BAREBONE
XPC cube
SH570R8

SUPPORTS 10TH/11TH GENERATION INTEL CORE PROCESSORS AND FOUR HARD DISKS

The Shuttle XPC cube Barebone SH570R8 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 SH570R8 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.

CPU | INTEL GEN 11 CPU SUPPORT
HEAT-PIPE COOLING
4x 32 GB SUPPORT
HDMI 2.0b/1.4b PORT
2x DISPLAY-PORT 1.4
4K UHD SUPPORT
SUPPORTS GRAPHICS Cards
4x 3.5" HDD SUPPORT
DUAL LAN (INTEL)
WLAN OPTIONAL
40 0 °C | Max. 40 °C
24/7 | 24/7 SUPPORT

CUBE DESIGN

■ Black aluminium chassis ■ Dimensions: 33.2 x 21.5 x 19 cm (LWH), ca. 13.6-litre ■ Operating temperature: 0~40 °C (non-condensing)

OPERATING SYSTEM

■ An operating system is not included
■ Supports Windows 10/11 and Linux (64-bit)

PROCESSOR SUPPORT

■ Socket LGA1200 supports Intel Core i9/i7/i5/i3, Pentium Gold and Celeron processors of Gen. 10 "Comet Lake-S" and Gen. 11 "Rocket Lake-S" with up to 125W TDP ■ Includes heatpipe cooling system

CHIPSET & GRAPHICS

■ Intel H570 Chipset
■ Integrated Intel UHD graphics with triple 4K display support (features depend on processor, "F"-series CPUs lack the integrated graphics)

MEMORY SUPPORT

■ Four 288-pin DIMM slots ■ Supports up to 128 GB capacity in total (max. 32 GB each module) ■ Supports DDR4-2666/2933/3200

PCI-EXPRESS SLOTS

■ 1x PCIe X16 v3/v4 slot supports dual-slot graphics cards up to ca. 28 x 12 x 4 cm (LWH), with 6-pin and 8-pin power connector
■ 1x PCIe X4 v3 slot (not usable with dual-slot graphics card)

STORAGE – SATA / M.2

■ Bays: 4x 3.5" (internal), onboard: 4x SATA ports (supports RAID)
■ 1x M.2-2280M slot (supports PCIe x4 v3 NVMe or SATA)
■ 1x M.2-2230E for optional WLAN (accessory: WLN-M)

CONNECTORS

■ HDMI 1.4b/2.0b ■ 2x DisplayPort 1.4 ■ 4x USB 3.2 Gen2 ■ 4x USB 3.2 Gen1 (1x Type-C) ■ 4x USB 2.0 ■ 1x internal USB 2.0 ■ 2x Intel Gigabit LAN (Intel i210AT+i219LM) ■ 5x Audio I/O (2x front, 3x rear)
■ Connector for external power button

POWER SUPPLY

■ Internal 500W power supply, 80Plus Gold

OPTIONAL ACCESSORIES

■ WLAN Kit (WLN-M (ac)/WLN-M1 (ax)) ■ RS232 COM Port (H-RS232)
■ Adapter for two 2.5" drives (PHD3) ■ 850W Power Supply (PC850)
■ Cable for external power button (CXP01)

Note: Some features marked in red color are only supported in combination with Gen 11 "Rocket Lake-S" processors.

Shuttle XPC cubes with Intel 5xx series chipset

Product	CPU Socket	Chip	Chassis	Drive Bays	LAN	vPro	Power Supply	UPC Code
SH510R4	LGA 1200	H510	R4	5.25" + 2x 3.5"	1x	—	300 W, 80+ Bronze	887993003948
SH570R6	LGA 1200	H570	R6	5.25" + 2x 3.5"	2x	—	300 W, 80+ Bronze	887993003498
SH570R6 Plus	LGA 1200	H570	R6	5.25" + 2x 3.5"	2x	—	500 W, 80+ Gold	887993003870
SH570R8	LGA 1200	H570	R8	4x 3.5"	2x	—	500 W, 80+ Gold	887993003504
SW580R8	LGA 1200	W580	R8	4x 3.5"	4x (2x 2,5G)	Ja	500 W, 80+ Gold	887993004174

REQUIRED COMPONENTS

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

Shuttle XPC Cube Barebone
SH570R8
(Photo without chassis cover)

LGA1200 Processor

Intel Core Gen 10 “Comet Lake-S” or Gen 11 “Rocket Lake-S”
Core i9 / i7 / i5 / i3, Pentium Gold or Celeron
TDP max. 125 W

Memory Modules

Up to four 288-pin DIMM memory modules, max. 32 GB each
Supports DDR4-3200 clock rate with Gen 11 CPUs
Supports DDR4-2933 clock rate with Core i7/i9 Gen 10 CPUs
Supports DDR4-2666 clock rate with other Gen 10 CPUs

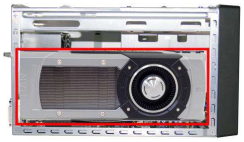
SATA Storage Drives

The drive rack supports four 3.5” drives.

