

### More connectivity, performance and efficiency

The ultra-compact Shuttle Slim-PC X 6110B is an ideal slim-line nettop PC not only for the home user wanting to setup a small but powerful HTPC, but also for the enterprise or industrial environment. It features Dual LAN for server applications and two serial ports which are still required for many professional devices. With two digital video outputs you can maximize your efficiency by using two separate monitors. Together with an 22nm Intel Ivy Bridge processor and a 2.5" SSD storage you can build a very power efficient and reliable system for a wide range of applications, while the heat-pipe cooling ensures the system runs quietly at maximum stability.

## Shuttle Slim-PC System **X 6110B**



### Feature Highlights

<b>Slim-Design</b>	<ul style="list-style-type: none"> <li>• Slim 3.5 litre chassis, black</li> <li>• Dimensions: 24 x 20 x 7.2 cm (L/W/H)</li> </ul>
<b>Processor</b>	<ul style="list-style-type: none"> <li>• With socket LGA1155 processor, max. 65W</li> <li>• Intel Core i7, i5, i3, Pentium or Celeron</li> <li>• With 32nm or 22nm-technology</li> <li>• With advanced heat-pipe cooling system</li> </ul>
<b>Operating system</b>	<ul style="list-style-type: none"> <li>• Windows 7 or Windows 8</li> <li>• 32 or 64 Bit version</li> </ul>
<b>Chipset</b>	<ul style="list-style-type: none"> <li>• Intel H61 Express Chipset</li> </ul>
<b>Memory</b>	<ul style="list-style-type: none"> <li>• 2x 204 pin SO-DIMM slots</li> <li>• Up to. 2x 8 = 16 GB DDR3-1333 Memory</li> </ul>
<b>Graphics</b>	<ul style="list-style-type: none"> <li>• Integrated Intel HD graphics (features depends on processor)</li> <li>• Video-outputs: HDMI and DVI-I</li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>• With hard disk or SSD (SATA, 2.5")</li> <li>• Optional slimline DVD or Blu-ray drive</li> </ul>
<b>Connectors</b>	<ul style="list-style-type: none"> <li>• Video outputs: HDMI and DVI-I</li> <li>• 5.1 HD Audio (digital audio via S/PDIF)</li> <li>• 2x USB 3.0, 4x USB 2.0, 2x USB 2.0 onboard</li> <li>• Dual Gigabit LAN (RJ45), supports WOL, PXE</li> <li>• 2x COM ports (RS232 + RS232/RS422/RS485)</li> </ul>
<b>Power Supply</b>	<ul style="list-style-type: none"> <li>• External 90W fanless power adapter</li> </ul>
<b>Optional Items</b>	<ul style="list-style-type: none"> <li>• Vertical stand (PS01) or VESA mount (PV02)</li> </ul>
<b>Application</b>	<ul style="list-style-type: none"> <li>• Home, office, vertical market</li> </ul>

Images for illustration purposes only. The optical drive and the vertical stand are available optionally.

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## Shuttle Slim-PC System X 6110B – Product Features



### The 3.5-litre chassis - a clean and modern look

Shuttle has always placed great emphasis on the interior and exterior aesthetics of their Mini-PCs with the belief that a good blend of style and form factor allow the Mini-PC to be attractive, versatile and work well in almost any environment. And the X 6110B was designed just like that and shines in a clean and modern appearance. The optical drive and front panel connectors are elegantly concealed behind drive doors to provide maximum protection. This tiny tot barely stands 7.3 cm in height with a volume of 3.5 litres.



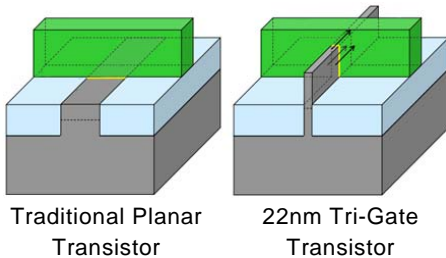
### Supports LGA1155 processors and up to 16 GB DDR3

A wide range of socket 1155 Intel processors is available starting from Celeron up to Core processors with a maximum TDP of 65W. Plus, the system memory can be installed according to individual needs up to a maximum capacity of 16 GB DDR3 memory.



