Shuttle®

SYSTEM
XPC slim
POS DS200

4 GB RAM, 128 GB SSD, without OS

FANLESS PC SYSTEM FOR POS APPLICATION

The Shuttle POS DS200 is a sleek complete mini PC system with a robust 1.3-litre metal chassis and exceptional connectivity. The array of modern connectors include HDMI 2.0a, DisplayPort 1.2, USB 3.2 Gen.1, but also traditional ports like VGA, COM and USB 2.0 are part of the package which are particularly important for commercial applications. Dual Gigabit LAN is also included. Thanks to its passive cooling and SSD storage, the system is virtually maintenance-free and approved for 24/7 nonstop operation. It is big on performance, yet extremely energy-efficient - the ideal platform for professional applications such as POS, digital signage, Kiosk, Thin Client, Office PC and Multimedia.

FANLESS COOLING	128 GB NVMe SSD	HDMI 2.0a	DISPLAY-PORT 1.2	2.5" HDD/SSD SUPPORT	DUAL LAN (INTEL)	SERIAL PORT	VESA MOUNT	WLAN / LTE OPTIONAL	MAX.. 40 °C	REMOTE POWER OPT.	24/7 SUPPORT

SLIM DESIGN
■ Slim 1.3-litre metal chassis, black ■ Dimensions: 20 x 16.5 x 3.95 cm (LWH) ■ Including Stand and VESA mount (75/100 mm) ■ Supports 24/7 Nonstop Operation ■ Operating temperature: 0~40 °C (non-condensing)

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

BAREBONE
■ This PC system is based on the Shuttle XPC slim Barebone DS20U

PROCESSOR
■ Intel Celeron 5205U processor, Dual-Core, 1.9 GHz, Gen. 10, codename "Comet Lake-S", max. 15W TDP ■ Fanless heatpipe cooling system

GRAPHICS
■ Integrated Intel UHD graphics, 4K support (features depend on processor) ■ Supports three independent displays

MEMORY SUPPORT
■ 4 GB DDR4-RAM (SO-Dimm) ■ max. 2x 32 GB

STORAGE – SATA / M.2
■ 128 GB M.2 SSD module supports PCIe/NVMe ■ 1x 2.5" bay for SATA hard disk or SSD ■ 1x M.2-2230E for optional WLAN

CONNECTORS
■ HDMI 2.0a ■ DisplayPort 1.2 ■ VGA ■ SD card reader ■ 2x audio (line out, mic) ■ 4x USB 3.2 Gen1 ■ 4x USB 2.0 ■ 1x internal USB 2.0 ■ 2x Intel Gigabit LAN (RJ45) ■ 1x COM port (1x RS232/422/485) ■ Connector for external power button ■ "Always on" Jumper ■ DC-input 12 V or 19 V

POWER SUPPLY
■ External 65W/19V power adapter (also supports 12 V power adapter)

OPTIONAL ACCESSORIES
■ WLAN Module (WLN-M / WLN-M1) ■ LTE-kit (WWN03) ■ Rackmount kit (PRM01) ■ Cable for external power button (CXP01) ■ DIN-Rail mounting kit (DIR01) ■ 2nd COM port RS232 (PCP11)

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PRODUCT FEATURES

Robust, stylish and Extremely Small

You should have held it in your own hands to experience how small it actually is. Barely 1.3 litre in volume, its rigid steel chassis design meets the high standards towards quality and stability that are essential for professional applications like digital signage. Despite its diminutive size, the processing power inside the POS DS200 is sufficient to meet the needs of the most demanding multimedia and computational workloads. Other than rough environments, its sleek and stylish look also blends seamlessly in both home and office.

Ease of installation thanks to bay covers

The Shuttle XPC slim System POS DS200 features two practical bay covers at the bottom of the chassis which make the installation or upgrade of hardware components a breeze. No cable is required and no cooling system needs to be installed.

No fan noise and approved for 24/7 operation

A large heatsink is concealed behind a plastic cover and cools down the processor in a passive way without any fan. Using an SSD drive instead of a hard disk makes the system virtually noiseless and hence perfectly suitable for noise-sensitive environments like e.g. a library, living room, music studio or even a bedroom. The Shuttle XPC slim System POS DS200 is officially approved for 24/7 permanent operation – even at ambient temperatures of up to 40 °C (non-condensing).

