Robust and powerful Slim PC to support three displays

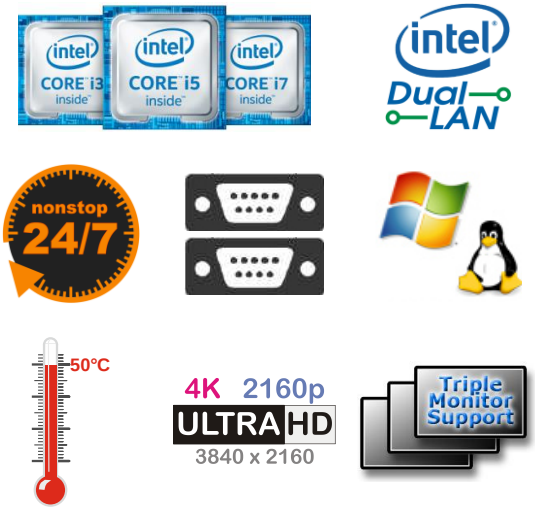
The Shuttle XPC slim Barebone DH170 is a robust 1.3l Barebone PC with H170 chipset for Intel LGA1151 desktop processors, codenamed "Skylake" and "Kaby Lake" [12]. It allows for three displays to be operated at the same time and offers Dual Intel LAN and COM ports. Its slim metal chassis comes with a VESA mount included, provides versatile connectivity and reliable operation in environments with ambient temperatures of up to 50°C. This platform is targeted at professional applications such as Digital Signage, POS, POI, gambling machines, office, healthcare and industry.

XPC slim Barebone DH170

Images for illustration only.
Processor, memory, storage and operating system not included.

Feature Highlights

Slim Design	• Slim 1.3 litre metal chassis, black • 190 x 165 x 43 mm (LWH) • Operating temperature: 0~50°C • Including VESA mount (75/100 mm)
Operating System	• The operating system is not included • Supports Windows 7, 8.1 / 10, Linux 64 bit Windows 7/8.1 is not supported with Kaby Lake processors
Processor	• Supports LGA 1151 Skylake or Kaby Lake processors up to a max. TDP of 65W [12] • Supports Core i7 / i5 / i3, Pentium, Celeron • Heatpipe cooling system with two fans
Chipset	• Intel H170 Chipset
Memory	• 2x 204-pin SO-DIMM slots • Supports DDR3L-1600 (1.35V), max. 2x16GB
Graphics	• Integrated Intel HD graphics, 4K support [4] (features depend on processor) • HDMI, 2x DisplayPort, optional VGA [5] • Supports three independent displays [3]
Storage Bays	• 1x 2.5" bay for SATA hard disk or SSD • Two Mini expansion slots: 1x M.2 2260 BM slot (PCIe x4, SATA) 1x Half-Size Mini-PCIe for optional WLAN [6]
Other Connectors	• SD card reader, 2x audio (line out, mic) • 4x USB 3.0, 4x USB 2.0, 2x USB 2.0 onboard • 2x Intel Gigabit LAN (RJ45), supports WOL • 2x COM port (RS232 + RS232/RS422/RS485) • Connector for external power button • "Always on" Jumper onboard
Power Supply	• External 90W fanless power adapter
Optional Accessories	• WLAN Module (WLN-P) • Vertical Stand (PS02) • D-Sub/VGA Port (PVG01)



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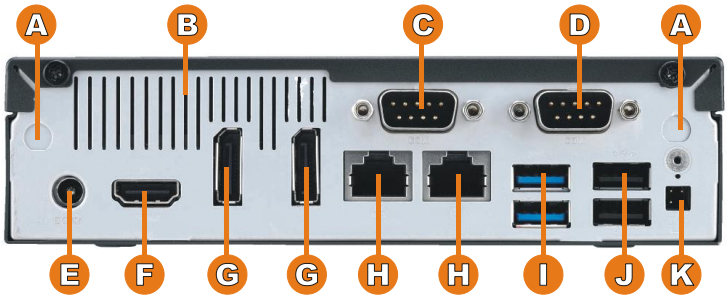
Shuttle XPC slim Barebone DH170 – Front and Back Panel

Front view

1 Microphone input
2 Headphone output
3 Power LED
4 Hard disk LED
5 Power Button
6 SD Card Reader
7 2x USB 3.0
8 2x USB 2.0

Rear view



A 2x WLAN perforation
B Ventilation grille
C COM1 supports RS232 (or optional VGA port for analog displays [5])
D COM2 supports RS232/RS422/RS485
E DC power input
F HDMI video output
G 2x DisplayPort (DP) video outputs
H 2x RJ45 Gigabit LAN
I 2x USB 3.0
J 2x USB 2.0
K Connector for external power button, Clear CMOS and 5V DC voltage (four pins, 2.54 mm pitch)
L 2x hole for Kensington Lock
M VESA mount (two parts)

Right side

Left side

COM port Pin 9 Configuration
Pin 9 is a multi-functional signal. Based on jumper JP1 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).