### Supports Intel 22nm Ivy Bridge Processors

Ivy Bridge (IVB) is the codename for Intel's new 22nm processor microarchitecture introduced in April 2012 along with the 7-series chipsets. Ivy Bridge is the first chip to use Intel's 22nm tri-gate transistors, which will help scale frequency and reduce power consumption. At a high level Ivy Bridge looks a lot like Sandy Bridge - one monolithic die incorporates up to four CPU cores, the shared L3 cache, the memory controller, PCIe links and the graphics processor. Compared to its predecessor Sandy Bridge, the new design brings some improvements in overall performance, overclocking, power management and also features PCIe v3.0 and DDR3-1600 capability, an updated DirectX 11 graphics, new security features and CPU instructions. Ivy Bridge still uses the known LGA1155 socket.



Traditional Planar Transistor

22nm Tri-Gate Transistor



### Great Connectivity

On the front, elegantly hidden from view behind drive doors, the panel reveals two USB 2.0 ports for external drives, MP3 players etc. There are also two 3.5mm jacks for headphone and microphone. In addition, the back panel offers a wide range of I/O connectivity as well.



### 2x USB 3.0

The Shuttle Slim-PC System X 6110B sports two USB 3.0 ports besides four 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. 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 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 run more efficiently when in idle mode.



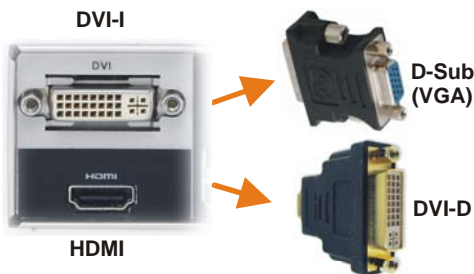
### Dual Gigabit LAN Network

Today's media-rich communications across the internet and within enterprises create new demands for clients in Local Area Networks. For that reason, Shuttle applies Gigabit LAN performance to their Mini-PCs and X 6110B even supports two of them. Dual networking allows the computer to connect to a single network using two cables at once with an appropriate switch (teaming mode with load balancing or failover function) or to two different networks depending on the needs of the user.



### Dual View Technology with HDMI and DVI (or VGA)

Dual View technology offers multiple display support on up to two separate monitors. This helps to improve on productivity by allowing for spreading multiple windows across two monitors while working with them simultaneously. X 6110B features two video outputs: HDMI and DVI-I.



### Video outputs

With optional adapters DVI-D devices can be connected to the HDMI port or VGA devices to the DVI-I port, respectively.

**DVI-D** means the connector only outputs digital video signals.

**DVI-I** means digital and analog video signals are put out.

**HDMI** supports digital video plus multi-channel digital audio output.



### Digital Audio

Beside the analog audio, X 6110B can provide digital multichannel audio in two ways: via the optical S/PDIF output (Toslink) or through HDMI. Therefore, two audio devices are shown in the Windows device manager. Connect the HDMI to your TV set and you will have both digital audio and video. For better audio experience you may use an audio receiver (amplifier) with a bunch of speakers around which is probably connected via S/PDIF. X 6110B is flexible enough to support both options.



### Two serial ports

Many PCs do not have these legacy ports any longer, since they have been superseded and replaced by USB for most consumer applications, but they are still commonly used for applications such as industrial automation systems, scientific analysis, POS systems and other industrial applications. X 6110B features two serial RS-232 ports which also support both 5 or 12V. The lower COM port also supports the RS422 and RS485 standard.



### 2x expansion slots for Mini-PCI-Express cards

X 6110B features two expansion slots for Mini-PCIe cards. One is a half size slot dedicated for an optional Wireless LAN adapter. The second has full size format and not only features a PCIe interface, but also mSATA (Mini Serial ATA), supporting the new generation of Solid State Drives (SSD) in a compact Mini PCIe card form factor.

Photos: half size WLAN card (left) and mSATA SSD card (right).



**Kensington Lock**

This is a small, metal-reinforced hole as part of an anti-theft system. (The lock-and-cable are not included)



**Heat pipe cooling**

X 6110B features a highly efficient heat pipe cooling. A heatpipe is a hollow tube containing a heat transfer liquid. As the liquid evaporates, it carries heat to the cool end, where it condenses and then returns to the hot end. Heatpipes thus have a much higher effective thermal conductivity than solid materials. Please keep the vent holes clear of obstructions.



**Optional Stand for vertical operation (PS01)**

X 6110B can be used for horizontal operation by default. With the optional stand accessory (PS01), it can also be placed in vertical position.