Note: use accessory PHD3 to install two 2.5” drives (Hard disks or SSDs) in a 3.5” bay. The mainboard features four SATA ports and one USB 2.0 onboard header.

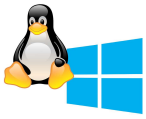
M.2 SSD (optional)

Supports M.2-2280/2260/2242 formats
Supports SATA or PCIe/NVMe interfaces



PCI-EXPRESS CARDS (optional)

1) PCI-E X16 slot (e.g. Single-Slot graphics card)
2) PCI-E X4 slot (e.g. Dual 10 Gb network card)
The power consumption of the graphics card must not exceed 300 watts [3]. Max. length is 280 mm. If a dual-slot (double-width) graphics cards is used the second PCI-Express slot will be occupied.



Operating System

Windows 10/11 or Linux (64-bit only)

OPTIONAL ACCESSORIES FROM SHUTTLE

WLAN-Accessory

WLN-M (802.11ac / Wifi 5)
WLN-M1 (802.11ax / Wifi 6)
M.2-2230 card supports WLAN and Bluetooth including 2 antennas

Adapter for 2.5” drives

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

PSU Upgrade **PC850**

850W power supply upgrade kit with 80 PLUS® Platinum efficiency

COM Port Adapter

H-RS232
The H-RS232 allows for installation of one serial COM port (RS232) in the back panel.

Cable **CXP01**

Cable for external push button switch (without button)

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 an incredible amount of space 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-quality finish and aesthetics remain untouched - the R8 case uses light aluminium as its stylish base material and the brushed surfaces are truly eye-catching.

Integrated Cooling Engine

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.

What is a Barebone?

The Shuttle XPC cube Barebone SH570R8 consists of a stylish case with 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 operating system 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.

Ample space for demanding dual-slot graphics cards

Despite the small housing, the SH570R8 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 graphics cards is 280 mm x 120 mm x 38 mm. Please refer to the support list for detailed support information at global.shuttle.com.

Triple UHD display support and more

The integrated graphics supports up to three independent monitors at Ultra-HD resolution if not an F-type CPU is used.
This XPC even 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.

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 SH570R8 (pitch 2.54 mm). Furthermore, this connector provides a Clear CMOS function and +5V DC voltage supply for external devices.

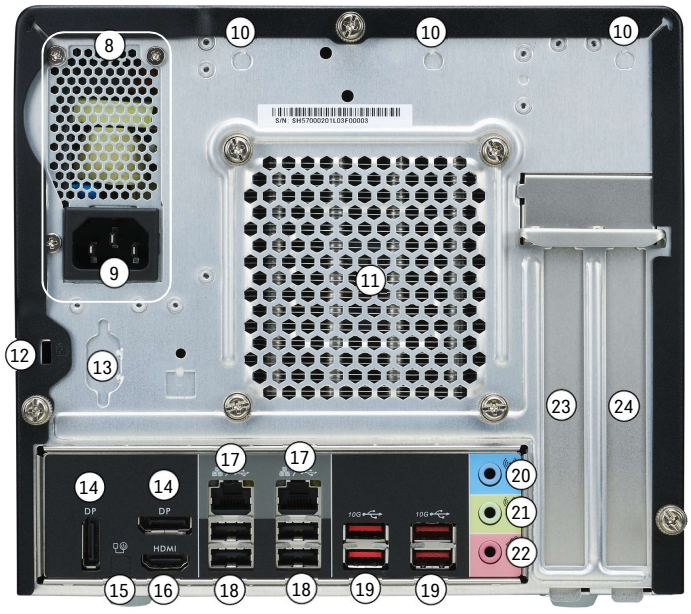
+5V voltage (2) (4) Power Button
Clear CMOS (1) (3) Ground

