System
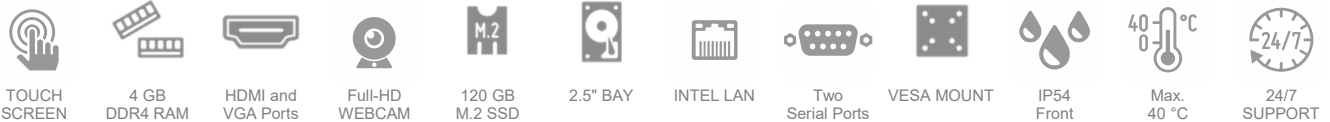## XPC all-in-one
POS P220

System without operation system

COMPACT ALL-IN-ONE PC FOR POS AND CONTROL APPLICATIONS

The Shuttle POS P220 is an all-in-one system with an 11.6" multi-touch display. It is positioned as a space-saving POS system or control device for media playback or automation. The adjustable stand allows for flexible viewing and operation angles, while it can also be VESA-mounted to appropriate stands or walls. The front panel is protected from splashing of water and dust according to the IP54 rating. A detachable cable collector box on the bottom helps avoid clutter. Thanks to its passive cooling, the system is virtually noiseless, maintenance-free and approved for 24/7 nonstop operation.

| TOUCH SCREEN | 4 GB DDR4 RAM | HDMI and VGA Ports | Full-HD WEBCAM | 120 GB M.2 SSD | 2.5" BAY | INTEL LAN | Two Serial Ports | VESA MOUNT | IP54 Front | Max. 40 °C | 24/7 SUPPORT |

COMMON FEATURES
- IP54 compliant front panel ■ Dimensions: 299 x 271 x 50 mm (WHD)
- Supports 24/7 Nonstop Operation ■ 100 mm VESA mount capable
- Operating temperature: 0~40 °C ■ Fanless heatpipe cooling system

DISPLAY & GRAPHICS
- 29.5 cm (11.6") LC Display, 1366 x 768 pixel ■ Capacitive 10-point multitouch screen ■ Integrated Intel UHD graphics ■ HDMI 1.4 & VGA

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

PROCESSOR
- Intel Celeron 5205U, Dual Core, clock rate: 1.9 GHz
- Intel Generation 10 "Comet Lake-U" TDP: 15W

STORAGE
- 4 GB DDR4-SO-DIMM ■ 120 GB SSD in M.2-2280 format (supports PCIe X4/ NVMe) ■ Supports one 2.5" SATA hard disk / SSD
- Supports internal USB stick (USB 2.0, type A)

CONNECTIVITY
- HDMI 1.4 ■ D-Sub/VGA ■ 4x USB 3.2 Gen 1 ■ 2x USB 2.0
- internal: 1x USB 2.0 (Type A) ■ Gigabit LAN (Intel) ■ 2x RS232 COM ports ■ 2x Audio (Mic & headphones)

BUILT-IN
- SD card reader ■ 1080p Full-HD webcam ■ 2 W speaker
- Electret Condenser Microphone

POWER SUPPLY
- External 65W / 19V power adapter

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Configurations of the P22U series

Product Name	Type	RAM	Mass Storage	Operating System	Bar Code
P22U	Barebone	—	—	—	UPC: 887993004648
POS P220	Fixed Configuration	4 GB	120 GB M.2 SSD	—	EAN: 4046047103775
IoT P2200PA	Fixed Configuration with Windows	4 GB	120 GB M.2 SSD	Windows 10 IoT	EAN: 4046047103782
P22UXA	BTO System	BTO	BTO	—	—
P2200T	BTO System with Windows	BTO	BTO	Windows (BTO)	—

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PRODUCT FEATURES

All applications at your fingertips

The innovative touchscreen technology delivers the simplest operation possible and makes the screen the centre of action. Its high-quality design lets you control the whole range of multimedia - music, movies, video playback and web browsers start by just touching the screen.

24/7 nonstop operation

The Shuttle XPC all-in-one POS P220 is officially approved for 24/7 permanent operation. Thanks to its low power consumption and completely passive cooling, this PC runs highly reliable making it perfectly suitable for digital signage and POI/POS applications.

Conditions for permanent use:
- Ambient temperature while under load: 5 - 40 °C
- Air humidity while under load: 10 - 80 % (not condensing)
- Free circulation of air amongst the PC must be guaranteed
- Ventilation holes must be kept clear

Fanless and quiet

The Shuttle XPC all-in-one POS P220 uses a passive thermal module to lead heat out of the case quickly and evenly. The unique fanless design makes it perfect to be used in noise-sensitive environments. As an additional benefit, fanless cases rarely gather dust on the inside and stay cleaner than others. So it's not only quiet and low in energy use, but also virtually maintenance-free.