**Optional VESA mount (PV02)**

Its optional VESA75/100 wallmount allows it to be installed on to walls or just affixed on the rear side of a monitor which is particularly interesting for the industry segment, company buildings and public institutions.

**Shuttle XH61V series product comparison**

Model	Type	CPU	Operating system	RAM	Hard disk	Order No.	Bar code
XH61V	Barebone	-	-	-	-	PIB-XH61V11	8116860038030
X 6110B	BTO-System	Configurable (BTO)				PIK-X0611B01	-
X 6110BA	System (fixed conf.)	Intel Core i3-3220	Windows 7 Professional	4 GB	320 GB	PIT-X0611BA1	4046047102563
X 6110XA	System (fixed conf.)	Intel Core i3-3220	-	4 GB	320 GB	PIC-XH61V11	4046047102556

## Connectivity / Applications

The X 6110B's great connectivity makes it well-suited for a wide field of applications and external devices.



The X 6110B is your powerful 3.5-litre Slim-PC solution for high performance driven applications, e.g.:

- Digital Signage
- In-store Audio/Video entertainment
- Gambling
- Home-Media
- Office
- Call Center
- Education
- Kiosk
- Point of Sales (POS)
- Medical
- Automation
- Small server

## Shuttle Slim-PC System X 6110B Specifications

<i>Chassis</i>	<p>Nettop PC, slim X-type chassis, black                  Dimensions: 240 x 200 x 72 mm (LWH) = 3.5 litres                  Weight: 2.2 kg net, 3.5 kg gross                  Front doors for optical drive and front panel connectors                  Hole for the Kensington Lock at the back panel                  Operation position horizontal or vertical with the optional stand PS01</p>
<i>Operation system</i>	<p>This system comes with a Windows operating system of your own choice:</p> <ul style="list-style-type: none"> <li>- Windows 7 Home Premium or Professional, 32 or 64 Bit</li> <li>- Windows 8 or Windows 8 Pro, 32 or 64 Bit</li> </ul>
<i>Processor</i>	<p>Intel Core i3 / i5 / i7 / Pentium / Celeron processor, Socket LGA 1155 with a power consumption of up to 65W TDP</p> <ul style="list-style-type: none"> <li>- Codename "Sandy Bridge", 32nm process technology and</li> <li>- Codename "Ivy Bridge", 22nm process technology</li> </ul> <p>The Processor integrates PCI-Express, memory controller and the graphics engine on the same die (depends on processor type)</p>
<i>Cooling system</i>	<p>Processor cooling with heat pipe technology and two fans (6cm)</p>
<i>Memory</i>	<p>2x SO-DIMM slots with 204 pins                  with up to 16 GB DDR3-1333 (max. 2x 8GB)</p>
<i>Storage</i>	<p>With hard disk or SSD (SATA, 2.5")                  Optional optical slim-line drive: DVD or Blu-ray</p>
<i>Integrated graphics</i>	<p>The features of the integrated graphics function depends on the used processor type.</p> <p>"Sandy Bridge" processor: Intel® HD Graphics 2000/3000, DirectX 10.1                  "Ivy Bridge" processor: Intel® HD Graphics 2500/4000, DirectX 11</p> <p>Maximum shared memory size: 1692MB</p> <p>Supports HDMI, 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 [1]                  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 via a single cable</p>

