Supports 8/9th gen. Intel Core CPUs, high-end graphics and four hard disks

The Shuttle XPC cube Barebone SH370R8 is able to accommodate up to four 3.5 inch hard drives for enormous storage capacity - ideal for both home and commercial applications. However, this barebones platform is way more than just about storage - the SH370R8 has enough grunt under its aluminium bonnet to be a high-end gaming PC or a workstation for intensive graphics or even video applications. Its black-brushed aluminium case shows how discreet and stylish a powerful PC can look.
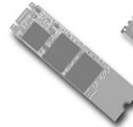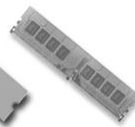
XPC cube Barebone
SH370R8

| 8/9th Gen. Intel Core | Four Hard Disks | M.2 2280 Support | 4x DDR4 max. 128GB | Dual LAN |

Feature Highlights

R8 Chassis	• Black aluminium chassis (13.6-litre) Dimensions: 33.2 x 21.5 x 19.0 cm (LWH) • Bays: 4x 3.5" for SATA hard disks
CPU	• Sockets LGA 1151v2 supports the 8th/9th gen. Intel Core CPUs "Coffee Lake" up to 95 W TDP • Supports Intel Core i9/i7/i5/i3, Pentium Gold and Celeron • Shuttle I.C.E. Heatpipe cooling system
Operating System	• Supports Windows 10 and Linux (64-bit)
Optional Graphics	• Optional Intel graphics (depends on CPU [4]) • Supports three digital UHD displays at once
Chipset	• Intel H370 chipset
Memory	• Supports up to 4x 32 GB DDR4-2400/2666 DIMM memory modules (total max. 128 GB) [5]
Slots: PCI-Express and M.2	• 1x PCIe x16 (v3.0) supports dual-slot graphics cards up to 28 x 12 x 4 cm (LHW) • 1x PCIe x4 (v3.0) • 1x M.2-2280 (SATA / PCIe X4) supports M.2 SSDs • 1x M.2-2230 supports WLAN cards
SATA	• 4x SATA 3.0 (6Gb/s) supports RAID and RST
Other Connectors	• Video: HDMI 2.0a and 2x DisplayPort 1.2 • 4x USB 3.2 Gen 2, 4x USB 3.2 Gen 1, 4x USB 2.0 • 2x Intel Gigabit LAN. 5x Audio (2x front, 3x rear)
PSU	• Power supply: 500 Watt (80 PLUS Silver)
Optional Accessories	• RS232 Serial COM-Port (H-RS232) • Wireless LAN 802.11ac + BT module (WLN-M)
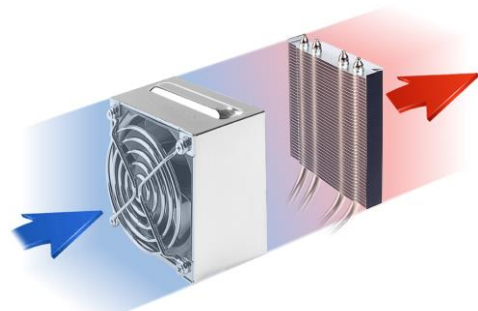
Shuttle I.C.E. Heatpipe cooling

Images for illustration purposes only

UPC code until Q4/20

8 87993 00161 6

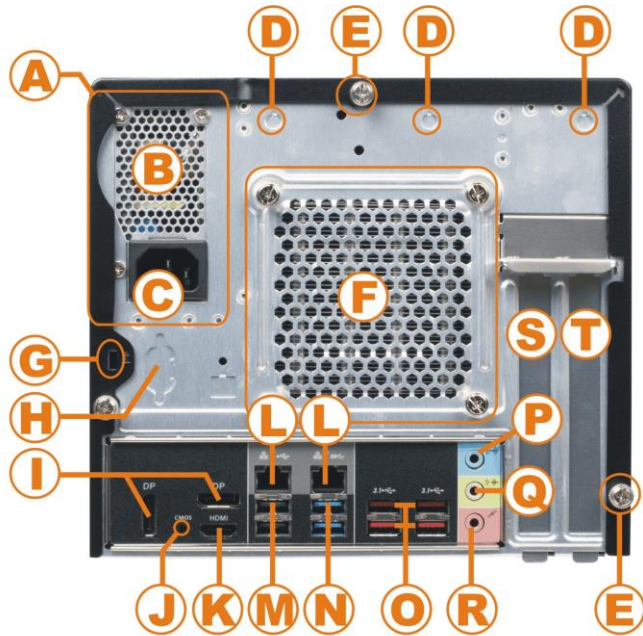UPC code from Dec/20 *)

8 87993 00265 1

*) different power suppy with same power specifications

Shuttle XPC cube Barebone SH370R8 – Connectors

Front view

Rear view

1 Hard disk LED indicator	**A** Power supply	**K** HDMI 2.0a output *)
2 Power button Power LED indicator	**B** Power supply fan	**L** 2x Gigabit LAN (RJ45)
3 2x USB 3.0 port	**C** AC power connector	**M** 2x USB 2.0
4 Microphone input	**D** Perforation for optional WLAN antennas	**N** 2x USB 3.2 Gen 1
5 Headphone output	**E** Three thumbscrews	**O** 4x USB 3.2 Gen 2
	F Heatpipe cooling system	**P** Audio Line-in
	G Hole for Kensington Lock	**Q** Audio Line-out
	H COM / RS232 (optional)	**R** Microphone input
	I 2x DisplayPort 1.2 output *)	**S** PCI-Express X16 slot
	J Clear-CMOS-Button	**T** PCI-Express X4 slot

*) Note: The graphics outputs (HDMI and DisplayPort) can only be used if the processor supports integrated graphics. [4].