Front and Back Panel

Front panel

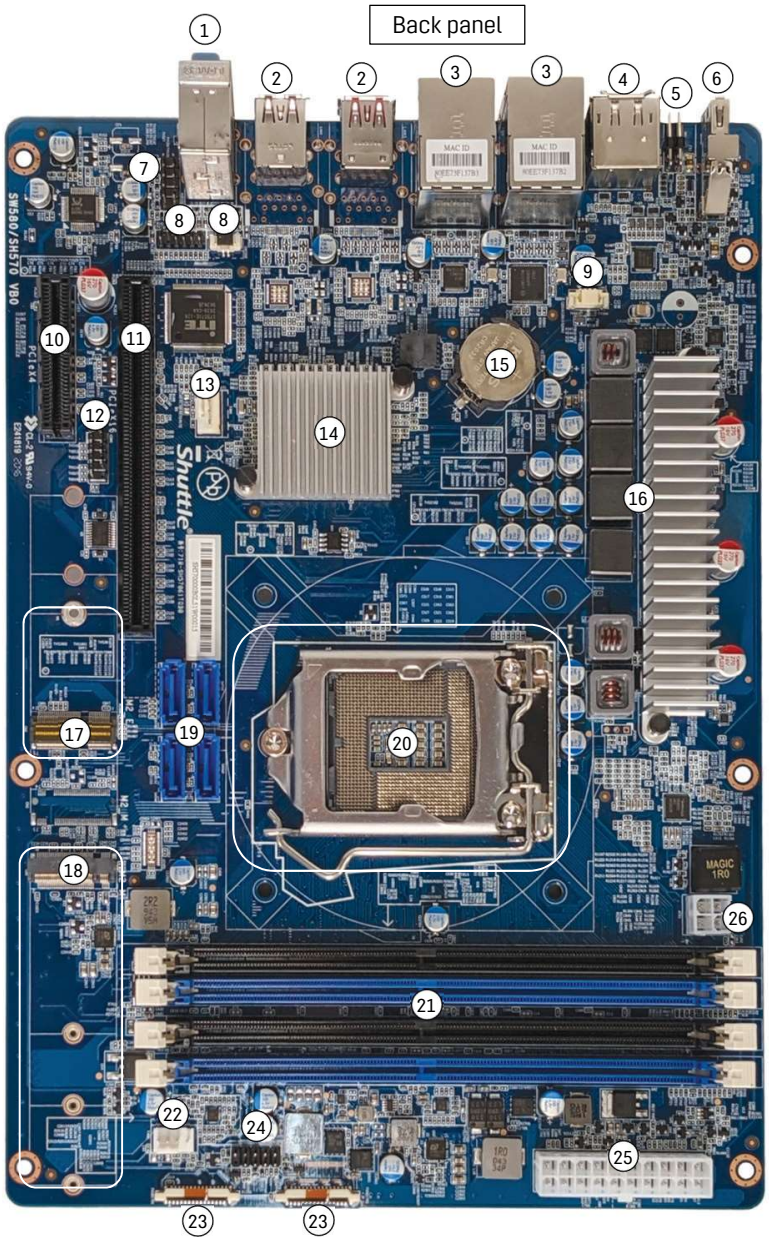
1. Hard disk LED indicator
2. Power LED indicator
3. Power button
4. 3x USB 3.2 Gen 1 Type-A port (5 Gbps)
5. Microphone input
6. Headphones output
7. USB 3.2 Gen 1 Type-C port (5 Gbps)

Back panel



8. Internal power supply unit (PSU)
9. AC power connector
10. 3x perforation for optional WLAN antenna
11. Heat-pipe cooling system
12. Hole for Kensington Lock
13. Perforation for optional COM port
14. DisplayPort 1.4
15. 4-pin connector (2.54 mm pitch) for external power button, Clear CMOS button and 5V DC voltage
16. HDMI 2.0b/1.4b
17. 2x RJ45 Gigabit LAN port
18. 4x USB 2.0 port
19. 4x USB 3.2 Gen 2 Type-A port (10 Gbps)
20. Audio Line-in
21. Audio Line-out
22. Microphone input
23. PCI-Express X16 expansion slot
24. PCI-Express X4 expansion slot

Mainboard



1. 3x Audio Ports (Line-in / Line-out / Microphone)
2. 4x USB 3.2 Gen 2 Type-A Port (10 Gbps)
3. 2x RJ45 Gigabit LAN port & 4x USB 2.0 port
4. HDMI 2.0b/1.4b port & DisplayPort 1.4
5. 4-pin connector (2.54 mm pitch) for external power button, Clear CMOS button and 5V DC voltage
6. DisplayPort 1.4
7. Front audio header
8. Debug header (reserved)
9. Onboard USB 2.0 connector (4-pin)
10. PCI-Express X4 expansion slot
11. PCI-Express X16 expansion slot
12. Onboard RS232 COM port header (2x5-pin)
13. Connector for cooling fan (4-pin)
14. Intel H570 chipset with heat sink
15. CMOS battery
16. CPU voltage regulator area
17. M2-2230E slot for WLAN card
18. M.2-2280M slot for SSD card
19. 4x SATA v3.0 connector
20. LGA1200 processor socket
21. 4x DIMM memory slot
22. Connector for cooling fan (4-pin)
23. Front USB 3.0 header
24. Front buttons / LEDs header
25. ATX power connector (20-pin)
26. ATX power connector (4-pin)

Shuttle Product Comparison: SH3xx versus SH5xx

The differences in the newer SH5xx series are marked in **red**.