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<p><i>Mainboard / Chipset / BIOS</i></p>	<p>Mini-ITX Mainboard "FH61V": 17 x 17 cm            Chipset: Intel® H61 Express Chipset            AMI BIOS in 8Mbit EEPROM with SPI interface            All capacitors are high quality solid capacitors            Supports hardware monitoring and watch dog functionality            Supports Unified Extensible Firmware Interface (UEFI) [2]            Supports resume after power failure</p>
<p><i>Power adapter</i></p>	<p>External 90W power adapter (fanless)            Input: 100~240V AC, 50/60 Hz            Output: 19V DC, 4.74A, max. 90W            Internal DC-DC daughter board</p>
<p><i>Mini-PCIe slots</i></p>	<p>XH61V features two Mini PCI Express expansion slots:            1) half size, supports PCIe 2.0 and USB 2.0, e.g. for WLAN cards [4]            2) full size, supports PCIe 2.0, SATA 3G and USB 2.0            e.g. for Mini SATA (mSATA) flash memory cards [5]</p>
<p><i>5.1 channel audio</i></p>	<p>Audio Realtek® ALC 662 6-channel High-Definition Audio            Three analog audio connectors (3.5mm) at the Back-Panel:            1) Front Line out (head phone)            2) Rear Surround line-out (shared with microphone input)            3) Center line-out (shared with Line in)            Digital audio output: S/PDIF (optical) and via HDMI</p>
<p><i>Dual Gigabit LAN Controller</i></p>	<p>Dual Realtek 8111E Ethernet network controller (Gigabit)            Supports 10 / 100 / 1.000 MBit/s operation            With two RJ45 ports (dual network) supports Teaming [3]            Supports WAKE ON LAN (WOL)            Supports network boot by Preboot eXecution Environment (PXE)</p>
<p><i>Front Panel Connectors</i></p>	<p>Microphone input            Audio Line-out (headphone)            2x USB 2.0            Power button            Power LED (blue)            HDD LED (yellow)</p>