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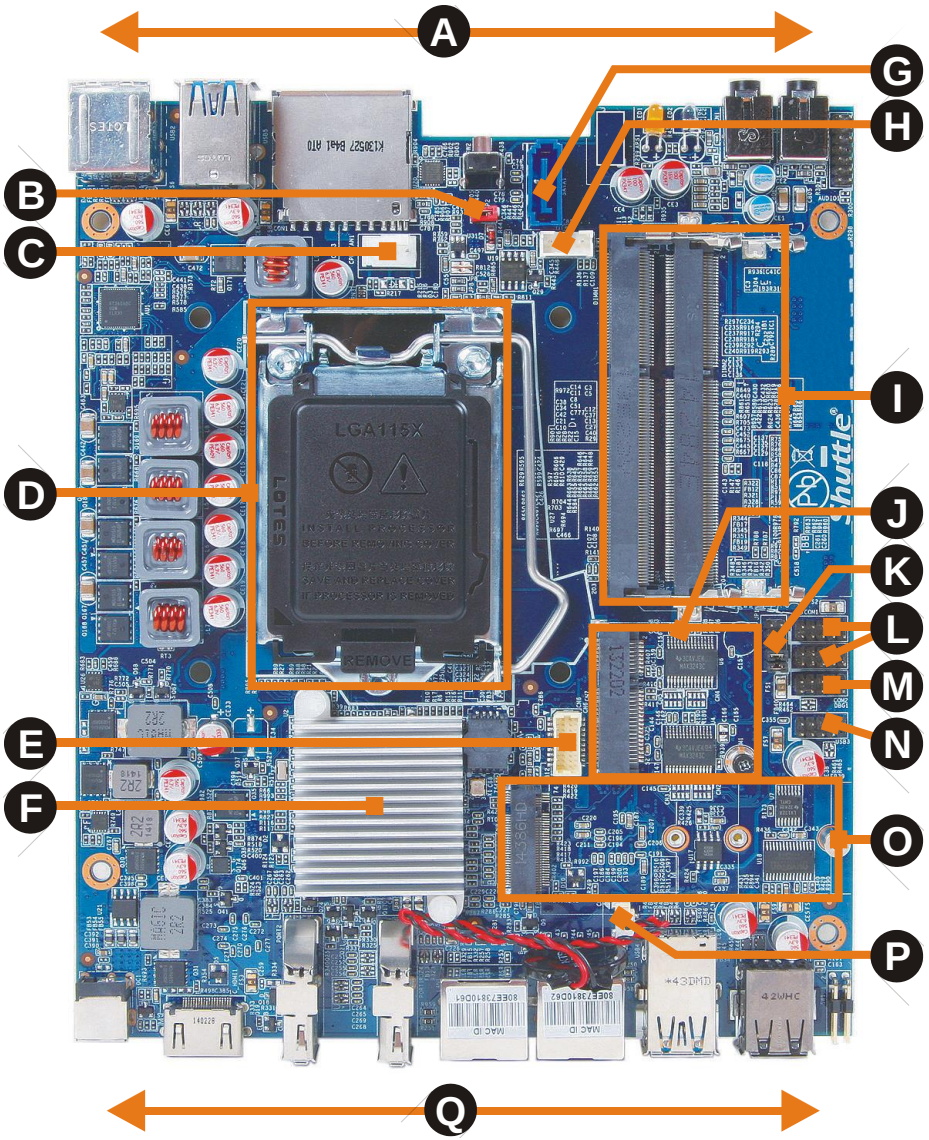
Shuttle XPC slim Barebone DH170 – Mainboard



A	Front Panel
B	Always Power-On Jumper
C	Fan Connector
D	LGA1151 Processor Socket
E	VGA Connector
F	Intel H170 Chipset
G	SATA 3.0 (6 Gbps) Connector
H	SATA Power Connector
I	SO-DIMM Socket for DDR3L Memory

J	Mini-PCIe Slot (Half-Size)
K	COM1/COM2 Pin 9 Configuration
L	COM1/COM2 serial Ports
M	Debug Interface
N	USB 2.0 Header
O	M.2 2260 Slot
P	Battery Connector
Q	Back Panel

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Shuttle XPC slim Barebone DH170 – Required Components

The following components need to be added to make it a fully-configured Mini PC

LGA1151 processor
“Skylake” or “Kaby Lake”
TDP max. 65W
Core i7 / i5 / i3, Pentium
or Celeron

2.5” SATA hard disk
or Solid State Disk (SSD)
(max. height: 12.7 mm)

Windows / Linux
Operating System

Up to two DDR3L-1600
SO-DIMM memory modules
max. 16 GB each

Optional:
WLAN-Accessory WLN-S

Optional:
M.2 2260/2242 SSD storage

Optional: VGA port Accessory PVG01
Installing PVG01 means one serial port (COM) less can be used at the backpanel.

