Highly-efficient entry-level Mini-PC with Windows 8 Pro Operating System

XPC System R4 6100BB

The Shuttle XPC R4 6100BB comes with an energy-efficient Intel Pentium G630T processor (max. 35W) and is based on socket LGA1155. The reliable heatpipe cooling system ensures the PC runs at a very low noise level. With Windows 8 Pro 64 Bit operating system pre-installed and innovative features like USB 3.0, the R4 6100BB is the optimal choice for the office and home environment. This system also features two DVI video outputs providing Dual View technology. This helps improve on productivity by allowing to spread multiple windows across two monitors while working with them simultaneously. The front panel can be customized by adding individual design motifs for the maximum individuality possible.

Feature Highlights

R4 chassis	• Black aluminium chassis (13.3 litre) • Bays: 1x 5.25“ external, 2x 3.5“ internal
CPU	• Intel Pentium G630T (2.3 GHz, 3MB Cache) Socket LGA1155 • Shuttle I.C.E. Heat-pipe cooling system
OS	• Windows 8 Pro 64 Bit
Open Slots	• 1x PCIe x16 (v2.0) • 1x PCIe X1 (v2.0) • 1x Mini-PCIe X1 (v2.0)
Chipset	• Intel H61 Express PCH
Graphics	• Intel HD graphics integrated in the Intel processor, Supports HDCP, 1080p Full-HD • Video output: 2x DVI (DVI-I und DVI-D)
Memory	• 4 GB DDR3-1333-Speicher
Storage	• 320 GB SATA hard disk • DVD R/W drive
Other connectors	• 5.1-ch HD-audio • GigaBit LAN (RJ45) • 2x USB 3.0 (rear) • 8x USB 2.0 (2x front, 6x rear)
Power supply	• 250 Watt mini power supply
Application	• Business, Office
Warranty	• 24 Months Pick-Up-And-Return Service

Images for illustration purposes only.

Product Name: R4 6100BB
Shuttle Order ID: PCT-R4610BB1
EAN Code: 4046047102532

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Shuttle XPC R4 6100BB – Product Features

The R4 chassis design: a clean and modern look

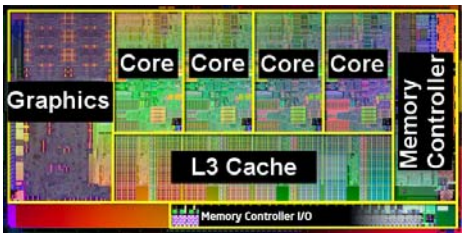
Shuttle has always placed great emphasis on the interior and exterior aesthetics of the XPC with the belief that a good blend of style and form factor allows the XPC to be attractive, versatile, and work well in almost any environment. The construction and cover of the R4 chassis is made of aluminium. 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.

Customizable

The front of this XPC can easily be customized by simply changing the mylar behind the acylic front plate. Add your individual design such as a photo, graphics or a company logo to the front panel in just a few steps.

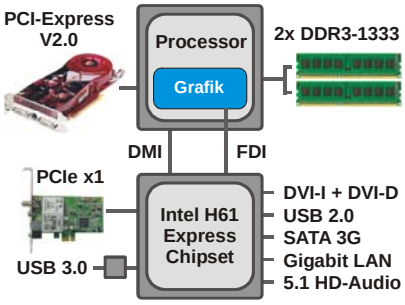
Small

Shuttle XPCs offer the performance of a desktop PC at a third of the size while using standard desktop components.



With Intel LGA1155 Sandy Bridge Processor

Sandy Bridge is the codename for Intel's new 32nm processor microarchitecture introduced in 2011. It is the most sweeping architectural transition from Intel since the introduction of Pentium 4. In addition to the 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.



Single-Chip Chipset: Intel H61 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 R4 6100BB sports Intel's H61 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.

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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.