Shuttle XPC cube Barebone SH370R8 – Required Components

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

**Gen. 8/9 Intel Core processor
Sockel LGA 1151v2 „Coffee Lake"
Core i9 / i7 / i5 / i3, Pentium Gold
or Celeron**

**Four 3.5" drive bays support up
to four SATA hard disks.
(Use accessory PHD3 to install
2.5" drives in a 3.5" bay)**
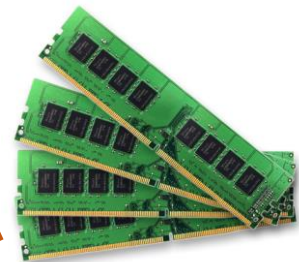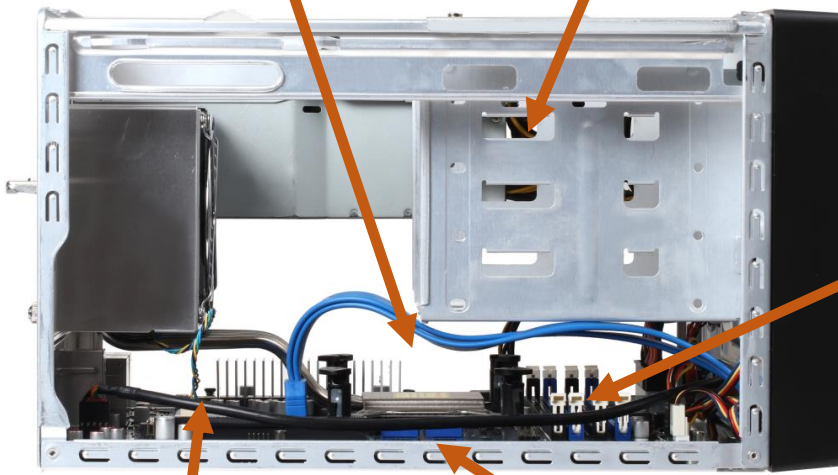
**Up to four DDR4-2666/2400
DIMM memory modules
max. 32 GB each [5]**
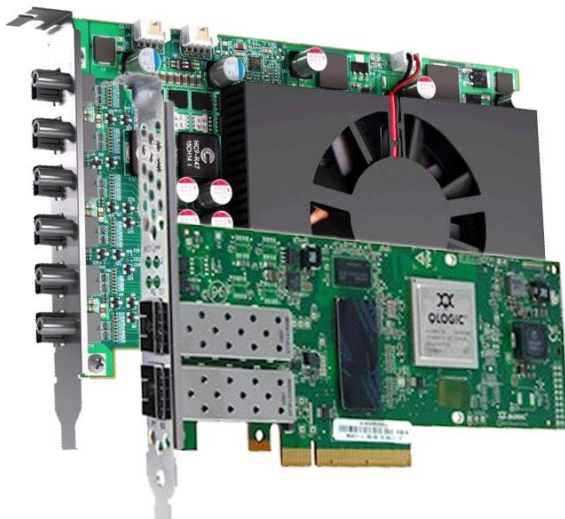
**M.2 2280/2260/2242
SSD card
(NVMe or SATA)**

2x PCI-Express slots (X16 + X4) for expansion cards

Example configuration (see photo):
PCIe X16 slot: multiport graphics card (max. length: 280 mm)
PCIe X4 slot: Dual 10Gb network card
Note: If a dual-slot (double-width) graphics cards is used the
second PCI-Express slot will be occupied.