<p><i>Back Panel Connectors</i></p>	<p>DVI-I connector (supports VGA with optional adapter)            HDMI 1.4 connector [1] (supports DVI-D with optional adapter)            2x USB 3.0            2x USB 2.0            2x GigaBit LAN (RJ45)            2x RS232 serial ports (5V/12V, 1x switchable to RS422 / RS485)            Audio Line-in            Audio Line-out            Audio Mic-in            S/PDIF output (optical)            Perforation for Wireless LAN antennas (2 holes)            Hole for Kensington Lock</p>

<p><i>Onboard connectors</i></p>	<p>3x Serial-ATA II, 3 Gb/s (300 MB/s)          6x USB 2.0 (two 2x5 pin header) -          two of them are occupied by the front panel USB ports          2x5 pins + 3 pins power connectors          2x fan connectors (4 pin) - one is occupied for the system fans          Clear CMOS jumper (2 pins)</p>
<p><i>Optional accessories</i></p>	<p>Vertical stand (PS01)          VESA mount (PV02)</p>
<p><i>Warranty</i></p>	<p>24 months Pick-Up-And-Return Service</p>
<p><i>Conformity Certifications</i></p>	<p>EMI: FCC, CE, BSMI, C-Tick          Safety: CB, BSMI, ETL          Others: RoHS, Energy Star V5.0, EuP Lot 6          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:          - EMV-guideline 89/336/EWG electromagnetic tolerance          - LVD-guideline 73/23/EWG use of electric devices within certain voltage-limits</p>

**[1] HDMI version supported**

HDMI 1.4 is only supported by all LGA1155 processors. Some models support HDMI 1.3 only.

**[2] Unified Extensible Firmware Interface (UEFI)** - 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.

**[3] Teaming Modus**

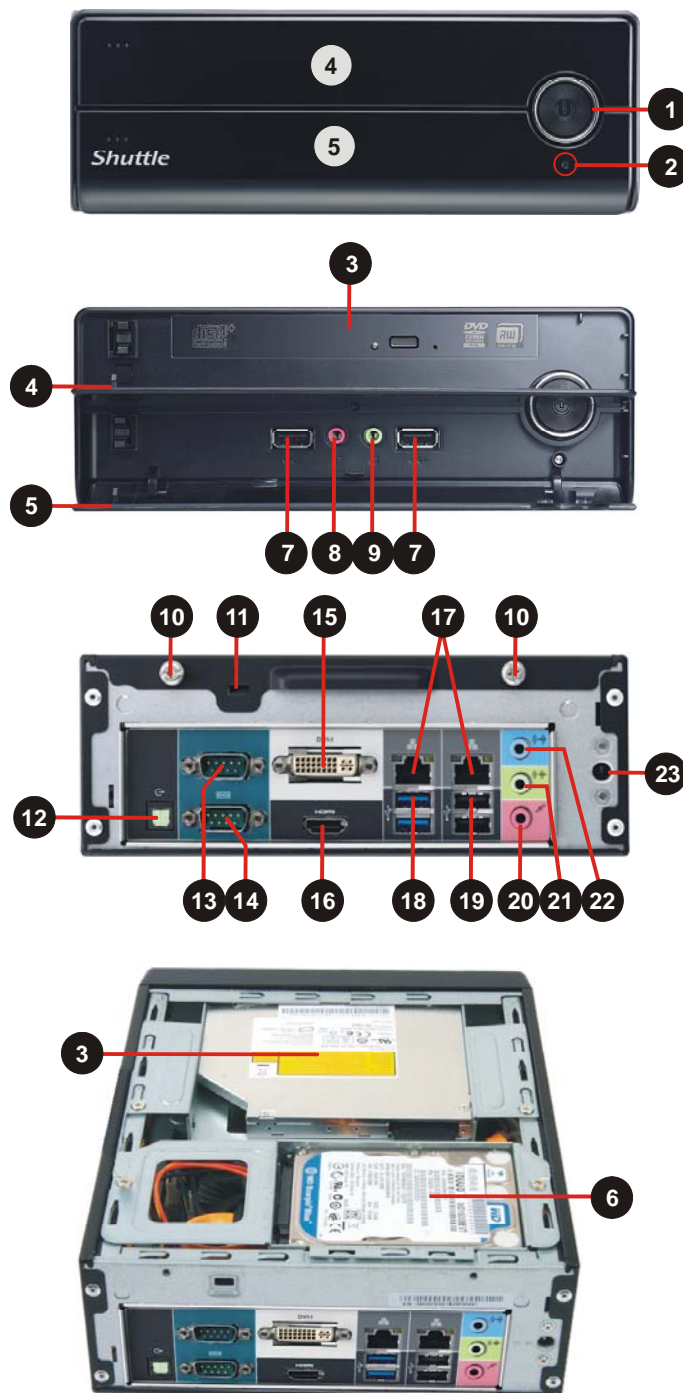
The teaming function allows you to group both available network adapters together to function as a single adapter - a method of creating a virtual LAN. The benefit of this approach is that it enables load balancing and failover.