2x USB 3.0

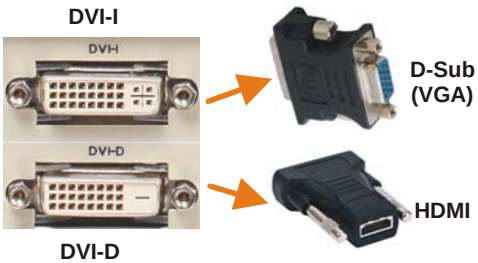
The Shuttle XPC R4 6100BB sports two USB 3.0 ports on the back panel besides eight USB 2.0 ports on both front and rear. USB 3.0 achieves a maximum data rate of up to 5.0Gbps (640MBytes/sec) which is ten times faster than USB 2.0. USB 3.0 is fully compatible to USB 2.0, but not to USB 1.1. At first USB 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 output of 500mA to the USB device while USB 3.0 can provide a maximum output of 900mA which is particularly important for portable hard drives. USB 3.0 also comes with better power saving features to let devices draw less power when idle.

Built-in Intel® HD Graphics Engine

The Intel GMA HD 2000 graphics processor has been moved onto the same die as the CPU. It supports hardware encoding for H.264 and MPEG-2 video, full 1080p high-definition video playback - including Blu-ray, DirectX 10.1 and Shader 4.1. HD 2000 has 6 execution units (similar to shader/stream processors). With all these improvements and changes to the architecture, this GPU is comparable to entry-level discrete graphics cards such as the AMD Radeon HD 5450.

Dual View Technology with two digital video ports

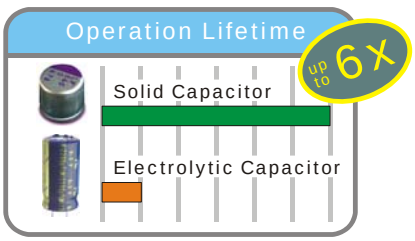
Dual View technology offers multiple display support for up to two separate monitors. This helps to improve on productivity by allowing to spread multiple windows across two monitors while working with them simultaneously. The R4 6100BB features two digital DVI video outputs.



Video outputs

With optional adapters (not included) DVI-D devices can be connected to the HDMI port or VGA devices to the DVI-I port, respectively.

D-Sub (VGA) means the connector only outputs analog video signals.
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, but the DVI port and the adapter do not provide digital audio signals.



Solid Capacitors

By using all-solid capacitors (audio excepted) Shuttle mainboards are long-life and provide industry-leading stability and reliability. The average lifespan of one solid capacitor is more than six times longer compared to the previous generation of electrolytic capacitors.

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Shuttle XPC R4 6100BB Specifications

Application	Recommended range of application: Business
Basis	System based on: Shuttle XPC Barebone SH61R4
Operation system	Microsoft Windows 8 Pro, 64 Bit version 6 languages available: German, English, French, Dutch, Italian, Spanish
Chassis	Black aluminum chassis with acrylic front plate Customizable front panel design: simply change the mylar and add your individual design such as a photo, graphics or a company logo to the front panel. Storage bays: 1 x 5.25" (external), 2 x 3.5" (internal) Dimensions: 32.5 x 21.5 x 19 cm (LWH) = 13.3 liters (without foot rubber) 9.2cm rpm-controlled system fan with 4 pin connector Kensington Security Slot at the back panel (also called a K-Slot or Kensington lock) as a part of an anti-theft system
Chipset	Chipset/Southbridge: Intel® H61 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
BIOS	AMI BIOS, SPI Interface, 32MBit Flash-ROM Supports PnP, ACPI 3.0, Hardware Monitoring Supports boot up from external USB flash memory Supports Unified Extensible Firmware Interface (UEFI) **)
Processor	Intel® Pentium® Processor G630T Package: FC-LGA4 Codename "Sandy Bridge", 32nm process technology Clock frequency: 2.3 GHz Level 2 cache: 2x 256 kB Level 3 cache: 3072 kB Instruction set: SSE 4.x, EIST, Intel 64, XD bit, Smart Cache Bus clock frequency: FSB 5000 MT/s GPU clock frequency: 850 / 1.100 MHz (Standard / Turbo) max. power consumption: 35 Watt "T" = Power optimized lifestyle (very low power consumption) The Processor integrates PCI-Express, memory controller and the graphics engine on the same die.
Heatpipe Processor Cooling	Shuttle I.C.E. (Integrated Cooling Engine) advanced I.C.E. heat-pipe technology, linear controlled 92mm fan SilentX cooling and noise reduction technology with Active Airflow