Shuttle XPC cube Barebone SH370R8 – Product Features

The R8 chassis design: stylish and sophisticated

The R8 is the case design of choice when it comes to flexible storage solutions thanks to its four-hard-drive support. At the same time it provides even more room for large state-of-the-art graphics cards. With no drive doors on the front, the case appears more uniform and elegant as ever before with Shuttle XPC cubes. Its high-qua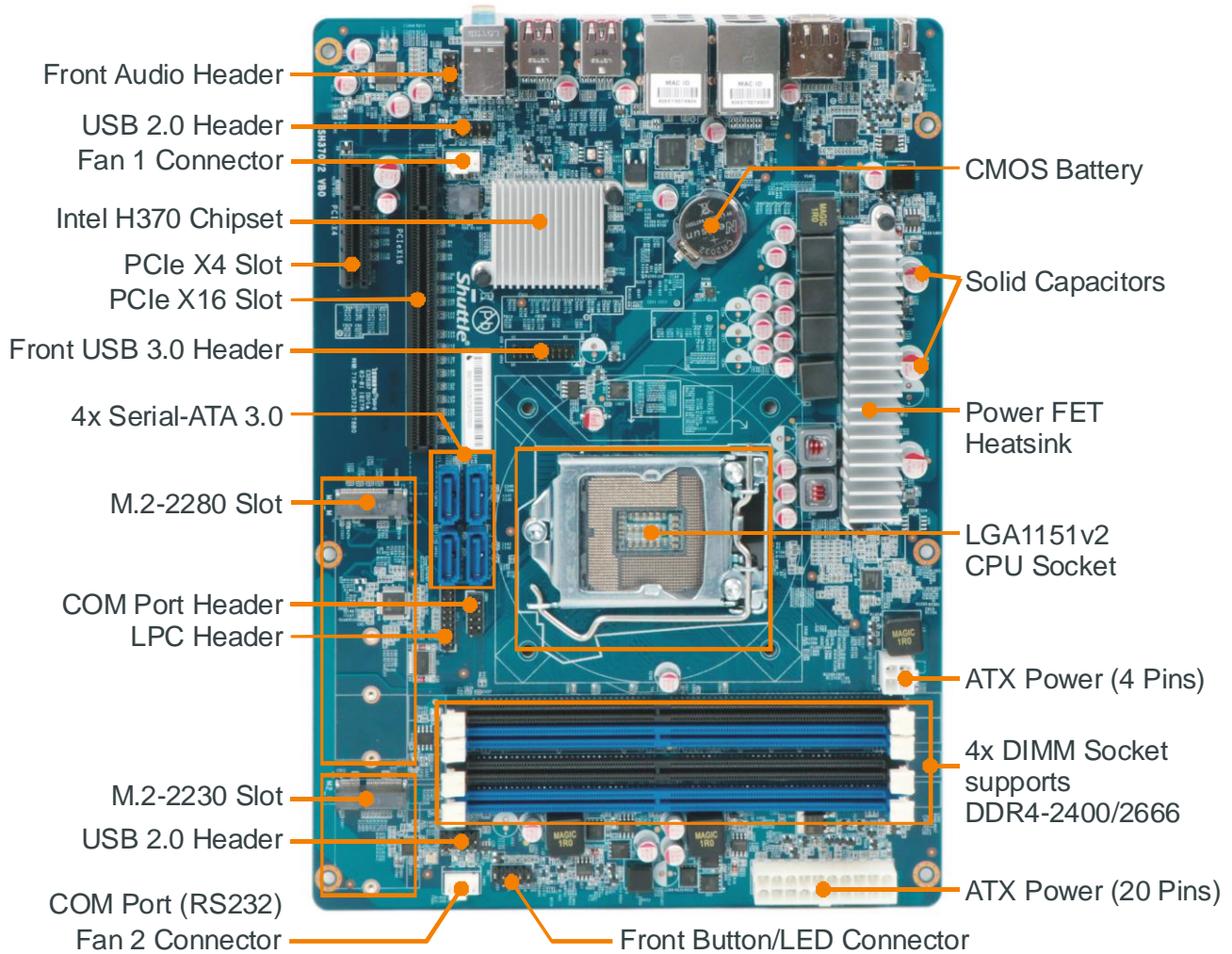lity finish and aesthetics remain untouched - the R8 case uses light aluminium as its stylish base material and the brushed surfaces are truly eye-catching.

Small, but easy to install

Shuttle XPC cubes offer the performance of a desktop PC at a third of the size while using standard desktop components. Shuttle keeps the concept of being "futureproof" in mind when designing the new R8 chassis. The meticulously designed internal layout already comes with cables fitted to reduce clutter, increase airflow and make the installation of components easy.


What is a Barebone?

The Shuttle XPC cube Barebone SH370R8 consists of a stylish case with a pre-installed mainboard, power supply unit (PSU) and cables. Despite its small form factor, it offers outstanding connectivity, functionality and performance. For a full PC system, a processor, memory, mass storage and optional a graphics card need to be added. Shuttle XPC cube Barebones are completely customisable meaning users can pick certain components on their own to ideally match their individual needs.

Integrated Cooling Engine (I.C.E.)

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.

Supports Intel "Coffee Lake" Processors

"Coffee Lake" is the codename for Intel's 8th and 9th Generation of Intel® Core™ Processors introduced in 2017/2018 along with the 300-Series chipsets. Coffee Lake CPUs are built using the second refinement of Intel's 14nm process (14++) and are a landmark in the number of cores of their mainstream desktop processors. The 8000 series processors feature up to 6 cores and 12 threads and 12 MB of cache memory and the 9000 series up to 8 cores, 16 threads and 16 MB Cache. The Shuttle XPC cube Barebone SH370R8 supports the desktop version "Coffee Lake-S" with socket LGA1151v2, while the previous generations with LGA1151 are not compatible.
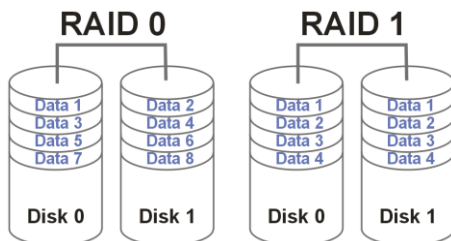
Intel Rapid Storage Technology - RAID support

Intel® Rapid Storage Technology offers new levels of protection, performance and expandability for desktop platforms. No matter if one or multiple hard drives are used, users take advantage of enhanced performance and lower power consumption. Valuable digital memories are protected from hard drive failures, if the system is configured in any of these three fault-tolerant RAID configurations: RAID 1, RAID 5, and RAID 10. By seamlessly storing copies of data on one or more hard drives, any hard drive may fail without loss of data or system downtime. Once the defective drive is removed and a replacement hard drive is installed, data security is guaranteed again.