MODEL	SH310R4V2	SH370R6V2 PLUS	SH370R8	SH510R4	SH570R6 PLUS	SH570R8	SW580R8
CHASSIS	**R4** chassis customisable front plate	**R6** chassis with front doors for I/O ports	**R8** chassis supports four 3.5" hard disks	**R4** chassis customisable front plate	**R6** chassis with front doors for I/O ports	**R8** chassis supports four 3.5" hard disks	**R8** chassis supports four 3.5" hard disks
PROCESSOR SUPPORT	Socket LGA1151v2, TDP max. 95 W Code name "Coffee Lake-S" 14 nm – Gen 8 and 9 Supports Celeron, Pentium Gold, Core i3 / i5 / i7 / i9			Socket LGA1200, TDP max. 125 W Code name "Comet/Rocket Lake-S" 14 nm – Gen 10/11 Supports Celeron, Pentium Gold, Core i3 / i5 / i7 / i9			
XEON SUPPORT	–	–	–	–	–	–	Xeon W-Series
CPU COOLING	3 heat-pipes	3 heat-pipes	3 heat-pipes	4 heat-pipes	4 heat-pipes	4 heat-pipes	4 heat-pipes
CHIPSET	Intel H310	Intel H370	Intel H370	Intel H510	Intel H570	Intel H570	Intel W580
Intel vPRO/AMT	–	–	–	–	–	–	Supported
TPM 2.0	Firmware	Firmware	Firmware	Firmware	Firmware	Firmware	Hardware-Chip
OS SUPPORT	Windows 10/11 and Linux (64-bit)			Windows 10/11 and Linux (64-bit)			
DRIVE BAYS	1x 5.25" 2x 3.5"	1x 5.25" 2x 3.5" (1x open)	4x 3.5"	1x 5.25" 2x 3.5"	1x 5.25" 2x 3.5" (1x open)	4x 3.5"	4x 3.5"
SATA PORTS	3	4	4	3	4	4	4
PCI-E SLOTS	PCIe X16 v3.0 PCIe X1 V2.0	PCIe X16 v3.0 PCIe X4 V3.0	PCIe X16 v3.0 PCIe X4 V3.0	PCIe X16 v4.0 PCIe X1 V2.0	PCIe X16 v4.0 PCIe X4 V3.0	PCIe X16 v4.0 PCIe X4 V3.0	PCIe X16 v4.0 PCIe X4 V3.0
MAX. RAM SUPPORT	2x 16 GB DDR4-2933	4x 32 GB DDR4-2933	4x 32 GB DDR4-2933	2x 32 GB DDR4-3200 [*]	4x 32 GB DDR4-3200 [*]	4x 32 GB DDR4-3200 [*]	4x 32 GB DDR4-3200 [*] Supports ECC
GRAPHICS PORTS	HDMI 2.0a DP 1.2, VGA	HDMI 2.0a 2x DP 1.2	HDMI 2.0a 2x DP 1.2	HDMI 2.0b [*] DP 1.4, VGA	HDMI 2.0b [*] 2x DP 1.4	HDMI 2.0b [*] 2x DP 1.4	HDMI 2.0b [*] 2x DP 1.4
M.2 SSD SLOT	1	1	1	1	1	1	2
WLAN SLOT	M.2-2230E			M.2-2230E			
BUTTONS / LEDS	Power-Button, Power LED, HDD LED			Power-Button, Power LED, HDD LED			
USB 3.2 GEN 2	–	4	4	–	4	4	4
USB 3.2 GEN 1	4	4	4	4	4 (1x Type-C)	4 (1x Type-C)	4 (1x Type-C)
USB 2.0	4	4	4	4	4	4	4
USB 2.0 onboard	1	2	2	1	1	1	1
1G NETWORK	1x Intel i219LM	2x Intel 211	2x Intel 211	1x Intel i219LM	1x Intel i210AT 1x Intel i219LM	1x Intel i210AT 1x Intel i219LM	1x Intel i210AT 1x Intel i219LM
2.5G NETWORK	–	–	–	–	–	–	2x RTL 8125b
AUDIO	Mic-Input, Headphone Output and 6-channel Line-Out			Mic-Input, Headphone Output and 6-channel Line-Out			
OPTIONAL ACCESSORIES	WLAN Kit: **WLN-M** (ac) **/WLN-M1** (ax) COM-Port: **H-RS232** 3.5"/2.5" Adapter: **PHD3**			WLAN Kit: **WLN-M** (ac) **/WLN-M1** (ax) COM-Port: **H-RS232** 3.5"/2.5" Adapter: **PHD3** Cable for ext. power button: **CXP01** 850W-power supply: **PC850**			
POWER SUPPLY	300W 80+ Bronze	300W **Plus:** 500W	500 W 80+ Gold	300W 80+ Bronze	300W **Plus:** 500W	500 W 80+ Gold	500 W 80+ Gold