Protection Class IP54

The front panel of the Shuttle XPC all-in-one POS P220 is dust-protected and protected from splashing of water according to IP protection class 54. Consequently, this All-in-One PC can be used for those indoor applications, where the touchscreen may be exposed to humidity and occasional splashing of water. This is particularly welcome in restaurants, laboratories, production or other places.

Optimised Cable Management

Most of the connectors are located on the back panel with the cables facing down and led to a cable collector box mounted on the bottom of the PC. This helps avoid clutter and makes for a clean, tidy appearance on the desk. On the left side sit those connectors which need to be accessed from the front: a card reader and two USB ports.

Connects to two external Full HD displays

The Shuttle XPC all-in-one POS P220 features two video outputs: One analog D-Sub/VGA connector and one HDMI connector. Two separate Full HD displays can be connected in extended mode. Now add the built-in display of the POS P220 and there are three displays showing different content.

VESA mount *)

The stand on the rear can easily be removed to unveil four VESA mounting screw holes that can be used for mounting arms and other mounting devices from a variety of manufacturers.

*) VESA mount is not included

Front and Back Panel

Right Side

Front View

Left Side

Rear View

Bottom

1. 2x Perforation for optional antennas
2. Optional: 2x serial COM port
3. Line Collector Box
4. Webcam
5. Microphone
6. Multi-touch LCD display
7. Hard disk LED
8. Power-on LED
9. Hole for Kensington lock
10. Power-on button

11. SD card reader
12. 2x USB 3.2 Gen 1 (5 Gbps)
13. Hole with Clear CMOS button
14. Detachable VESA cover
15. Detachable stand
16. D-Sub/VGA video output
17. 2x rubber foot
18. Output of the Line Collector Box
19. Detachable chassis cover
20. Mono speaker

21. 2x serial COM port (D-Sub, RS232)
22. DC-input for power adapter
23. 2x USB 2.0
24. Gigabit LAN port (RJ45)
25. 2x USB 3.2 Gen 1 (5 Gbps)
26. HDMI video output
27. Audio Line-out (headphones)
28. Microphone input
29. Screw holes for an optional 100x100 mm VESA mount

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Operating Positions

Included Stand

⇨ Variable installation angle

VESA Arm / VESA Stand *)

⇨ with or without cable collection box

VESA Wall-Mounted *)

*) VESA mount is not included

Product Comparison: Shuttle XPC All-in-One Barebone Models

Chassis	Display Size / Pixel / Type	Processor Type	Product Name by Intel processor-generations			Chassis Colour
			Gen. 7	Gen. 8	Gen. 10	
	11.6" 1366 x 768 Capacitive Multitouch	Celeron	**P20U**	—	**P22U**	**Black**
	15.6" 1366 x 768 Resistive Singletouch	Celeron	**X50V6**	**X50V7** X50V7L *)	**X50V8**	**Black, White**
		Core i3	**X50V6U3**	**X50V7U3** X50V7U3L *)	**X50V8U3**	**Black, White**
	15.6" 1920 x 1080 Capacitive Multitouch	Celeron	**P51U**	—	**P52U**	**Black**
		Core i3	**P51U3**	—	**P52U3**	**Black**
	19.5" 1600 x 900 Capacitive Multitouch	Celeron	**P90U**	—	**P92U**	**Black, White**
		Core i3	**P90U3**	—	**P92U3**	**Black, White**
		Core i5	**P90U5**	—	**P92U5**	**Black**

X50V7L and **X50V7U3L** are model variants without WLAN module

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SHUTTLE XPC all-in-one BAREBONE POS P220 — SPECIFICATIONS

FANLESS AND SILENT	Passive heatpipe cooling, absolutely no fan noise Perfect for noise-sensitive environments Fanless, dust-free and thus virtually maintenance-free
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 be kept clear.
IP54 PROTECTED	The front panel is dust-protected and protected from splashing of water according to protection class IP54.
CHASSIS	Colour: black Dimensions: - without cable collector box: 29.9 x 20.3 x 5.0 cm (W x H x D) - with cable collector box: 29.9 x 27.1 x 5.0 cm (W x H x D) 100 mm VESA mount capable Mounting hole for Kensington lock Weight: 2.47 kg net, 3.39 kg gross
OPERATING SYSTEM	This system comes without operating system. It is compatible with: - Windows 10/11 - 64-bit - Linux - 64-bit
TOUCHSCREEN	Touchscreen function supports fingertip input Capacitive Touch Panel with 10-point multi-touch Supports input with gloves (PVC, cotton, cotton/linen) Stylus pen not supported
11.6" DISPLAY	29.5 cm / 11.6" LCD TN display Aspect ratio: 16:9 widescreen Resolution: 1366 x 768 = 1.05 Megapixel Backlight unit: LED, Luminance: 250 cd/sqm (typ.) Glass thickness: 3.2 mm, Anti-Glare
PROCESSOR	Model: Intel Celeron 5205U (ULV) System-on-a-chip architecture (SoC): no chipset required 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: 256 kB / 1 MB / 2 MB Memory controller: DDR4-2400 Dual Channel (1.2 V) TDP wattage: 15 W maximum Manufacturing process: 14 nm 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 610 GPU clock frequency: 300~900 MHz Execution Units (EUs): 12 Supports DirectX 12 Supports full H264, H265 8/10 bit, VP8/9, VC-1, AVC hardware decoding Supports Quick Sync Video and Clear Video HD technology
SUPPORTS TRIPLE DISPLAY	Two video ports support two additional independent screens: 1) HDMI 1.4b supports 1920 x 1080 @ 60 Hz or 3840 x 2160 @ 30 Hz 2) VGA / D-Sub analog video supports 1920 x 1080 @ 60 Hz Multi-Monitoring modes as follow: Clone mode: All displays show the same content at 1366 x 768. Extended mode: all displays show different content.
BIOS	AMI BIOS in 8 MByte EEPROM with SPI interface Supports Power-on-after-power-fail / always on Supports Wake-on-LAN (WOL) from S3, S4, S5 ACPI states Supports hardware monitoring and Watchdog function Supports Firmware TPM v2.0 function
MEMORY	4 GB DDR4 SO-DIMM memory with 260 pins Supports a maximum of 32 GB DDR4-2400 (PC4-19200) per DIMM, maximum total size: 64 GB