Supports up to four hard disks for storage applications

Users can install up to four 3.5" hard disks (or SSDs) into the XPC cube Barebone SH370R8. An integrated 80mm fan in front of the hard disk rack ensures low operating temperatures for more reliability. Thanks to the integrated RAID controller, different configurations are possible. For example, a RAID 10 array with four 8TB hard disks can be used as a network-attached storage server for SMB's.Otherwise an SSD can be installed in the M.2 socket that can be used for the system partition. In conclusion, the SH370R8 can be turned into a professional storage system at a volume of just 14 litres while it may be a powerful graphics workstation or gaming PC at the same time.

Intel Dual Gigabit LAN with Teaming Support

This Shuttle XPC Cube Barebone also features two high-speed Gigabit LAN ports. The teaming function allows for grouping both available network adapters together to work as one single adapter - a method to set up a virtual LAN. The benefit of this approach is to enable load balancing and failover.

Supports up to 128 GB DDR4 memory

The Shuttle XPC cube Barebone SH370R8 supports up to 128 GB of DDR4-2400/2666 memory [5] which is ideal for workstations powered by 64-bit operating systems, so users take full advantage of high-performance configurations. Compatible memory comes in 288-pin DIMM modules at 1.2V operating voltage, while the predecessor DDR3 is 240-pin at 1.5V operating voltage. For DDR3L it is 1.35V.

M.2-2280-Slot for SSD cards (Intel® Optane™ Ready)

The M.2-2280M slot supports both NVMe and SATA M.2 SSDs.
Type 2280 means, it supports the usual M.2 cards with a width of 22mm and a length of 80mm, but also 2242 and 2260 standard cards are supported.
This slot also supports Intel® Optane™ SSDs with 3D-Xpoint memory which boosts speed of one hard disk through data caching.
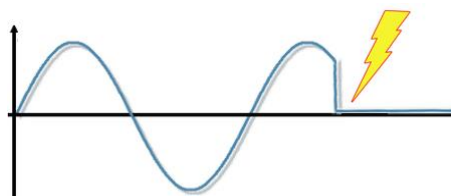
Power-on-after-Power-fail

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.

Graphics Features

Built-in Intel® UHD Graphics Engine (optional [4])

The integrated Intel® UHD Graphics depends on the type of processor used and supports hardware decoding for HEVC (4K/H.265) video, Intel® Quick-Sync video encoding, 2160p high-definition resolution, HDCP, Blu-ray*) playback, DirectX 12, OpenGL 4.5 and up to 1 GB shared graphics memory. The graphics performance is comparable to entry-level discrete graphics cards.
*) appropriate software and optical drive required

Max. length of the card: 280 mm

Ample space for demanding dual-slot graphics cards

Despite the small housing, the SH370R8 is capable of running dual-slot (double-height) high-performance PCI Express graphics cards. The system provides additional 6-pin and 8-pin power connectors for more power-hungry graphics cards. The maximum size acceptable for display cards is 280 mm x 120 mm x 40 mm. Please refer to the support list for detailed support information at global.shuttle.com.

Additional power plugs for graphics cards with 6 and 6+2 pins

500W power supply with 80 Plus Silver efficiency

The Shuttle XPC Barebone SH370R8 is equipped with a rock-stable 500W power supply which has been tested with some of the latest graphics cards and powerful Core i3/i5/i7 processors. Its 80 Plus Silver logo indicates that it provides more than 85/89/85% of energy efficiency at 20/50/100% of rated load which reduces energy consumption and increases the computer's reliability.

4K 2160p
ULTRA HD
3840 x 2160

Supports 4K Ultra-HD video playback

4K resolution is a technological milestone in high-definition contentand is more than four times the pixel density of 1080p Full HD. The Shuttle XPC cube Barebone SH370R8 supports playback of 4K Ultra-HD video content at 2160p/60Hz.

Triple UHD Display with HDMI 2.0a and 2x DisplayPort

The Shuttle XPC cube Barebone SH370R8 features three digital video outputs: 1x HDMI 2.0a and 2x DisplayPort 1.2. Triple View technology brings you multiple display support on up to three separate monitors at Ultra-HD resolution. This helps improve on productivity by allowing for spreading multiple windows across three monitors while working with them simultaneously.

Connect even more displays with a discrete graphics card

The Shuttle XPC cube Barebone SH370R8 supports at least five displays in combination with a discrete PCI-Express graphics card, based on the Switchable Graphics feature. Expand your Windows desktop across many monitors, but note it does not support a 2x2 configuration or clone mode with the monitors connected.