[*] Note: SH5xx-Series supports PCIe X16 **V4** slot, DDR4-**3200** and HDMI **2.0b** with **Gen. 11** Processors **"Rocket Lake"**, but only PCIe X16 **V3** slot, DDR4-**2666/2933** and HDMI **1.4b** with **Gen. 10** Processors **"Comet Lake"**.

SHUTTLE XPC CUBE BAREBONE SH570R8 — SPECIFICATIONS

CHASSIS	Black aluminium chassis Front panel: brushed aluminium Front door for I/O ports (USB and Audio) Kensington Security Slot at the backpanel (also called K-Slot or Kensington lock) as a part of an anti-theft system 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 / 4.5 kg gross
MAINBOARD / CHIPSET	Mainboard with Shuttle form factor, proprietary design for XPC SH570R8 Chipset/Southbridge: Intel® H570 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-EEPROM Supports Hardware Monitoring, Watch Dog Supports Power Fail Resume 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 **[3]** AC input voltage: 100~240V, 50~60 Hz 80 PLUS Gold compliant Active PFC circuit (Power Factor Correction) ATX main power connectors: 2x10 and 2x2-pin Graphics power connector: 6-pin and 8-pin Other connectors: 4x SATA, 2x Molex
OPERATING SYSTEM	This system comes without operating system. It is compatible with Windows 10/11 and Linux (64-bit)
PROCESSOR SUPPORT	Processor Socket LGA 1200 Supports Intel Core i9 / i7 / i5 / i3, Pentium Gold and Celeron processors Supports the 10th and 11th generation Intel Core processors, code name "Comet Lake-S" and "Rocket Lake-S" in 14++ nm process technology Maximum supported processor power consumption (TDP) = 125 W Up to 10 CPU cores, 20 threads and 20 MB of L3 cache 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. However, processors with "F" identifier do not support integrated graphics **[2]** (performance features depending on processor type) Please refer to the support list for detailed processor support information at global.shuttle.com.
HEAT-PIPE 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 memory at 1.2V Supports Dual Channel mode Supports max. 32 GB per DIMM, maximum total size of 128 GB The maximum DDR4 clock frequency depends on the processor type used: - Gen. 11 "Rocket Lake" supports DDR4-3200 (PC4-25600U) - Gen. 10 "Comet Lake" Core i7/i9 supports DDR4-2933 (PC4-23433U) - other Gen. 10 "Comet Lake" support DDR4-2666 (PC4-21300U)
PCI-E EXPANSION SLOTS	1x PCI-Express x16 v4.0 slot (supports PCI-Express v3.0 with Gen. 10 "Comet Lake" processors) 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. Graphics power connector: 6-pin and 8-pin **[3]**