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Memory	4 GB DDR3-1333 memory
Optical drive	Multi-format 5.25" DVD R/W writer
Hard disk	320GB Serial ATA hard disk drive
Integrated graphics	Intel® HD Graphics 2000 integrated in the processor GPU clock frequency: 850 / 1.100 MHz (Standard / Turbo) Supports Pixel Shader 4.1, DirectX 10.1 Maximum shared memory size: 1692MB Supports DVI, max. resolution up to 1920x1200 @ 60Hz Supports D-Sub, max. resolution up to 2048x1536 @ 75Hz (optional VGA-to-DVI-adapter required) Supports HDCP function with DVI and HDMI ports (HDMI via optional adapter) Supports Full HD 1080p Blu-ray (BD) / HD-DVD playback Supports Dual-Independent-Display via DVI-D and DVI-I port
Expansion slots	1x PCI-Express x16 v2.0 slot (PEG, for graphics cards only) 1x PCI-Express x1 v2.0 slot, open-ended ***) 1x Mini-PCI-Express x1v2.0 half/full-size slot (for the optional WLAN module) Supports Dual-slot (double-width) graphics cards - in this case the second PCI-Express slot will be occupied. With 6 pin power connector for the graphics card.
Drive Connectors	Audio Codec: IDT 92HD89C, 5.1 channel Three analog audio connectors (3.5mm) at the Back-Panel: line-in (blue), line-out (green) and microphone input (pink) shared with 5.1 channel line-out (front, rear, center/bass) Front panel: microphone input and head phone output (line-out)
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) Supports boot from LAN (PXE)
Front Panel Connectors	Microphone input (3.5 mm) Headphone output (3.5 mm) 2x USB 2.0 Power button, Power indicator (Blue LED), Hard disk drive indicator (Yellow LED)
Back Panel Connectors	DVI-D supports HDMI with optional adapter DVI-I supports analog VGA with optional adapter 6x USB 2.0, 2x USB 3.0 GigaBit LAN (RJ45) Audio Line-out (3.5 mm), Audio Line-in (3.5 mm), Microphone Input (3.5 mm) Clear CMOS button

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Onboard Connectors	4x Serial ATA rev. 2.0, max. 3 Gbit/s (onboard) 2x USB 2.0 (2x5 pins) - occupied by front panel 1x RS232 serial interface (2x5 pins) 2x fan connectors (4 pins and 3 pins) Audio AUX input
Power supply	250 Watt mini power supply unit Input voltage range: 100~240V Connectors: 20-pin ATX, 4-pin ATX12V Other connectors: 4x SATA, 2x Molex, 1x Floppy Graphics power connector: 6 pins Active PFC (Power Factor Correction)
Environmental criteria	Operating temperature: 0~35°C Humidity: 10~90%
Warranty	24 Months Pick-Up-And-Return Service
Conformity	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

***) Overclocking Warning:**
Please note there is a certain risk involved with overclocking, including adjusting the settings 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.
****) 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 8, Windows 7, Windows Vista SP1 and Windows Server 2008/2003 SP1.
*****) Open-ended PCI-E slot** - The X1 slot uses an open-ended socket to permit physically longer cards (e.g. X4 or X8) while the speed is limited to X1.

Fixed configurations based on the Shuttle XPC Barebone SH61R4:

Name	Order No.	Operating system	Processor	Memory	Hard disk	DVD drive	Bar code (EAN)
R4 6100BA	PCT-R4610BA1	Windows 7 Professional 64 bit	Intel Pentium G630T (2.3GHz)	2 GB	320 GB	DVD R/W	4046047102365
R4 6100BB	PCT-R4610BB1	Windows 8 Pro 64 bit	Intel Pentium G630T (2.3GHz)	4 GB	320 GB	DVD R/W	4046047102532