Optional:
Vertical Stand PS02
for vertical operation

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Connectivity / Applications

The Shuttle XPC slim Barebone DH170's wealth of ports makes it well-suited for a wide field of applications and external devices.

The DH170 is your powerful 1.3-litre Slim PC solution for particularly:

- Digital Signage with up to three displays simultaneously
- In-store Audio/Video entertainment
- Gambling
- Home-Media
- Office
- Call Center
- Education
- Kiosk
- Point of Sales (POS)
- Medical
- Automation
- Small Server

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Shuttle Slim-PC Barebone DH170 – Product Features

Robust, stylish and particularly small

You should have held it in your own hands to see how small it actually is. Barely measuring a volume of 1.35 litre, its steel chassis gives it the appropriate stability required for professional applications in digital signage. Despite its dimensions of 19 x 16.5 x 4.3 cm (LWH), the overall system performance is very high thanks to support of Intel Core desktop processors. The interior of the DH170 is very tidy too so that it won't take long to set it up. Its sleek and stylish looks lets it easily find a place in both home and office environments.

Low noise thanks to heatpipe cooling system

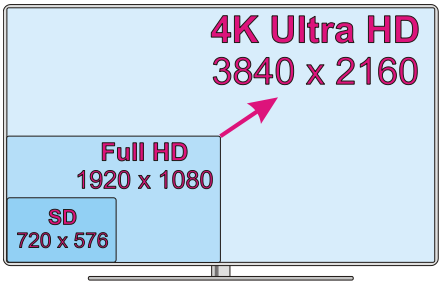
An active dual-fan heatpipe cooling system ensures whisper-quiet operation and system stability.

Extended temperature range and reliability

The DH170 is outstandingly robust thanks to its rugged chassis. With an ambient temperature range from 0-50 °C it is suitable for use in the most demanding environments. Solely designed with all solid capacitors, DH170 is guaranteed to deliver maximum stability, reliability and longer system lifetime for long-term applications like digital signage. **Caution:** for high ambient temperatures over 40°C we strongly recommend to use SSDs (supporting at least 70°C) and rugged SO-DIMM memory with a wide temperature tolerance (up to 95°C).

Triple Display with HDMI and 2x DisplayPorts (optional VGA)

DH170 features three digital video outputs: HDMI and 2x DisplayPort. This multi-monitoring technology offers multiple display support on up to three separate monitors. This helps improve on productivity by allowing for spreading multiple windows across three monitors while working with them simultaneously. Furthermore, the DH170 supports an optional D-Sub/VGA port.



Supports 4K Ultra HD at 60Hz

The DH170 supports displays running at 4K (3840 x 2160 / 2160p) high resolution at 60Hz frames per second when connected to its DisplayPort video outputs. Being the successor to the Full HD standard, Ultra HD delivers a four times higher resolution with a wider colour space and colour depth.

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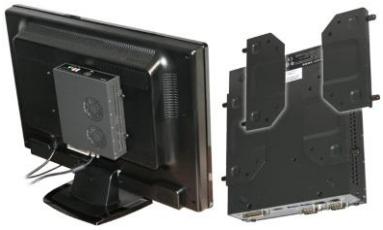
Two Mini-Slots: Mini PCI-Express and M.2

The **Half-Size Mini-PCI-Express slot** is intended for Wireless LAN adapter cards (e.g. the Shuttle Accessory WLN-S) as shown in the picture on the right.

The **M.2 slot (type 2260)** is fully-equipped with 4X PCI-Express v3.0 lanes, SATA 3.0 und USB 2.0 interfaces. Modern M.2 SSDs with PCI Express interface (PCIe) provide a significant higher bandwith compared to the usual SATA standard. Type 2260 means it supports the usual M.2 cards with a width of 22mm and a length of 60mm, but also 2230 and 2242 standard cards are supported.



VESA mount

The supplied 75/100mm VESA mount allows for installation on to walls or monitors which is particularly interesting for the industry segment, company buildings and public institutions. Other than this, the chassis bears numerous threaded holes (M3) enabling it to be fitted almost anywhere.