INTEGRATED GRAPHICS (OPTIONAL [2])	The features of the integrated Intel UHD graphics function depend on the processor type used. Certain processor models do not support integrated graphics **[2]** The PC features three video outputs which support 2160p/60 UHD resolution: - 1x HDMI v2.0b (only HDMI v1.4b with Gen. 10 "Comet Lake" Prozessoren) - 2x DisplayPort v1.4 Supports displays with 4K Ultra HD resolution at 3840 x 2160 (2160p/60) Supports three independent displays with the integrated graphics function Supports more displays in combination with a discrete graphics card Hardware video decoding/encoding DisplayPort and HDMI support multi-channel digital audio over the same cable
DRIVE BAYS	Storage bays: 4x 3.5" (internal) Using the optional accessory PHD3 two 2.5" drives can be installed into one 3.5" bay.
SATA 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)
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	Interfaces: PCI-Express Gen. 3.0 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)
HD AUDIO	Audio Codec: Realtek ALC897, 5.1 channel Three analog audio connectors (3.5 mm) on the backpanel: 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)
DUAL GIGABIT LAN	Dual Gigabit network with two RJ45 ports 1x Intel i210AT - Ethernet Controller with MAC, PHY and PCIe interface 1x 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)
FRONT PANEL CONNECTORS	Microphone input (3.5 mm) Headphones output (3.5 mm) 1x USB 3.2 Gen 1 (5 Gbps), Type C 3x 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 2.0b (HDMI 1.4b with Gen. 10 "Comet Lake" processor) 2x DisplayPort 1.4 **[1]** 4x USB 3.2 Gen 2 (10 Gbps), Type A, red 4x 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) 1x 4-pin connector (2.54 mm pitch) supports: - external power on button - Clear CMOS function - +5V DC voltage for external components Optional: Serial RS232 port (Accessory: "H-RS232") 3x perforation for optional WLAN antennas (Accessory: "WLN-M")
OTHER ONBOARD CONNECTORS	Occupied front panel connectors for USB, audio, buttons, LEDs 1x RS232 serial interface (2x5 pin header) 2x fan connectors (4-pin header) 1x USB 2.0 (4-pin header)

SUPPLIED 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 kit supports WLAN and Bluetooth with two external antennas (**WLN-M** (802.11ac) and **WLN-M1** (802.11ax)) Adapter for 2.5" drives such as SSDs **(PHD3)** Adapter cable for external power button **(CXP01)** 850W power supply **(PC850)**
ENVIRONMENTAL SPECIFICATIONS	Permissible ambient temperature during operation: 0~40 °C Relative 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/EC relating to ecodesign requirements for energy-related products (ErP).

[1] 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: 1 m, DisplayPort (male, 20p) to HDMI-A (male, 19p)
DELOCK 82435: 5 m, 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.

[2] Integrated graphics is optional
Processors with model numbers ending with "F" (z.B. Intel Core i5-11600F) do not support integrated graphics, so that the graphics outputs of the Shuttle XPC have no function. In this case, an additional discrete PCIe graphics card is mandatory.

[3] Online Power Calculator
The PCI Express x16 slot provides a maximum of 75 Watts to the graphics card, plus 75 Watts and 150 Watts from the 6-pin and 8-pin connector of the power supply - so the power consumption of the graphics card must not exceed 300 watts. The processor may have a maximum TDP of 125 Watts. If powerful PC components are used, then check with the "Power Supply Calculator" whether the built-in 500 Watt power supply supports this configuration, see: http://global.shuttle.com/support/power. Please also refer to the support list for detailed processor and graphics cards support information at http://global.shuttle.com.

10TH GENERATION INTEL CORE DESKTOP PROCESSOR FAMILY

Socket LGA1200 14 nm "Comet Lake S" and "Comet Lake Refresh" processor overview (Date: August 2021)