**[4] Optional Wireless LAN module:** this Slim PC supports an optional WLAN module, which consists of a half-size Mini-PCIe card with IEEE 802.11n functionality and an external antenna with appropriate antenna cable.

**[5] mini-SATA (mSATA)** not to be confused with the "micro SATA" connector, is a newer industry standard which converts the electrical SATA interface (1.5 or 3.0 Gbit/s) to the physical "Mini PCI Express" mini card form factor.



## Shuttle Slim-PC System X 6110B – Front and Back Panel



### Front Panel

- 1 Power Button
- 2 Power LED
- 3 Bay for optical Slim DVD drive (the optical drive is not included)
- 4 Front door for DVD drive
- 5 Front door for I/O connectors
- 6 Two bays for 2.5" hard disk drives or SSDs
- 7 2x USB 2.0 ports
- 8 Microphone input
- 9 Headphone output

### Back Panel

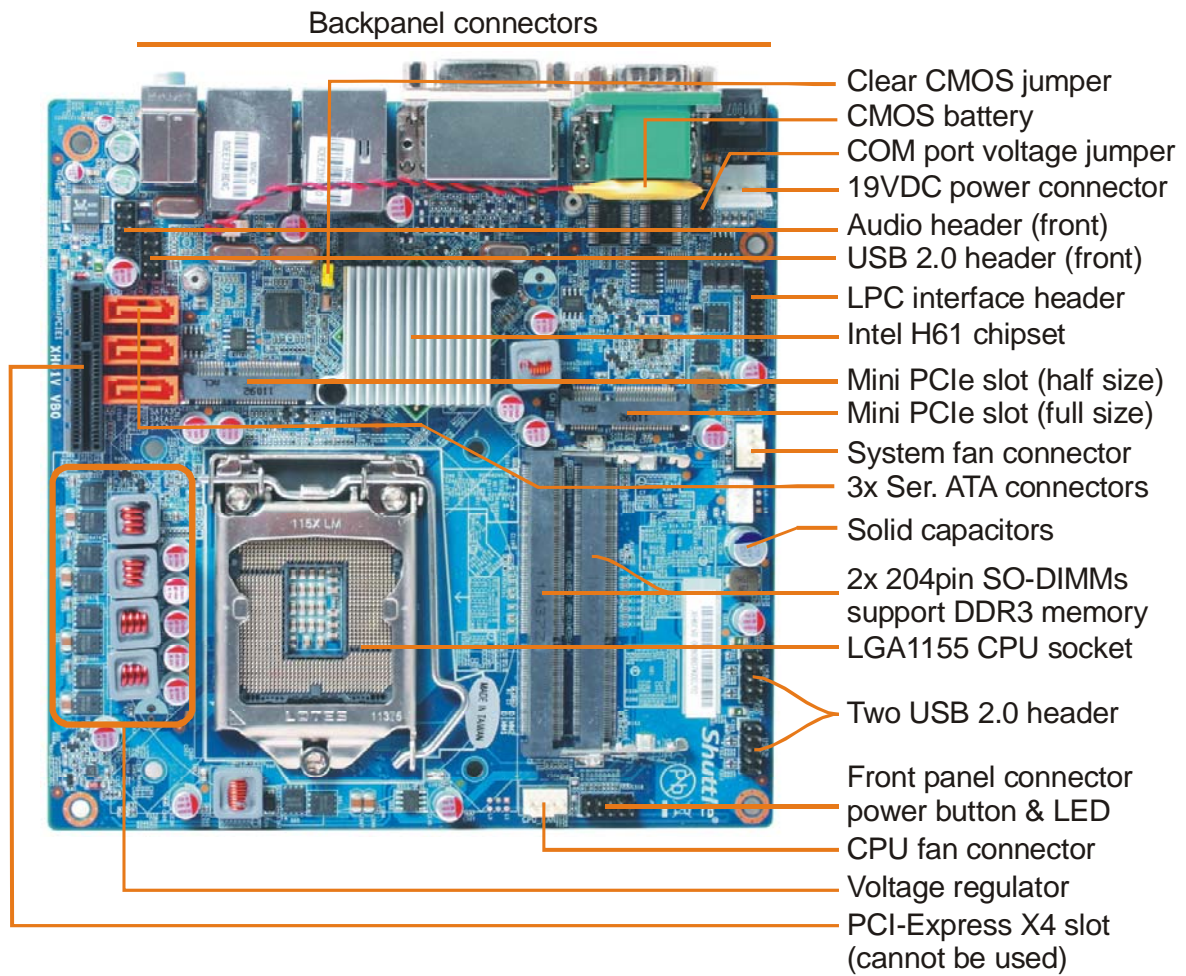
- 10 Two thumbscrews
- 11 Hole for Kensington Lock
- 12 Digital audio: S/PDIF (optical)
- 13 RS232 serial interface (COM port)
- 14 RS232 / RS422 / RS485 ser. (COM)
- 15 DVI-I – digital video output (supports VGA with optional adapter)
- 16 HDMI – digital video/audio output
- 17 Dual Gigabit network (RJ45)
- 18 2x USB 3.0
- 19 2x USB 2.0
- 20 Microphone input
- 21 Headphone / line-out
- 22 Audio line-in
- 23 Connector for the power adapter



### COM port Pin 9 Configuration

Pin 9 is a multi-functional signal. Based on Jumper 3 configuration on the mainboard, it can be configured as Ring Indicator (RI) or external power supply with either 5V or 12V voltage level (each COM port separately).

Shuttle Slim-PC System X 6110B – Mainboard



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**2<sup>nd</sup> Generation Intel Core Processor Family (max. 65W)**