Optional Accessories

WLAN-Kit (WLN-M)

Shuttle offers the optional accessory „WLN-M", which adds WLAN 802.11ac and Bluetooth 4.0 to your Shuttle XPC cube Barebone SH370R8.
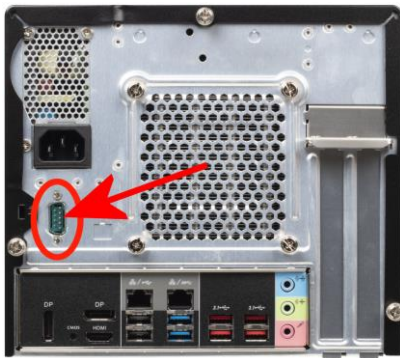
Serial RS-232 port (H-RS232)

One serial COM port (RS232) can optionally be installed in the back panel. This is particularly relevant for professional applications such as electronic POS, industrial automation systems and scientific analysis.

Adapter for 2.5" drives (PHD3)

The PHD3 allows for installation of one or two 63.5mm (2.5") hard drives or SSDs into a larger 89 mm (3.5") drive bay.

Shuttle XPC cube series for Intel Core Gen. 8/9 processors

Product comparison

Model	SH310R4(V2)	SH370R6V2 (Plus)	SH370R8
Chassis Type	R4 Chassis Customisable front plate	R6 Chassis Front doors for I/O ports	R8 Chassis Support four hard disks
Chipset	Intel H310	Intel H370	Intel H370
Drive Bays SATA Ports	1x 5.25" 2x 3.5" (internal) 3x SATA 3.0 (6G)	1x 5.25" 1x 3.5" (internal) 1x 3.5" (external) 4x SATA 3.0 (6G)	4x 3.5" (internal) 4x SATA 3.0 (6G)
Memory (max.)	2x 32 GB DDR4-2666	4x 32 GB DDR4-2666	4x 32 GB DDR4-2666
PCIe Slots	1x PCIe x16 v3.0 1x PCIe x1 v2.0	1x PCIe x16 v3.0 1x PCIe x4 v3.0	1x PCIe x16 v3.0 1x PCIe x4 v3.0
M.2 Slots	1x M.2-2280M (NVMe) 1x M.2-2230E	1x M.2-2280M (NVMe) 1x M.2-2230E	1x M.2-2280M (NVMe) 1x M.2-2230E
Intel Optane	–	Supported	Supported
Graphics optional *)	Supports Dual Display 1x HDMI 2.0a 1x DisplayPort 1.2 1x D-Sub/VGA	Supports **Triple** Display 1x HDMI 2.0a 2x DisplayPort 1.2	Supports **Triple** Display 1x HDMI 2.0a 2x DisplayPort 1.2
Network	Single Gigabit LAN 1x Intel i219LM	Dual Gigabit LAN 2x Intel i211	**Dual** Gigabit LAN 2x Intel i211
USB	4x USB 3.2 Gen. 1 (5G) 4x USB 2.0 (+ 1x onboard)	4x USB 3.2 Gen. 2 (10G) 4x USB 3.2 Gen. 1 (5G) 4x USB 2.0 (+ 2x onboard)	4x USB 3.2 Gen. 2 (10G) 4x USB 3.2 Gen. 1 (5G) 2x USB 2.0 (+ 2x onboard)
Audio	2x front, 3x rear	2x front, 3x rear	2x front, 3x rear
Power Supply	300W 80 Plus Bronze	**SH370R6V2:** 300W **SH370R6V2 Plus:** 500W	500W 80 Plus Silver
Front View			
Rear View			

*) Note: Processors with model numbers ending with "**F**" (z.B. *Intel Core i5-9400F*) do not support integrated graphics, so that the graphics outputs of the Shuttle XPC have no function. In this case, an additional an additional discrete PCIe graphics card is mandatory.

) Product versions: **SH310R4 and **SH310R4V2** have the same technical specifications, but different chipset drivers are required. The product **SH370R6** is also available with the affix **V2** and **Plus**. The **V2** affix means two LAN ports (instead of one) and the **Plus** affix means a 500W power supply (instead of 300W)