PROCESSOR	MODEL	CORES/ THREADS	CPU CLOCK	TURBO BOOST CLOCK (2.0)	SMART CACHE	TDP	MEMORY SUPPORT	GRAPHICS ENGINE
Core™ i9	**10900K**	10/20	3.7 GHz	5.1 GHz	20 MB	**125 W**	DDR4-2933	UHD 630 (1.2 GHz)
	10900KF	10/20	3.7 GHz	5.1 GHz	20 MB	**125 W**	DDR4-2933	**None**
	10900	10/20	2.8 GHz	5.0 GHz	20 MB	65 W	DDR4-2933	UHD 630 (1.2 GHz)
	10900F	10/20	2.8 GHz	5.0 GHz	20 MB	65 W	DDR4-2933	**None**
	10900T	10/20	1.9 GHz	4.5 GHz	20 MB	35 W	DDR4-2933	UHD 630 (1.2 GHz)
	10850K	10/20	3.6 GHz	5.0 GHz	20 MB	**125 W**	DDR4-2933	UHD 630 (1.2 GHz)
Core™ i7	**10700K**	8/16	3.8 GHz	5.0 GHz	16 MB	**125 W**	DDR4-2933	UHD 630 (1.2 GHz)
	10700KF	8/16	3.8 GHz	5.0 GHz	16 MB	**125 W**	DDR4-2933	**None**
	10700	8/16	2.9 GHz	4.7 GHz	16 MB	65 W	DDR4-2933	UHD 630 (1.2 GHz)
	10700F	8/16	2.9 GHz	4.7 GHz	16 MB	65 W	DDR4-2933	**None**
	10700T	8/16	2.0 GHz	4.4 GHz	16 MB	35 W	DDR4-2933	UHD 630 (1.2 GHz)
Core™ i5	**10600K**	6/12	4.1 GHz	4.8 GHz	12 MB	**125 W**	DDR4-2666	UHD 630 (1.2 GHz)
	10600KF	6/12	4.1 GHz	4.8 GHz	12 MB	**125 W**	DDR4-2666	**None**
	10600	6/12	3.3 GHz	4.8 GHz	12 MB	65 W	DDR4-2666	UHD 630 (1.2 GHz)
	10600T	6/12	2.4 GHz	4.0 GHz	12 MB	35 W	DDR4-2666	UHD 630 (1.2 GHz)
	10500	6/12	3.1 GHz	4.5 GHz	12 MB	65 W	DDR4-2666	UHD 630 (1.15 GHz)
	10500T	6/12	2.3 GHz	3.8 GHz	12 MB	35 W	DDR4-2666	UHD 630 (1.1 GHz)
	10400	6/12	2.9 GHz	4.3 GHz	12 MB	65 W	DDR4-2666	UHD 630 (1.1 GHz)
	10400F	6/12	2.9 GHz	4.3 GHz	12 MB	65 W	DDR4-2666	**None**
	10400T	6/12	2.0 GHz	3.6 GHz	12 MB	35 W	DDR4-2666	UHD 630 (1.1 GHz)
Core™ i3	**10325**	4/8	3.9 GHz	4.7 GHz	8 MB	65 W	DDR4-2666	UHD 630 (1.15 GHz)
	10320	4/8	3.8 GHz	4.6 GHz	8 MB	65 W	DDR4-2666	UHD 630 (1.15 GHz)
	10305	4/8	3.8 GHz	4.5 GHz	8 MB	65 W	DDR4-2666	UHD 630 (1.15 GHz)
	10305T	4/8	3.8 GHz	4.5 GHz	8 MB	65 W	DDR4-2666	UHD 630 (1.1 GHz)
	10300	4/8	3.7 GHz	4.4 GHz	8 MB	65 W	DDR4-2666	UHD 630 (1.15 GHz)
	10300T	4/8	3.0 GHz	3.9 GHz	8 MB	35 W	DDR4-2666	UHD 630 (1.1 GHz)
	10105F	4/8	3.7 GHz	4.4 GHz	6 MB	65 W	DDR4-2666	**None**
	10105	4/8	3.7 GHz	4.4 GHz	6 MB	65 W	DDR4-2666	UHD 630 (1.1 GHz)
	10105T	4/8	3.0 GHz	3.9 GHz	6 MB	35 W	DDR4-2666	UHD 630 (1.1 GHz)
	10100	4/8	3.6 GHz	4.3 GHz	6 MB	65 W	DDR4-2666	UHD 630 (1.1 GHz)
	10100F	4/8	3.6 GHz	4.3 GHz	6 MB	65 W	DDR4-2666	**None**
	10100T	4/8	3.0 GHz	3.8 GHz	6 MB	35 W	DDR4-2666	UHD 630 (1.1 GHz)
Pentium® Gold	**G6605**	2/4	4.3 GHz	–	4 MB	58 W	DDR4-2666	UHD 630 (1.1 GHz)
	G6600	2/4	4.2 GHz	–	4 MB	58 W	DDR4-2666	UHD 630 (1.1 GHz)
	G6505	2/4	4.2 GHz	–	4 MB	58 W	DDR4-2666	UHD 630 (1.1 GHz)
	G6500	2/4	4.1 GHz	–	4 MB	58 W	DDR4-2666	UHD 630 (1.1 GHz)
	G6500T	2/4	3.5 GHz	–	4 MB	35 W	DDR4-2666	UHD 630 (1.05 GHz)
	G6405	2/4	4.1 GHz	–	4 MB	58 W	DDR4-2666	UHD 610 (1.05 GHz)
	G6405T	2/4	3.5 GHz	–	4 MB	35 W	DDR4-2666	UHD 610 (1.05 GHz)
	G6400	2/4	4.0 GHz	–	4 MB	58 W	DDR4-2666	UHD 610 (1.05 GHz)
	G6400T	2/4	3.4 GHz	–	4 MB	35 W	DDR4-2666	UHD 610 (1.05 GHz)