Kensington Lock

This is a small, metal-reinforced hole as part of an anti-theft system. The DH170 provides an appropriate hole on both side of its chassis. The lock and cable are not included.

External power button by separate remote line

If because of space constraints (e.g. in case of fixed installation), the machine cannot be switched on by pressing the front power button, it can be powered on by a separate remote line. You will find an appropriate four-pin-connector at the back panel of the DH170 (pitch 2.54 mm). Furthermore, this connector provides a Clear CMOS function and +5V DC voltage supply for external devices.

- Front Panel -

Power on after Power fail

The BIOS setup provides a "Power-On after Power Fail" function that can be found under "Power Management Configuration". As the name indicates, this function determines the PC's behaviour after power failure: (1) unconditional power on, (2) restore former status (3) keep system turned off (4) Power-On by LAN or (5) Power-On by Real-Time-Clock. As a matter of the nature of this function, it may fail after short power failures. This is why the DH170 also comes with a hardware-based solution. By removing Jumper JP2 (see image) the system will start unconditionally once power is applied.

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Product Comparison

	DH110SE	DH110	DH170	DQ170
Chassis	1.35L, 19 x 16.5 x 4.3 cm			
Processor Support	**Socket LGA1151,** "Skylake" (6th Gen.) or "Kaby Lake" (7th Gen.), TDP max. 65W Note: Windows 7 and 8.1 is not supported in connection with Kaby Lake processors.			
Chipset	**Intel H110**	**Intel H110**	**Intel H170**	**Intel Q170**
Operation System Support	Windows 7, 8.1, 10 and Linux (64-bit only)			
TPM-Support	**Firmware-TPM** (optional)	**Firmware-TPM** (optional)	**Firmware-TPM** (opt.)	**Hardware-TPM Chip**
Multi-Display	supports **2 Displays**	supports **2 Displays**	supports **3 Displays**	
UHD/4K Support	HDMI: 2160p/30 (30 frames/sec.) DisplayPort: 2160p/60 (60 frames/sec.)			
Memory Support	2x SO-DIMM (**260-pin**) max. 2x 16 GB **DDR4-2133**	2x SO-DIMM (**204-pin**) max. 2x 16 GB **DDR3L-1600**		
Audio	Realtek ALC662			
Network	**Single LAN** Realtek RTL8111G	**Dual LAN** Intel i211 + Intel i219LM	**Dual LAN** Intel i211 + Intel i219LM	
Drive Bays	1x 2.5" / 12.5mm SATA			
Mini-Slots	1x M.2-2260 **SATA** 1x M.2-2230 supports WLAN	1x M.2-2260 **SATA/PCIe** 1x M.2-2230 supports WLAN	1x M.2-2260 **SATA/PCIe** 1x Mini-PCIe Half Size	
Front Panel	Power button, Power LED, HDD LED SD card reader, Head-phones, Microphone, 2x USB 3.0, 2x USB 2.0			
Back Panel	HDMI 1.4, DisplayPort 1.2 **4x USB 2.0** **1x Gigabit LAN (Realtek)** 2x Kensington Lock 2x WLAN antenna (opt.) External power button (opt.)	HDMI 1.4, DisplayPort 1.2 **2x USB 3.0** **1x USB2.0/eSATA Combo** **1x PS/2 Combo** **2x Gigabit LAN (Intel)** **RS232 + RS232/422/485** 2x Kensington Lock 2x WLAN antenna (opt.) External power button (opt.)	HDMI 1.4, **2x DisplayPort 1.2** 2x USB 3.0, **2x USB 2.0** **2x Gigabit LAN (Intel)** **RS232 + RS232/422/485** 2x Kensington Lock 2x WLAN antenna (opt.) External power button (opt.)	
Accessories	-/-	**VESA mount**	**VESA mount**	
Optional Accessories	**WLN-M:** WLAN Kit **PS02:** Vertical Stand **PV04:** VESA Mount	**WLN-M:** WLAN Kit **PS02:** Vertical Stand **PVG01:** D-Sub/VGA Port	**WLN-P:** WLAN Kit **PS02:** Vertical Stand **PVG01:** D-Sub/VGA Port	
Operation Temperature	max. 50 °C	max. 50 °C	max. 50 °C	
Power Adapter	90 W / 19 V	90 W / 19 V (also supports 84 W / 12 V power adapters)	90 W / 19 V	
Front View				
Rear View				

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Shuttle XPC slim Barebone DH170 - Specifications