***) 32 GB: BIOS update might be required for support of 32 GB memory modules

Shuttle XPC cube Barebone SH370R8 - Specifications

R8-Chassis	Black aluminium chassis, Front panel: brushed aluminium Front doors for USB ports Kensington Security Slot at the back panel (also called K-Slot or Kensington lock) as a part of an anti-theft system Drive bays: 4x 3.5" for SATA hard disks Dimensions: 33.2 x 21,5 x 19.0 cm (LWH without feet) = 13.6 litre Height with rubber feet: 19.7 cm Weight: 3.5 kg net / 5.0 kg gross
Mainboard and Chipset	Shuttle mainboard FH370V2, Shuttle form factor, proprietary design for XPC SH370R8 Chipset/Southbridge: Intel® H370, Passive chipset cooling with heat sink The Northbridge is integrated in the processor. Solid Capacitors for sensitive areas provide excellent heat resistance for enhanced system durability
BIOS	AMI BIOS, SPI Interface, 16 MB Flash-EPROOM Supports PnP, ACPI 3.0, Hardware Monitoring Supports Firmware-TPM (fTPM) v2.0 Supports boot up from external USB flash memory Supports Unified Extensible Firmware Interface (UEFI)
Power Supply	Built in 500 Watt mini switching power supply AC input voltage: supports 100~240V, 50~60 Hz 80 PLUS Silver compliant: the PSU provides at least 85/89/85% of efficiency at 20/50/100% of load. Active PFC circuit (Power Factor Correction) ATX main power connectors: 2x10 and 2x2 pins Graphics power connector: 6 pins and 8 pins Other connectors: 4x SATA, 2x Molex, 1x Floppy
Operating System	This system comes without operating system. It is compatible with Windows 10 and Linux (64-bit).
Processor Support	Processor Socket LGA 1151v2 Supports Intel Core i9 / i7 / i5 / i3, Pentium Gold and Celeron processors Supports the 8th and 9th generation Intel Core processors, code name "Coffee Lake" in 14++ nm process technology Maximum supported processor power consumption (TDP) = 95 W Up to 8 CPU cores, 16 threads and 16 MB of L3 cache Does not support the unlock-function of Intel K-Series processors. Not compatible with older Socket LGA 1151 processors (6th Gen. "Skylake" and 7th Gen. "Kaby Lake"). The processor integrates PCI-Express, memory controller and the graphics engine on the same die. However, processors with "F" identifier do not support integrated graphics [4] (performance features depending on processor type) Please refer to the support list for detailed processor support information at global.shuttle.com.

Heatpipe 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	4x 288-pin slot Supports DDR4-2400/2666 memory (PC4-19200/21300) at 1.2V Supports Dual Channel mode Supports max. 32 GB per DIMM, maximum total size of 128 GB **[5]**
PCIe Slots	1x PCI-Express x16 v3.0 slot 1x PCI-Express x4 v3.0 slot, open-ended Supports dual-slot (double-width) graphics cards (occupies the second PCI-Express slot) The maximum size acceptable for display cards is 280 x 120 x 40 mm (LxHxD). The length of the graphics cards is limited to 273 mm, if the power connectors are on the back side. Graphics power connector: 6 pins and 8 pins
M.2-2280M SSD slot	The M.2 2280M slot provides the following interfaces: - PCI-Express Gen. 3.0 X4, supports NVMe - SATA v3.0 (max. 6 Gbps) It supports M.2 cards with a width of 22 mm and a length of 42, 60 or 80 mm (type 2242, 2260, 2280). Supports M.2 SSDs with SATA or PCI-Express interface
M.2-2230E slot for WLAN cards	M.2-2230E slot for WLAN cards Interfaces: PCI-Express Gen. 2.0 X1 und USB 2.0 Supports M.2 cards with a width of 22 mm and a length of 30 mm (type 2230) Supports WLAN extension cards (optional Shuttle accessory: WLN-M)
Intel® Optane™ Ready	The SH370R8 supports Intel® Optane™ Technology which boosts speed of one hard disk through data caching. This requires an Optane-SSD with 3D-Xpoint memory (e.g. in M.2 format).
Integrated Graphics optional [4]	The features of the integrated Intel UHD graphics function depend on the processor type used. Certain processor models do not support integrated graphics [4] The PC features three video outputs which support 1080p/60 and 2160p/60: - 1x HDMI v2.0a - 2x DisplayPort v1.2 Supports DirectX 12, OpenGL 4.5 Supports displays with 4K Ultra HD resolution at 3840 x 2160 Supports three independent displays with the integrated graphics function Supports more displays in combination with a discrete graphics card Supports Blu-ray (BD) playback with HDCP content protection [1] Hardware video decoding/encoding: H.264, H. 265 (8- and 10-bit, encoding via QuickSync), VP9 (10-bit VP9 can only be decoded) DisplayPort and HDMI support multi-channel digital audio over the same cable Maximum shared memory of 1 GB

HD Audio	Audio Codec: Realtek ALC662, 5.1 channel Three analog audio connectors (3.5mm) on 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) Digital multi-channel audio output: by HDMI and DisplayPort
Dual Gigabit-LAN Controller	Dual network with two RJ45 ports 2x Intel i211 Ethernet Controller with MAC, PHY and PCIe interface Supports 10 / 100 / 1.000 MBit/s operation Supports WAKE ON LAN (WOL) Supports network boot by Preboot eXecution Environment (PXE) Supports Teaming mode [3]
Drive Connectors	4x Serial ATA 6G connector onboard (rev. 3.0, max. 6 Gbit/s) Supports Intel Rapid Storage Technology (RST) with RAID 0/1/5/10, JBOD)
Front Panel Connectors	Front Panel connectors and buttons Microphone input (3.5 mm) Headphones output (3.5 mm) 2x USB 3.2 Gen 1 (5 Gbps), Type A, blue Power button Power indicator (Blue LED) Hard disk drive indicator (Yellow LED)
Back Panel Connectors	1x HDMI 2.0a (digital video and audio) 2x DisplayPort 1.2 (digital video and audio) [2] 4x USB 3.2 Gen 2 (10 Gbps), Type A, red 2x USB 3.2 Gen 1 (5 Gbps), Type A, blue 2x USB 2.0, Type A, black 2x Gigabit LAN (RJ45) Audio Line-out (3.5 mm) Audio Line-in (3.5 mm) Microphone Input (3.5 mm) Clear CMOS button Optional: Serial RS232 port (Accessory: "H-RS232") Perforations for optional WLAN antennas
Other Connectors (onboard)	Occupied front panel connectors for USB, audio, buttons, LEDs 1x RS232 serial interface (2x5 pin header) 2x fan connectors (4 pins) 2x USB 2.0 (2x5 pin header)
Included Accessories	Multi-language XPC Installation Guide (EN, DE, FR, ES, JP, KR, SC, TC) Windows 64-bit driver disk 2x Serial ATA cables AC Power Cord (with protective-earth contacts) Heatsink Compound Protector cap for the CPU socket (do not use if heatpipe or fan is mounted) Bag with screws