PROCESSOR	MODEL	CORES/ THREADS	CPU CLOCK	TURBO BOOST CLOCK (2.0)	SMART CACHE	TDP	MEMORY SUPPORT	GRAPHICS ENGINE
Celeron®	G5925	2/2	3.6 GHz	–	4 MB	58 W	DDR4-2666	UHD 610 (1.05 GHz)
	G5920	2/2	3.5 GHz	–	2 MB	58 W	DDR4-2666	UHD 610 (1.05 GHz)
	G5905	2/2	3.5 GHz	–	4 MB	58 W	DDR4-2666	UHD 610 (1.05 GHz)
	G5905T	2/2	3.3 GHz	–	4 MB	35 W	DDR4-2666	UHD 610 (1.05 GHz)
	G5900	2/2	3.4 GHz	–	2 MB	58 W	DDR4-2666	UHD 610 (1.05 GHz)
	G5900T	2/2	3.2 GHz	–	2 MB	35 W	DDR4-2666	UHD 610 (1.05 GHz)

K = unlocked, T = Power optimized lifestyle, F = without integrated graphics, TDP = Thermal Design Power (max. Power Consumption).
Note: The Shuttle XPC cube Barebone SH570R8 does not support the Unlock-function of Intel K-Series processors.
Intel processors without integrated graphics can be identified by their model name ending on "F". When using this CPU, a graphics card is required.
Please refer to the support list for detailed processor support information at global.shuttle.com.

11TH GENERATION INTEL CORE DESKTOP PROCESSOR FAMILY

Socket LGA1200 14 nm "Rocket Lake S" processor overview (Date: August 2021)

PROCESSOR	MODEL	CORES/ THREADS	CPU CLOCK	TURBO BOOST CLOCK (2.0)	SMART CACHE	TDP	MEMORY SUPPORT	GRAPHICS ENGINE MAX. CLOCK / EUs
Core™ i9	11900K	8/16	3.5 GHz	5.3 GHz	16 MB	125 W	DDR4-3200	UHD 750 (1.3 GHz, 32 EUs)
	11900KF	8/16	3.5 GHz	5.3 GHz	16 MB	125 W	DDR4-3200	**None**
	11900	8/16	2.5 GHz	5.2 GHz	16 MB	65 W	DDR4-3200	UHD 750 (1.3 GHz, 32 EUs)
	11900F	8/16	2.5 GHz	5.2 GHz	16 MB	65 W	DDR4-3200	**None**
	11900T	8/16	1.5 GHz	4.9 GHz	16 MB	35 W	DDR4-3200	UHD 750 (1.3 GHz, 32 EUs)
Core™ i7	11700K	8/16	3.6 GHz	5.0 GHz	16 MB	125 W	DDR4-3200	UHD 750 (1.3 GHz, 32 EUs)
	11700KF	8/16	3.6 GHz	5.0 GHz	16 MB	125 W	DDR4-3200	**None**
	11700	8/16	2.5 GHz	4.9 GHz	16 MB	65 W	DDR4-3200	UHD 750 (1.3 GHz, 32 EUs)
	11700F	8/16	2.5 GHz	4.9 GHz	16 MB	65 W	DDR4-3200	**None**
	11700T	8/16	1.4 GHz	4.6 GHz	16 MB	35 W	DDR4-3200	UHD 750 (1.3 GHz, 32 EUs)
Core™ i5	11600K	6/12	3.9 GHz	4.9 GHz	12 MB	125 W	DDR4-3200	UHD 750 (1.3 GHz, 32 EUs)
	11600KF	6/12	3.9 GHz	4.9 GHz	12 MB	125 W	DDR4-3200	**None**
	11600	6/12	2.8 GHz	4.8 GHz	12 MB	65 W	DDR4-3200	UHD 750 (1.3 GHz, 32 EUs)
	11600T	6/12	1.7 GHz	4.1 GHz	12 MB	35 W	DDR4-3200	UHD 750 (1.3 GHz, 32 EUs)
	11500	6/12	2.7 GHz	4.6 GHz	12 MB	65 W	DDR4-3200	UHD 750 (1.3 GHz, 32 EUs)
	11500T	6/12	1.5 GHz	3.9 GHz	12 MB	35 W	DDR4-3200	UHD 750 (1.2 GHz, 32 EUs)
	11400	6/12	2.6 GHz	4.4 GHz	12 MB	65 W	DDR4-3200	UHD 730 (1.3 GHz, 24 EUs)
	11400F	6/12	2.6 GHz	4.4 GHz	12 MB	65 W	DDR4-3200	**None**
	11400T	6/12	1.3 GHz	3.7 GHz	12 MB	35 W	DDR4-3200	UHD 730 (1.2 GHz, 24 EUs)

K = unlocked, T = Power optimized lifestyle, F = without integrated graphics, TDP = Thermal Design Power (max. Power Consumption).
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