Chassis	Nettop PC with black chassis made of metal Dimensions: 190 x 165 x 43 mm (LWH) = 1.35-litre Weight: 1.3 kg net and 2.1 kg gross Two holes for Kensington Locks and numerous threaded holes (M3) at both sides of the chassis
Storage Bay	1x 6.35 cm / 2.5" storage bay supports one hard disk or SSD drive Device height: 12.5 mm (max.)
Operation System	This system comes without operating system. It is compatible with Windows 10 / 8.1 / 7 and Linux.- 64 bit. Note: Windows 7 and 8.1 is only supported in combination with the 6th generation Intel Core processors "Skylake". Additional note on Windows 7 see [11]
Mainboard Chipset BIOS	Chipset: Intel® H170 Chipset (Intel® DH82H170 PCH, code name "Sunrise Point") Platform Controller Hub (PCH) as Single-Chip-Solution AMI BIOS in 8 Mbit EEPROM with SPI interface All capacitors are high quality solid capacitors Supports hardware monitoring and watch dog functionality Supports Unified Extensible Firmware Interface (UEFI) Supports power on after power failure [8]
Power Adapter	External 90 W power adapter (fanless) Input: 100~240 V AC, 50/60 Hz Output: 19 V DC, 4.74 A, max. 90 W DC Connector: 5.5/2.5mm (outer/inner diameter)
Processor Support	Socket LGA 1151 (H4) supports Intel Core i7 / i5 / i3, Pentium and Celeron processors - 6th generation, code name "Skylake" - 7th generation, code name "Kaby Lake" [12] Maximum supported processor power consumption (TDP) = 65W 14nm process technology, up to 8 MB of L3 cache Not compatible with Intel Xeon E3 V5 processors for socket LGA1151 and processors with the older Socket LGA 1150. Does not support the unlock-function of Intel K-Series processors. The processor integrates PCI-Express, memory controller and the graphics engine on the same die (performance features depending on processor type) Please refer to the support list for detailed processor support information at global.shuttle.com.
Processor Cooling	Heatpipe processor cooling with two 60 mm fans on the upper side of the chassis

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Memory Support	2x SO-DIMM slots with 204 pins Supports DDR3L-1333/1600 (PC3-10600/12800) SDRAM at 1.35V Supports maximum total size of 32 GB (max. 16 GB per module) Supports Dual Channel mode Supports two unbuffered DIMM modules (no ECC) Notice: This mainboard does only support 1.35V DDR3L memory modules. DDR3L has a lower operation voltage compared to DDR3. The maximum memory clock rate depends on the processor type.
Integrated Graphics	The features of the integrated graphics function depend on the processor type used. Three digital video outputs: 2x DisplayPort 1.2 and 1x HDMI 1.4 - supports three independent Full HD displays simultaneously [3] - supports Full HD resolution at 1920x1200 (1080p/60Hz) - supports 4K UHD resolution at 3840 x 2160 (2160p/60Hz on DP, 30Hz on HDMI) [4] - supports Blu-ray (BD) playback with HDCP - supports HD video plus multi-channel digital audio via a single cable. Optional analog D-Sub/VGA video output [5]
M.2 Slot	The M.2 2260 BM slot provides the following interfaces: - PCI-Express v3.0 X4 - SATA v3.0 (6 Gbps) - USB 2.0 It supports M.2 cards with a width of 22 mm and a length of 30, 42 or 60 mm (type 2230, 2242, 2260). Supports M.2 SATA SSDs, M.2 PCIe SSDs and other M.2 cards.
Mini PCIe Slot	Mini-PCIe Half-Size slot with PCIe 2.0 and USB 2.0 interface supports one optional Wireless Network (WLAN) card [6]
Audio	Audio Realtek® ALC 662 5.1 channel High-Definition Audio Two analog audio connectors (3.5mm) at the front panel: 1) 2-channel line out (headphones) 2) microphone input Digital multi-channel audio output: by HDMI and DisplayPort
Dual Gigabit LAN Controller	Dual network with two RJ45 ports Used network chips: 1) Intel i211 Ethernet Controller with MAC, PHY and PCIe interface 2) Intel i219LM PHY connected to the MAC of the processor Supports 10 / 100 / 1.000 MBit/s operation Supports WAKE ON LAN (WOL) Supports network boot by Preboot eXecution Environment (PXE) Supports Teaming mode [9]
Drive Connectors	1x Serial-ATA III, 6 Gb/s (600 MB/s) bandwidth With Serial-ATA power connector (onboard)