Energy-efficient Processor

This XPC is equipped with an energy-efficient ultra low voltage (ULV) processor which belongs to Intel's 10th-generation Intel Core processor family codenamed "Comet Lake-U". It is soldered to mainboard and passively cooled by a large heatsink. As a result of further integration, it comes as a system-on-a-chip (SoC) without the need of an extra chipset.


Dual 4K Display support

The POS DS200 features two digital video outputs: HDMI 2.0a and Display-Port 1.2 which both can run at 4K (3840 x 2160 / 2160p) high resolution at 60 Hz frames per second. Furthermore, the POS DS200 supports an D-Sub/VGA port which can be used simultaneously.

One M.2-Slot for SSD cards

The M.2-2280 slot supports one M.2 SSD storage card with NVMe PCIe or SATA interface. Type 2280 means, it supports the usual M.2 cards with a width of 22 mm and a length of 80 mm, but also 2242 and 2260 standard cards are supported.

Dual Intel Gigabit LAN Network

The Shuttle XPC slim System POS DS200 supports Dual Gigabit LAN with Intel network adapters, which are popular for their excellent performance and driver compatibility and are the preferred choice for professional environments.

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.

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 POS DS200 also comes with a hardware-based solution. By removing Jumper JP9 the system will start unconditionally once power is applied.

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 POS DS200 (pitch 2.54 mm). Furthermore, this connector provides a Clear CMOS function and +5V DC voltage supply for external devices.

Ground   *Power Button*
Clear CMOS   *+5V Power*

Front and Back Panel

Front panel

Back panel
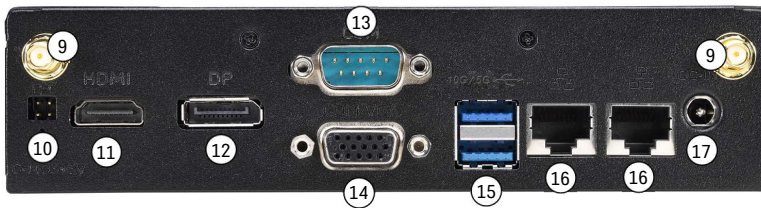
1. 2x USB 3.2 Gen 1 port
2. 4x USB 2.0 port
3. LED indicator for power state
4. LED indicator for storage activity
5. Power button
6. SD card reader
7. Microphone input
8. Headphones output

9. 2x WLAN perforation
10. 4-pin connector (2.54 mm pitch)
    for external power button, Clear CMOS button
    and 5V DC voltage
11. HDMI 2.0a port
12. DisplayPort 1.2
13. COM port supports RS232/RS422/RS485
14. D-Sub/VGA port for analog displays
15. 2x USB 3.2 Gen 1 port
16. 2x RJ45 Gigabit LAN port
17. DC-in connector for power adapter

18. Hole for Kensington Lock
    (the lock-and-cable is not included)

19. VESA mount (two parts)

OPTIONAL ACCESSORIES FROM SHUTTLE

WLAN-Accessory
WLN-M / WLN-M1
M.2-2230 card supports WLAN and Bluetooth including 2 antennas

Cable CXP01
Cable for external push button switch (without button)

LTE Adapter Kit WWN03
allows the installation of an M.2 LTE card and nano SIM card (occupies the 2.5" bay). The LTE and SIM card are not included.

DIN-Rail Kit DIR01
This mounting kit allows the installation on a standard 35 mm DIN-Rail

COM Port Adapter PCP11
If two COM ports are required, the existing VGA port may be removed and replaced by PCP11 instead.

Rack Mount Kit PRM01
2U front plate to install up to two 1.3L Shuttle XPCs in a 19" cabinet.