M.2 SSD	120 GB SSD in M.2 form factor Supports PCIe interface with NVMe
OPTIONAL 2.5" SATA DRIVE	Supports one SATA hard disk or one SATA SSD drive in 6.35 cm / 2.5" format The SATA 3.0 interface supports up to 600 MB/s of data transfer speed (6 Gbit/s) Supports one drive with up to 9.5 mm in height SATA cable pre-installed
CARD READER	Integrated card reader supports SD, SDHC and SDXC memory flash cards
WEBCAM	Integrated Full HD webcam (1920 x 1080 pixels)
MICROPHONE AND SPEAKERS	With integrated Electret Condenser Microphone and 2 W speaker
INTEGRATED AUDIO	Realtek ALC269 (HD-Audio) or C-Media CM6542 (USB) Two analog audio connectors (3.5 mm) on the bottom side: 1) Line-out (head-phones) 2) Microphone input Digital Audio is supported via HDMI.
WIRED NETWORK	Intel i219 Ethernet interface Supports 10 / 100 / 1.000 MBit/s operation Supports WAKE ON LAN (WOL) from S3, S4 modes Supports network boot by Preboot eXecution Environment (PXE)
PREPARED FOR WIRELESS NETWORK (WLAN)	2x pre-installed internal antennas WLAN card not included Prepared for the installation of an M.2-2230 WLAN card
HOLES FOR OPTIONAL ANTENNAS	Opening holes for optional antenna The chassis features two perforated 6.5 mm holes for optional antennas mounted with an (RP-)SMA connector for wireless network such as WLAN or WWAN (e.g. LTE)
FRONT LEDs	Power LED (blue) Hard disk LED (orange)
CONNECTORS LEFT SIDE	Power button 2x USB 3.2 Gen 1 (type A) SD card reader Hole with Clear CMOS button Mounting hole for Kensington lock
CONNECTORS RIGHT SIDE	Optional: 2x COM port (RS232)
CONNECTORS BOTTOM SIDE	HDMI 1.4 (supports digital video and digital audio) VGA connector (D-Sub 15 pol., analog video) 2x USB 3.2 Gen 1 (type A) 2x USB 2.0 (type A) Gigabit Network (LAN, RJ45) 2x COM port (RS232) Audio Line-out / headphones (3.5 mm jack) Microphone input (3.5 mm jack) DC input for external power adapter (5.5 / 2.5 mm)
CONNECTORS ONBOARD	Internal USB 2.0 type A connector for an USB cable Serial ATA (data and power) 3x USB 2.0 header (all occupied) eDP connector (Embedded DisplayPort) - occupied by the display LPC connector (occupied) I2C connector
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 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%.

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SUPPLIED ACCESSORIES	Quick Installation Guide Windows 10 Driver DVD External Power Adapter (65W / 19V) with DC cable (approx. 1.7 m) Power cord with Euro plug (approx. 1.75 m)
OPTIONAL ACCESSORIES	1) COM port adapter **PCP21** or 2x **PCP11** provides two more serial COM ports on the right side 2) WLAN kit **WLN-M/M1** with two external antennas
ENVIRONMENTAL SPECIFICATIONS	Operating temperature: 0~40 °C Humidity: 10~90 %
CERTIFICATIONS / COMPLIANCE	EMI: CE, FCC, BSMI, RCM, VCCI Safety: CB (IEC 60950/62368), cTUVus, BSMI Other compliances: RoHS, ErP Lot3, Energy Star v8.0
CONFORMITY	This device is classed as a technical information equipment (ITE) in class B and is intended for use in living room and office. The CE-mark approves the conformity by the EU 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)

POS P220 Drawings