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Card Reader	Integrated card reader Supports SD, SDHC and SDXC memory flash cards Supports boot up from SD card
Front Panel Connectors	Microphone input Audio Line-out (headphone) 2x USB 3.0 2x USB 2.0 SD card reader Power button Power LED (blue) HDD LED (yellow)
Back Panel Connectors	1x HDMI connector [1] 2x DisplayPort connector (DP) [2] Optional 1x D-Sub VGA connector (Accessory PVG01 [5]) 2x USB 3.0 2x USB 2.0 2x Gigabit LAN (RJ45) 2x RS232 serial port, 9-pin D-Sub (5/12V, 1x RS422/RS485) [10] DC-input connector for external power adapter 4-pin connector (2.54 mm pitch) supports - external power on button - Clear CMOS function - +5V DC voltage for external components 2x Perforation for optional Wireless LAN antennas 2x hole for Kensington Locks
Other Onboard Connectors	1x jumper JP2 - power on after power fail (hardware solution) [8] 1x analog VGA graphics output CN6 (2x10-pin, 1mm pitch) [5] 2x USB 2.0 (2x5-pin) 2x serial interface (COM) occupied by back panel connectors 1x fan connector (4-pin) occupied by the cooling system 1x connector for CMOS battery (occupied) 1x audio connector (line-out/microphone, 2x7-pin)
Supplied Accessories	Multi-language user guide (EN, DE, FR, ES, JP, KR, SC, TC) VESA mount for 75/100mm standard (two metal brackets) Four thumbscrews M3 x 5 mm (to affix VESA mount on the PC) Four screws M4 x 10 mm (to fix the VESA mount to the external device) Four screws M3 x 4 mm (to mount a 2.5" storage into the bay) Driver DVD (Windows 32-/64-bit) Serial ATA cable for 2.5" drive including power cable External 90W power adapter with power cord Protection cap for CPU socket (do not use if heatpipe or fan is mounted) Heatsink compound

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Optional Accessory	**(1) WLN-S** or **WLN-P:** Wireless LAN kit consisting of a Mini-PCIe card, two antennas and appropriate antenna cables. **(2) PVG01:** optional D-Sub VGA video output [5] **(3) PS02:** stand for vertical operation
Environmental Specifications	Ambient temperature range: 0~50°C [7] Relative humidity, non-condensing: 10~90%
Conformity Certifications	EMI: FCC, CE, BSMI, C-Tick Safety: ETL, CB, BSMI Other: RoHS, Energy Star 5.0, ErP 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 directives: (1) 2004/108/EC relating to electromagnetic compatibility (EMC), (2) 2006/95/EC relating to Electrical Equipment designed for use within certain voltage limits (LVD), (3) 2009/125/EC relating to ecodesign requirements for energy-related products (ErP)

Footnotes:

[1] HDMI output supports DVI-D with optional adapter

[2] How to convert DisplayPort into HDMI/DVI

The DisplayPort outputs can be converted to HDMI or DVI by an additional, passive adapter cable. For example:
DELOCK 82590: 1m, DisplayPort (male, 20p) to HDMI-A (male, 19p)
DELOCK 82435: 5m, DisplayPort (male, 20p) to DVI-D (male, 24p)
The integrated graphics automatically detects the connected display and puts out the appropriate electric signal - either through DisplayPort (without an adapter) or HDMI/DVI (with an adapter). However, a monitor with a DisplayPort connector cannot be connected to the HDMI port with a simple, passive adapter.

[3] Three independent displays simultaneously

The Shuttle XPC slim Barebone DH170 supports a maximum of two displays with the same input connector. For example: Two displays can be connected through HDMI input - the first one directly to the HDMI output, the second one to the DisplayPort output with an adapter. A third digital display, if required, must be connected directly to the DisplayPort output (without an adapter).

[4] 4K Ultra-HD resolution

A 4K-display with Ultra-HD resolution (3840 x 2160) should only be connected via DisplayPort, as only this port supports a higher refresh rate of 60Hz. Certain displays (e.g. Dell UP2414Q) however require MST mode (Multi-Stream Transport) to be enabled which sends two separate images at half resolution each to the display. These two images are then combined and put in correct order by the Intel graphics driver when in Collage mode. Please note that HBR2-mode (High Bit Rate 2) must be supported by each display to have more than one of them run at 4K resolution.

[5] Optional D-Sub/VGA connector

The mainboard features one analog graphics port CN6 on the mainboard. This signal can be lead to the outside as a 15-pin D-Sub VGA connector at the backpanel by using an optional adapter PVG01. However doing so means one serial port (COM) less can be used at the backpanel.

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[6] Optional Wireless LAN module
The Shuttle XPC slim Barebone DH170 supports an optional WLAN module, which consists of a half-size Mini-PCIe WLAN card and an external antenna with an appropriate antenna cable. Shuttle offers a suitable accessory kit "WLN-S" with two antennas.