SHUTTLE XPC SYSTEM POS DS200 — SPECIFICATIONS

FANLESS AND SILENT	Passive cooling, no fan noise at all Perfect to be used in noise-sensitive environments Fanless, dust-free and thus virtually maintenance-free
LOW POWER CONSUMPTION	Power consumption in idle mode with 2.5" SSD under Windows 10: ca. 6 W only
24/7 NONSTOP OPERATION	This device is approved for 24/7 permanent operation. Requirements: - Free circulation of air amongst the PC must be guaranteed. - Ventilation holes must stay clear. - If a hard disk is installed, this must also be approved for permanent operation by its manufacturer
CHASSIS	Slim-PC with black steel chassis Without cooling fan, passive cooling only The bays for memory, 2.5" drive and M.2 card can easily be accessed by removing two cover plates. Dimensions: 200 x 165 x 39.5 mm (LWH) = 1.3 litres Weight: 1.5 kg net and 2.2 kg gross Two holes for Kensington Lock and numerous threaded holes (M3) at both sides of the chassis
OPERATION POSITION	1) Vertical: Usual operating position with the supplied feet (DisplayPort output facing up). 2) VESA-mounted: The device can also be mounted behind an appropriate monitor using the supplied VESA mount kit. Note: From a thermal point of view horizontal operation is permitted. However, there are no rubber feet on the device. The maximum operating temperature is 35 °C then.
OPERATING SYSTEM	This system comes without operating system. It is compatible with Windows 10/11 (64-bit) and Linux (64-bit).
PROCESSOR	Model: Intel Celeron 5205U (ULV) System-on-a-chip architecture (SoC) with integrated memory and graphics controller FCBGA1528 package - directly soldered onto the mainboard Code name: Comet Lake U (10th Generation Intel Core) Cores / Threads: 2 / 2 Clock rate: 1.9 GHz L1/L2/L3 Cache: 128 kB / 512 kB / 2048 kB TDP wattage: 15 W maximum Manufacturing process: 14nm Maximum Tjunction Temperature: 100 °C Supports 64-bit, VT-x (EPT), VT-d, Enhanced SpeedStep, NX bit, AES-NI, SSE 4.1/4.2
INTEGRATED GRAPHICS	Intel UHD Graphics GPU clock frequency: 300~900 MHz Execution Units (EUs): 12 Supports DirectX 12, OpenGL 4.5 Supports full H264, H265 8/10 bit, VP8/9, VC-1, AVC hardware decoding Supports Quick Sync Video and Clear Video HD technology Supports up to three independent screens: 1) DisplayPort 1.2 supports Ultra HD @ 60 Hz 2) HDMI 2.0a supports Ultra HD @ 60 Hz 3) D-Sub/VGA supports analog displays
MAINBOARD / BIOS	Shuttle Mainboard FS20 All capacitors are high quality solid capacitors Supports resume after power failure **[6]** Supports Wake on LAN (WOL) Supports Power on by RTC Alarm Supports boot from M.2 SSD cards und USB devices AMI BIOS in 16 MByte EEPROM with SPI interface Supports hardware monitoring and Watchdog function Supports Unified Extensible Firmware Interface (UEFI) Supports Firmware-TPM (fTPM) Version 2.0

POWER ADAPTER	External 65 W power adapter (fanless) Input: 100~240 V AC, 50/60 Hz, max. 1.6 A Output: 19 V DC, max. 3.42 A, max. 65 W DC cable length: ca. 170 cm AC cable length: ca. 170 cm (3-pin Micky MM C6 and Schuko earthed safety plug)
DC INPUT CONNECTOR	DC Input Connector: 5.5 / 2.5 mm (outer/inner diameter) The DC-input of the computer supports an external power source with either 12V±5% or 19V±5%.
MEMORY	4 GB DDR4 SO-DIMM RAM module Supports a maximum of 32 GB per DIMM, maximum total size: 64 GB
2.5" DRIVE BAY	2.5" Drive Bay with SATA connector Supports one Serial ATA hard disk or one SATA SSD drive in 6.35 cm / 2.5" format Device height: max. 12.5 mm Supports Serial-ATA III, 6 Gb/s (600 MB/s) bandwidth Supports Unified Extensible Firmware Interface (UEFI) Note: no Serial ATA cable is required.
M.2 SSD MODULE	128GB M2 SSD module supports PCIe/NVMe
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 expansion cards (optional Shuttle accessory: WLN-M / WLN-M1) 2x pre-installed antenna cables
CARD READER	Integrated SD card reader Supports SD, SDHC and SDXC memory flash cards
AUDIO	Audio Realtek® ALC897 or ALC662 High-Definition Audio Two analog audio connectors (3.5 mm) at the front panel: 1) 2 channel line out (headphones) 2) microphone input Digital multi-channel audio output: via HDMI and DisplayPort
DUAL GIGABIT LAN	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 [3]
PREPARED FOR WLAN	2x pre-installed antenna cables (WLAN card and antennas not included) Prepared for the installation of an M.2-2242 WLAN card and two external antennas
FRONT PANEL CONNECTORS	2x USB 3.2 Gen 1 (blue, max. 5 Gbps) 4x USB 2.0 Microphone input Audio Line-out (headphones) SD card reader (supports SD, SDHC, SDXC) Power button Power LED (blue) HDD LED (yellow)
BACK PANEL CONNECTORS	DisplayPort 1.2 [7] HDMI 2.0a D-Sub/VGA 2x USB 3.2 Gen 1 (blue, max. 5 Gbps) 2x Intel Gigabit LAN (RJ45) Serial COM port (5V / 12V, switchable to RS232 / RS422 / RS485) [1] DC-input connector for external power adapter 4-pin connector (2.54 mm pitch) for power button, Clear CMOS and 5 V DC [4]
ALWAYS-ON JUMPER	By removing Jumper J9 (please refer to the quick user guide), the system will start unconditionally once power is applied. [6]