**LGA1155 socket "32nm Sandy Bridge" processor overview (Date: Oct. 2012)**

Name	Model	Cores	HT	Clock	Turbo	Cache	TDP	Graphics	Graphics clock
<b>Celeron</b>	<b>G440</b>	1	-	1.6 GHz	-	1 MB	35W	HD	650~1000 MHz
	<b>G460</b>	1	Yes	1.8 GHz	-	1.5 MB	35W	HD	650~1000 MHz
	<b>G530</b>	2	-	2.4 GHz	-	2 MB	65W	HD	850~1000 MHz
	<b>G530T</b>	2	-	2.0 GHz	-	2 MB	35W	HD	650~1100 MHz
	<b>G540</b>	2	-	2.5 GHz	-	2 MB	65W	HD	850~1000 MHz
<b>Pentium</b>	<b>G620T</b>	2	-	2.2 GHz	-	3 MB	35W	HD	650~1100 MHz
	<b>G620</b>	2	-	2.6 GHz	-	3 MB	65W	HD	850~1100 MHz
	<b>G630</b>	2	-	2.7 GHz	-	3 MB	65W	HD	850~1100 MHz
	<b>G630T</b>	2	-	2.3 GHz	-	3 MB	35W	HD	650~1100 MHz
	<b>G840</b>	2	-	2.8 GHz	-	3 MB	65W	HD	850~1100 MHz
	<b>G850</b>	2	-	2.9 GHz	-	3 MB	65W	HD	850~1100 MHz
	<b>G860</b>	2	-	3.0 GHz	-	3 MB	65W	HD	850~1100 MHz
<b>Core i3</b>	<b>2100T</b>	2	Yes	2.5 GHz	-	3 MB	35W	HD 2000	650~1100 MHz
	<b>2100</b>	2	Yes	3.1 GHz	-	3 MB	45W	HD 2000	850~1100 MHz
	<b>2105</b>	2	Yes	3.1 GHz	-	3 MB	45W	HD 3000	850~1100 MHz
	<b>2120</b>	2	Yes	3.3 GHz	-	3 MB	45W	HD 2000	850~1100 MHz
	<b>2120T</b>	2	Yes	2.6 GHz	-	3 MB	35W	HD 2000	650~1100 MHz
	<b>2125</b>	2	Yes	3.3 GHz	-	3 MB	65W	HD 3000	850~1100 MHz
	<b>2130</b>	2	Yes	3.4 GHz	-	3 MB	65W	HD 2000	850~1100 MHz
<b>Core i5</b>	<b>2390T</b>	2	Yes	2.7 GHz	3.5 GHz	3 MB	35W	HD 2000	650~1100 MHz
	<b>2400S</b>	4	-	2.5 GHz	3.3 GHz	6 MB	65W	HD 2000	850~1100 MHz
	<b>2405S</b>	4	-	2.5 GHz	3.3 GHz	6 MB	65W	HD 3000	850~1100 MHz
	<b>2500T</b>	4	-	2.3 GHz	3.3 GHz	6 MB	45W	HD 2000	650~1250 MHz
	<b>2500S</b>	4	-	2.7 GHz	3.7 GHz	6 MB	65W	HD 2000	850~1100 MHz
<b>Core i7</b>	<b>2600S</b>	4	Yes	2.8 GHz	3.8 GHz	8 MB	65W	HD 2000	850~1100 MHz

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

K = unlocked, S = Performance optimized lifestyle, T = Power optimized lifestyle, HT = Hyper Threading (SMT).

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

HDMI 1.4a is only supported with 2nd Intel® Generation Core(TM) i3/i5/i7 Processors. Pentium and Celeron Processors support HDMI 1.3. Certain processor models do not include integrated graphics.

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

**3<sup>rd</sup> Generation Intel Core Processor Family (max. 65W)**

**LGA1155 socket "22nm Ivy Bridge" processor overview (Date: Oct. 2012)**

Name	Model	Cores	HT	Clock	Turbo	Cache	TDP	Graphics	GPU-Turbo
<b>Pentium</b>	<b>G2120</b>	2	-	3.1 GHz	-	3 MB	55 W	HD	1050 MHz
<b>Core i3</b>	<b>3220T</b>	2	Yes	2.8 GHz	-	3 MB	35 W	HD 2500	1050 MHz
	<b>3220</b>	2	Yes	3.3 GHz	-	3 MB	55 W	HD 2500	1050 MHz
	<b>2335</b>	2	Yes	3.3 GHz	-	3 MB	55 W	HD 4000	1050 MHz
	<b>3240</b>	2	Yes	3.4 GHz	-	3 MB	55 W	HD 2500	1050 MHz
<b>Core i5</b>	<b>3450S</b>	4	-	2.8 GHz	3.5 GHz	6 MB	65 W	HD 2500	1100 MHz
	<b>3470S</b>	4	-	2.9 GHz	3.6 GHz	6 MB	65 W	HD 2500	1100 MHz
	<b>3550S</b>	4	-	3.0 GHz	3.7 GHz	6 MB	65 W	HD 2500	1150 MHz
	<b>3570T</b>	4	-	2.3 GHz	3.3 GHz	6 MB	45 W	HD 2500	1150 MHz
<b>Core i7</b>	<b>3770T</b>	4	Yes	2.5 GHz	3.7 GHz	8 MB	45 W	HD 4000	1150 MHz
	<b>3770S</b>	4	Yes	3.1 GHz	3.9 GHz	8 MB	65 W	HD 4000	1150 MHz

K = unlocked, S = Performance optimized lifestyle, T = Power optimized lifestyle, HT = Hyper Threading (SMT).

Intel HD graphics HD 4000/2500 features 16/6 Execution Units (Shader-Quads) and supports DirectX 11/OpenGL 3.1.

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