[7] Notice - operating temperature
For high ambient temperatures over 40°C we strongly recommend to use SSDs (supporting at least 70°C) and rugged SO-DIMM memory modules with a temperature range of up to 95°C.

[8] Power on after power fail
The BIOS setup provides a "Power-On after Power Fail" function that can be found under "Power Management Configuration". As the name indicates, this function determines the PC's behaviour after power failure: (1) unconditional power on, (2) restore former status or (3) keep system turned off. As a matter of the nature of this function, it may fail after short power failures. This is why the DH170 also comes with a hardware-based solution. By removing Jumper JP2 (on the mainboard behind the power button) the system will start unconditionally once power is supplied.

[9] Teaming Mode
The teaming function allows you to group both available network adapters together to function as a single adapter. The benefit of this approach is that it enables load balancing and failover.
Driver download: https://downloadcenter.intel.com/download/21642

[10] Serial Ports
This PC features two serial RS232 ports with 9-pin D-Sub connectors at the back panel. The left COM port (COM1) can also be configured as RS422 and RS485 in the BIOS setup. The COM ports are protected by black plastic caps. Pin 9 of the D-Sub COM-Port is a multi-functional signal. Based on the Jumper JP1 configuration on the mainboard, it can be configured as Ring Indicator (RI) or external power supply with a voltage level of either 5V or 12V. Each COM port can be configured separately. The maximum current is 500 mA per connector.

[11] Installation of Windows 7
Intel® 100 chipset series has removed their support for the Enhanced Host Controller Interface (EHCI) which is the driver software for the USB 2.0 ports. The new chipset only supports the updated Extensible Host Controller Interface (xHCI for USB 3.0) which is not supported by the original Windows 7 installation disk. This means, that peripheral devices connected by USB (like keyboard, mouse and external optical drive) do not work during the Windows 7 Installation. As a solution please add the required USB 3.0 drivers to the Windows 7 installation files - this procedure is explained in the Shuttle FAQ section at http://go.shuttle.eu/skylakewin7en.

[12] Kaby Lake processor support
The 7th generation Intel Core processors "Kaby Lake" are supported from BIOS version DH170000.206. Download website: http://global.shuttle.com/main/productsDownload?productId=1946
Note: If a Kaby Lake processor is used, this XPC will only support Windows 10 and Linux operating systems. Windows 7 and 8.1 will no longer be supported.

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6th Generation Intel Core Desktop Processor Family

Socket LGA1151 14-nm "Skylake-S" processor overview (Date: September 2015)

Processors with a TDP>65W are not supported (marked in red)

Name	Model	Cores/ Threads	CPU Clock	Turbo Clock	Cache	TDP	Graphics Engine	Graphics Clock
Core i7	6700K	4 / 8	4.0 GHz	4.2 GHz	8 MB	91 W	HD 530	350~1150 MHz
	6700	4 / 8	3.4 GHz	4.0 GHz	8 MB	65 W	HD 530	350~1150 MHz
	6700T	4 / 8	2.8 GHz	3.6 GHz	8 MB	35 W	HD 530	350~1100 MHz
Core i5	6600K	4 / 4	3.5 GHz	3.9 GHz	6 MB	91 W	HD 530	350~1150 MHz
	6600	4 / 4	3.3 GHz	3.9 GHz	6 MB	65 W	HD 530	350~1150 MHz
	6600T	4 / 4	2.7 GHz	3.5 GHz	6 MB	35 W	HD 530	350~1100 MHz
	6500	4 / 4	3.2 GHz	3.6 GHz	6 MB	65 W	HD 530	350~1150 MHz
	6500T	4 / 4	2.5 GHz	3.1 GHz	6 MB	35 W	HD 530	350~1100 MHz
	6400	4 / 4	2.7 GHz	3.3 GHz	6 MB	65 W	HD 530	350~1150 MHz
	6400T	4 / 4	2.2 GHz	2.8 GHz	6 MB	35 W	HD 530	350~1100 MHz
Core i3	6320	2 / 4	3.9 GHz	–	4 MB	65 W	HD 530	350~1150 MHz
	6300	2 / 4	3.8 GHz	–	4 MB	65 W	HD 530	350~1150 MHz
	6300T	2 / 4	3.3 GHz	–	4 MB	35 W	HD 530	350~1100 MHz
	6100	2 / 4	3.7 GHz	–	4 MB	65 W	HD 530	350~1150 MHz
	6100T	2 / 4	3.2 GHz	–	4 MB	35 W	HD 530	350~1100 MHz
Pentium	G4520	2 / 2	3.6 GHz	–	3 MB	51 W	HD 530	350~1150 MHz
	G4500	2 / 2	3.5 GHz	–	3 MB	51 W	HD 530	350~1150 MHz
	G4500T	2 / 2	3.0 GHz	–	3 MB	35 W	HD 530	350~1100 MHz
	G4400	2 / 2	3.3 GHz	–	3 MB	51 W	HD 530	350~1150 MHz
	G4400T	2 / 2	2.9 GHz	–	3 MB	35 W	HD 530	350~1100 MHz
Celeron	G3920	2 / 2	2.9 GHz	–	2 MB	51 W	HD 530	350~1050 MHz
	G3900	2 / 2	2.8 GHz	–	2 MB	51 W	HD 530	350~1050 MHz
	G3900T	2 / 2	2.6 GHz	–	2 MB	35 W	HD 530	350~950 MHz