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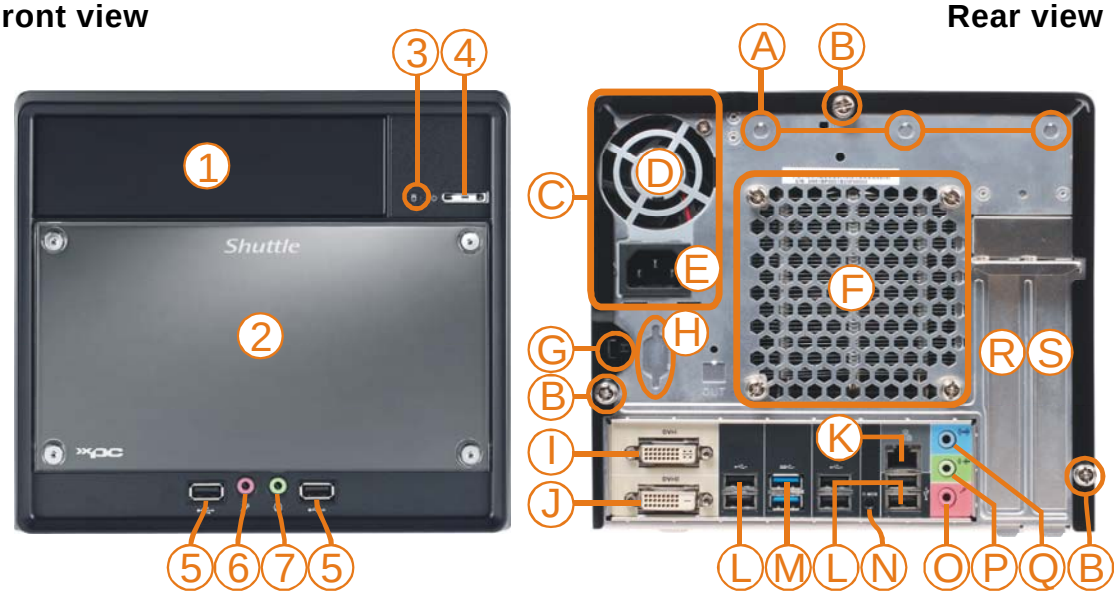
Shuttle XPC R4 6100BB – Connectors

Front view

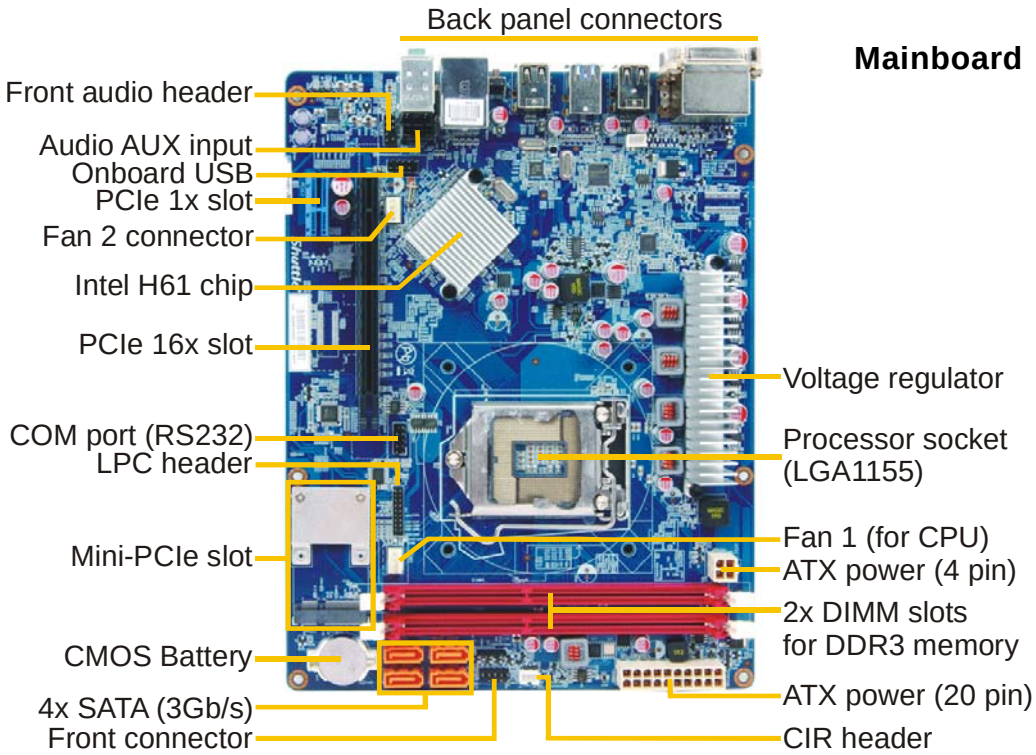
Rear view



1	5.25“ bay with DVD-R/W	**A**	Perforation for optional WLAN module	**K**	Gigabit LAN (RJ45)
2	Removable acryllic plate	**B**	Three thumbscrews	**L**	6x USB 2.0
3	Hard disk LED indicator	**C**	Power supply	**M**	2x USB 3.0
4	Power switch with LED	**D**	Power supply fan	**N**	Clear-CMOS-Button
5	2x USB 2.0 ports	**E**	AC power connector	**O**	Microphone input
6	Microphone input	**F**	Heatpipe cooling system	**P**	Audio Line-out
7	Headphone output	**G**	Hole for Kensington Lock	**Q**	Audio Line-in
		H	COM / RS232 (optional**)	**R**	PCI-Express X16 slot
		I	DVI-I video output *)	**S**	PCI-Express X1 slot
		J	DVI-D video output *)		