Optional Accessories	Back panel adapter for serial RS232 port (H-RS232) WLAN IEEE 802.11ac/BT4.0 kit with two external antennas (WLN-M) Adapter for 2.5" drives such as SSDs (PHD3)
Environmental criteria	Operating temperature range: 0~40°C Humidity: 10~90%
Certifications Compliance	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) 2014/30/EU relating to electromagnetic compatibility (EMC), (2) 2014/35/EU relating to Electrical Equipment designed for use within certain voltage limits (LVD), (3) 2009/125/EU relating to ecodesign requirements for energy-related products (ErP),

[1] For Blu-ray playback appropriate software and a Blu-ray drive is required (not included).

[2] How to convert DisplayPort to HDMI/DVI
The DisplayPort output 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 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] 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:\\downloadmirror.intel.com\22283\eng\23_2.zip

[4] Integrated graphics is optional
Processors with model numbers ending with "F" (z.B. Intel Core i5-9400F) do not support integrated graphics, so that the graphics outputs of the Shuttle XPC have no function. In this case, an additional an additional discrete PCIe graphics card is mandatory.

[5] 32 GB memory modules
BIOS version SH370200.105 or higher is required to support 32 GB DDR4 memory modules.

8ᵗʰ Generation Intel Core Desktop Processor Family

Socket LGA1151v2 14nm++ "Coffee Lake S" processor overview (Date: Jan 2019)

Name	Model	Cores/ Threads	CPU Clock	Turbo Clock	Smart Cache	TDP	Memory Support	Graphics Engine (clock in MHz)
Core i7	8700K	6 / 12	3.7 GHz	4.7 GHz	12 MB	95 W	DDR4-2666	UHD 630, 350~1200 MHz
	8700	6 / 12	3.2 GHz	4.6 GHz	12 MB	65 W	DDR4-2666	UHD 630, 350~1200 MHz
	8700T	6 / 12	2.4 GHZ	4.0 GHz	12 MB	35 W	DDR4-2666	UHD 630, 350~1200 MHz
Core i5	8600K	6 / 6	3.6 GHz	4.3 GHz	9 MB	95 W	DDR4-2666	UHD 630, 350~1150 MHz
	8600	6 / 6	3.1 GHz	4.3 GHz	9 MB	65 W	DDR4-2666	UHD 630, 350~1150 MHz
	8600T	6 / 6	2.3 GHz	3.7 GHz	9 MB	35 W	DDR4-2666	UHD 630, 350~1150 MHz
	8500	6 / 6	3.0 GHz	4.1 GHz	9 MB	65 W	DDR4-2666	UHD 630, 350~1100 MHz
	8500T	6 / 6	2.1 GHz	3.5 GHz	9 MB	35 W	DDR4-2666	UHD 630, 350~1100 MHz
	8400	6 / 6	2.8 GHz	4.0 GHz	9 MB	65 W	DDR4-2666	UHD 630, 350~1050 MHz
	8400B	6 / 6	2.8 GHz	4.0 GHz	9 MB	65 W	DDR4-2666	UHD 630, 350~1050 MHz
	8400T	6 / 6	1.7 GHz	3.3 GHz	9 MB	35 W	DDR4-2666	UHD 630, 350~1050 MHz
Core i3	8350K	4 / 4	4.0 GHz	–	8 MB	91 W	DDR4-2400	UHD 630, 350~1150 MHz
	8300	4 / 4	3.7 GHz	–	8 MB	62 W	DDR4-2400	UHD 630, 350~1150 MHz
	8300T	4 / 4	3.2 GHz	–	8 MB	35 W	DDR4-2400	UHD 630, 350~1150 MHz
	8100	4 / 4	3.6 GHz	–	6 MB	65 W	DDR4-2400	UHD 630, 350~1100 MHz
	8100T	4 / 4	3.1 GHz	–	6 MB	35 W	DDR4-2400	UHD 630, 350~1100 MHz
Pentium Gold	G5600	2 / 4	3.9 GHz	–	4 MB	51 W	DDR4-2400	UHD 630, 350~1100 MHz
	G5500	2 / 4	3.8 GHz	–	4 MB	51 W	DDR4-2400	UHD 630, 350~1100 MHz
	G5500T	2 / 4	3.2 GHz	–	4 MB	35 W	DDR4-2400	UHD 630, 350~1100 MHz
	G5400	2 / 4	3.7 GHz	–	4 MB	51 W	DDR4-2400	UHD 630, 350~1050 MHz
	G5400T	2 / 4	3.1 GHz	–	4 MB	35 W	DDR4-2400	UHD 630, 350~1050 MHz
Celeron	G4920	2 / 2	3.2 GHz	–	2 MB	54 W	DDR4-2400	UHD 610, 350~1050 MHz
	G4900	2 / 2	3.1 GHz	–	2 MB	54 W	DDR4-2400	UHD 610, 350~1050 MHz
	G4900T	2 / 2	2.9 GHz	–	2 MB	35 W	DDR4-2400	UHD 610, 350~1050 MHz