K = unlocked, **S** = Performance optimized lifestyle, **T** = Power optimized lifestyle, **HT** = Hyper Threading (SMT).
Note: The Shuttle XPC slim Barebone DH170 does not support the unlock-function of Intel K-Series processors.
Please refer to the support list for detailed processor support information at global.shuttle.com.

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7th Generation Intel Core Desktop Processor Family

Socket LGA1151 14nm "Kaby Lake-S" processor overview (Date: January 2017)

Processors with a TDP>65W are not supported (marked in red)

Name	Model	Cores/ Threads	CPU Clock	Turbo Clock	Cache	TDP	Graphics Engine	Graphics Clock
Core i7	7700K	4 / 8	4.2 GHz	4.5 GHz	8 MB	91 W	HD 630	350~1150 MHz
	7700	4 / 8	3.6 GHz	4.2 GHz	8 MB	65 W	HD 630	350~1150 MHz
	7700T	4 / 8	2.9 GHz	3.8 GHz	8 MB	35 W	HD 630	350~1150 MHz
Core i5	7600K	4 / 4	3.8 GHz	4.2 GHz	6 MB	91 W	HD 630	350~1150 MHz
	7600	4 / 4	3.5 GHz	4.1 GHz	6 MB	65 W	HD 630	350~1150 MHz
	7600T	4 / 4	2.8 GHz	3.7 GHz	6 MB	35 W	HD 630	350~1100 MHz
	7500	4 / 4	3.4 GHz	3.8 GHz	6 MB	65 W	HD 630	350~1100 MHz
	7500T	4 / 4	2.7 GHz	3.3 GHz	6 MB	35 W	HD 630	350~1100 MHz
	7400	4 / 4	3.0 GHz	3.5 GHz	6 MB	65 W	HD 630	350~1000 MHz
	7400T	4 / 4	2.4 GHz	3.0 GHz	6 MB	35 W	HD 630	350~1000 MHz
Core i3	7350K	2 / 4	4.2 GHz	–	4 MB	60 W	HD 630	350~1050 MHz
	7320	2 / 4	4.1 GHz	–	4 MB	51 W	HD 630	350~1050 MHz
	7300	2 / 4	4.0 GHz	–	4 MB	51 W	HD 630	350~1050 MHz
	7300T	2 / 4	3.5 GHz	–	4 MB	35 W	HD 630	350~1100 MHz
	7101E	2 / 4	3.9 GHz	–	3 MB	54 W	HD 610	350~1100 MHz
	7101TE	2 / 4	3.4 GHz	–	3 MB	35 W	HD 610	350~1100 MHz
	7100	2 / 4	3.9 GHz	–	3 MB	51 W	HD 630	350~1100 MHz
	7100T	2 / 4	3.4 GHz	–	3 MB	35 W	HD 630	350~1100 MHz
Pentium	G4620	2 / 4	3.7 GHz	–	3 MB	51 W	HD 630	350~1100 MHz
	G4600	2 / 4	3.6 GHz	–	3 MB	51 W	HD 630	350~1100 MHz
	G4600T	2 / 4	3.0 GHz	–	3 MB	35 W	HD 630	350~1050 MHz
	G4560	2 / 4	3.5 GHz	–	3 MB	54 W	HD 610	350~1050 MHz
	G4560T	2 / 4	2.9 GHz	–	3 MB	35 W	HD 610	350~1050 MHz
Celeron	G3950	2 / 2	3.0 GHz	–	2 MB	51 W	HD 610	350~1050 MHz
	G3930	2 / 2	2.9 GHz	–	2 MB	51 W	HD 610	350~1050 MHz
	G3930T	2 / 2	2.7 GHz	–	2 MB	35 W	HD 610	350~1000 MHz

K = unlocked, **T** = Power optimized lifestyle, **HT** = Hyper Threading (SMT).
Note: The Shuttle XPC slim Barebone DH170 does not support the unlock-function of Intel K-Series processors.
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