connector                   | N Gigabit LAN (RJ45)   |
| 5 Power button                    | E Heat-pipe cooling system             | O Audio Line-in        |
| 6 Headphone output                | F Perforation for optional WLAN module | P Audio Surround Front |
| 7 Microphone input                | G COM / RS232 (optional)               | Q Audio Center/Bass    |
| 8 2x USB 3.0 ports                | H Dig. S/PDIF audio output             | R Audio Surround Rear  |
| 9 eSATA+USB combo port            | I DVI-I video output *)                | S Audio Surround Side  |
| 10 Reset button                   | J HDMI video output *)                 | T Clear-CMOS-Button    |
|                                   |  | U PCI-Express X16 slot |
|                                   |  | V PCI-Express X1 slot  |

\*) Remark:: the video outputs DVI-I (I) and HDMI (J) cannot be used, if a PCI-Express graphics card is installed.