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SUPPLIED ACCESSORIES	Multi-language user guide Two metal feet with four screws M3 x 7 mm VESA mount for 75/100mm standard (two metal brackets) Four screws M3 x 7 mm (screws together VESA mount and PC) Four screws M4 x 10 mm (to fix the VESA mount to the external surface) Two screws M3 x 5 mm to mount a 2.5" storage in the bay One screw M3 x 5 mm to mount M.2 cards Driver DVD for Windows External 65W power adapter with power cord (with protective-earth contacts)
OPTIONAL ACCESSORIES	**PCP11:** adapter cable for the second COM port (replaces the VGA port) **CXP01:** adapter cable for external power button **WWN03:** LTE adapter kit for the 2.5" bay including two external LTE antennas **[2]** **WLN-M / WLN-M1:** WLAN module (supports WLAN and Bluetooth) with two external antennas and cables **PRM01:** 2U rack mount front plate for two Shuttle XPC slim **DIR01:** mounting kit for 35 mm DIN-Rail
ENVIRONMENTAL SPECIFICATIONS	Operating temperature range: 0~40 °C **[5]** Relative humidity, non-condensing: 10~90 %
CONFORMITY & CERTIFICATIONS	EMI: CE, FCC, BSMI, RCM, VCCI Safety: CB, BSMI, cTUVus Other: RoHS, Energy Star, 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 eco design requirements for energy-related products (ErP)

Footnote:

[1] Jumper for COM port configuration
Pin 9 of the 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 5 V or 12 V. Each COM port can be configured separately. The operating mode of COM 1 can be set to RS232, RS422 or RS485 in the BIOS.
The second COM port (COM 2) supports RS232 mode only, and in the standard SKU of this system this is only available as an onboard connector on the mainboard. An appropriate adapter (e.g. the optional accessory PCP11) is required in order to provide this port as D-Sub connector at the back panel. In this case the VGA port cannot be used.

[2] LTE Adapter Kit WWN03
Using the LTE adapter kit WWN03 means, that the 2.5" bay can no longer be used for SATA drives in 2.5" format (hard disk or SSD). An SSD card in the M.2-2280 format must be used instead.

[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.

[4] Four-pin header at the back panel
This header allows for connecting an external power button.
It also provides 5 V DC voltage for external devices and the Clear CMOS function. Optional accessory: the adapter cable CXP01.

[5] Caution: For ambient temperatures higher than 35 °C
we strongly recommend to use an SSD instead of an HDD

[6] Power on after power fail:
The BIOS setup provides a "Power-On after Power Fail" function that can be found under "Power Management Configuration". This function determines the PC's behaviour after power failure. As a matter of the nature of this function, it may fail after short power failures. This is why this system also comes with a hardware-based solution. By removing Jumper J9 (please refer to the quick user guide), the system will start unconditionally once power is applied.

[7] How to convert DisplayPort into 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 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.