*) Remark: the DVI video outputs will be disabled, if a PCI-Express graphics card is installed. **) Adapter H-RS232

Mainboard



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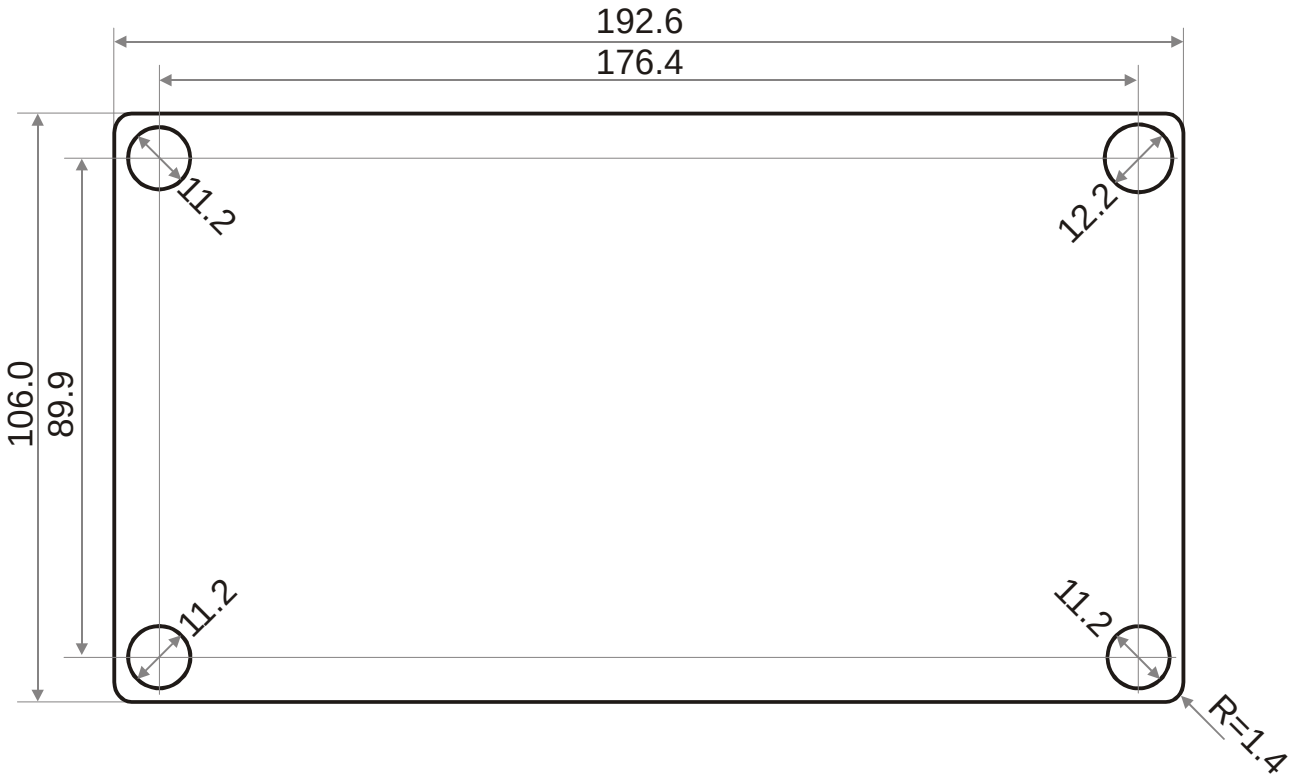
Shuttle R4 6100BB – Mylar Dimensions

The R4 front panel comes with a removable acrylic plate which allows for creating individual front designs. Simply change the mylar and add your individual design such as a photo, graphics or a company logo to the front panel in just a few steps.



All dimensions in millimeter (mm)

Example

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