K = unlocked, **T** = Power optimized lifestyle, **TDP** = Thermal Design Power (max. power consumption).
Note: The Shuttle XPC cube Barebone SH370R8 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.

9th Generation Intel Core Desktop Processor Family

Socket LGA1151v2 14nm++ "Coffee Lake Refresh" processor overview (Date: April 2019)

Name	Model	Cores/Threads	CPU Clock	Turbo Clock	Smart Cache	TDP	Memory Support	Graphics Engine (clock in MHz)
Core i9	**9900K**	8 / 16	3.6 GHz	5.0 GHz	16 MB	95 W	DDR4-2666	UHD 630, 350-1200 MHz
	9900KF	8 / 16	3.6 GHz	5.0 GHz	16 MB	95 W	DDR4-2666	None
	9900	8 / 16	3.1 GHz	5.0 GHz	16 MB	65 W	DDR4-2666	UHD 630, 350-1200 MHz
	9900T	8 / 16	2.1 GHz	4.4 GHz	16 MB	35 W	DDR4-2666	UHD 630, 350-1200 MHz
Core i7	**9700K**	8 / 8	3.6 GHz	4.9 GHz	12 MB	95 W	DDR4-2666	UHD 630, 350-1200 MHz
	9700KF	8 / 8	3.6 GHz	4.9 GHz	12 MB	95 W	DDR4-2666	None
	9700	8 / 8	3.0 GHz	4.7 GHz	12 MB	65 W	DDR4-2666	UHD 630, 350-1200 MHz
	9700T	8 / 8	2.0 GHz	4.3 GHz	12 MB	35 W	DDR4-2666	UHD 630, 350-1200 MHz
Core i5	**9600K**	6 / 6	3.7 GHz	4.6 GHz	9 MB	95 W	DDR4-2666	UHD 630, 350-1150 MHz
	9600KF	6 / 6	3.7 GHz	4.6 GHz	9 MB	95 W	DDR4-2666	None
	9400	6 / 6	2.9 GHz	4.1 GHz	9 MB	65 W	DDR4-2666	UHD 630, 350-1050 MHz
	9400F	6 / 6	2.9 GHz	4.1 GHz	9 MB	65 W	DDR4-2666	None
	9400T	6 / 6	1.8 GHz	3.4 GHz	9 MB	35 W	DDR4-2666	UHD 630, 350-1050 MHz
Core i3	**9350K**	4 / 4	4.0 GHz	4.6 GHz	8 MB	91 W	DDR4-2400	UHD 630, 350-1150 MHz
	9350KF	4 / 4	4.0 GHz	4.6 GHz	8 MB	91 W	DDR4-2400	None
	9320	4 / 4	3.7 GHz	4.4 GHz	8 MB	62 W	DDR4-2400	UHD 630, 350-1150 MHz
	9300	4 / 4	3.7 GHz	4.3 GHz	8 MB	62 W	DDR4-2400	UHD 630, 350-1150 MHz
	9300T	4 / 4	3.1 GHz	3.7 GHz	6 MB	35 W	DDR4-2400	UHD 630, 350-1100 MHz
	9300TE	4 / 4	2.2 GHz	3.2 GHz	6 MB	35 W	DDR4-2400	UHD 630, 350-1050 MHz
	9100	4 / 4	3.6 GHz	4.2 GHz	6 MB	65 W	DDR4-2400	UHD 630, 350-1100 MHz
	9100F	4 / 4	3.6 GHz	4.2 GHz	6 MB	65 W	DDR4-2400	None
	9100T	4 / 4	3.1 GHz	3.7 GHz	6 MB	35 W	DDR4-2400	UHD 630, 350-1100 MHz
	9100TE	4 / 4	2.2 GHz	3.2 GHz	6 MB	35 W	DDR4-2400	UHD 630, 350-1050 MHz
	9100E	4 / 4	3.1 GHz	3.7 GHz	6 MB	65 W	DDR4-2400	UHD 630, 350-1050 MHz

K = unlocked, **T** = Power optimized lifestyle, **F** = without integrated graphics (requires discrete graphics card)
TDP = Thermal Design Power (max. power consumption).
Note: The Shuttle XPC cube Barebone SH370R8 does not support the unlock-function of Intel K-Series processors.
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