

## SYSTEM

### XPC all-in-one

# POS P520 Black

AIO-PC, 4 GB RAM, 120 GB SSD, without OS

## 15.6" ALL-IN-ONE PC FOR POS, POI AND KIOSK APPLICATIONS

The Shuttle XPC All-in-One-System POS P520 comes with a capacitive 15.6" multi-touchscreen and Full-HD resolution. An Intel Ultra-Low-Voltage (ULV) processor makes for high computing power while it keeps energy consumption at a low level. Thanks to its passive cooling, the system is virtually noiseless, maintenance-free and approved for 24/7 nonstop operation. The arrangement of connectors at the bottom leads to an effective cable management making for a clean, tidy appearance. The front panel is dust-protected and protected from splashing of water according to IP protection class 54.



15.6"

Software not included



### COMMON FEATURES

- IP54 compliant front panel
- Dimensions: 394 x 273 x 40 mm (WHD)
- Supports 24/7 Nonstop Operation
- 100 mm VESA mount capable
- Operating temperature: 0~40 °C
- Fanless cooling system

### DISPLAY & GRAPHICS

- 39.6 cm (15.6") LC Display, 1920x1080 pixel
- Capacitive 10-point multi-touch
- 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
- "Comet Lake-U" Dual Core, TDP: 15W

### STORAGE AND M.2 SLOTS

- RAM: 4 GB DDR4-2666 SO-DIMM memory
- SSD: 120 GB SSD card in M.2-2280 format supports PCIe/NVMe
- 2.5" bay supports SATA hard disk or SSD in 2.5" format, max. 9.5 mm
- M.2-2230E slot for WLAN module (2x internal antenna pre-installed)

### 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 (for microphone & headphones)

### BUILT-IN

- SD card reader
- 2.0 Megapixel FHD webcam
- 2x 2 W speakers
- Electret Condenser Microphone
- 2x internal WLAN antennas (without WLAN module)

### POWER SUPPLY

- External 65W / 19V power adapter

### OPTIONAL ACCESSORIES

- Two additionally RS232 COM ports (1x PCP21 or 2x PCP11)
- WLAN kit with two external antennas (WLN-M (ac)/WLN-M1 (ax))

### MODELS OF THE P52U SERIES

| Type     | Product     | Colors | Intel ULV CPU  | RAM  | SSD               | Operation System                | Bar Code      |
|----------|-------------|--------|----------------|------|-------------------|---------------------------------|---------------|
| Barebone | P52U        | Black  | Celeron 5205U  | -    | -                 | -                               | 887993005768  |
|          | P52U3       | Black  | Core i3-10110U | -    | -                 | -                               | 887993005782  |
| System   | POS P520    | Black  | Celeron 5205U  | 4 GB | 120 GB M.2 (NVMe) | -                               | 4046047103836 |
|          | IoT P5200PA | Black  | Celeron 5205U  | 4 GB | 120 GB M.2 (NVMe) | Windows 10 IoT Enterprise Entry | 4046047103843 |



## PRODUCT FEATURES



### All applications at your fingertips - 10-point multi-touch

The innovative touchscreen technology delivers the simplest operation possible and makes the screen the centre of action. Its high-quality design gives you access to all capabilities of the PC - by just touching the screen.



### 24/7 nonstop operation

The Shuttle XPC all-in-one POS P520 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 P520 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 P520 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 now located at the back panel facing down. This leads to an effective cable management making for a clean, tidy appearance on the desk. On the left side sit those connectors which need to be accessed from the front: the card reader and two USB ports.



### Connects up to two external Full HD displays

The Shuttle XPC all-in-one POS P520 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 P520 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



- |  |  |                                     |
|--|--|-------------------------------------|
| 1. 2x Perforation for external antenna | 8. LED indicates Webcam activity         | 18. D-Sub/VGA video output          |
| 2. 2x speakers (stereo)                | 9. Touchscreen LCD display               | 19. DC-input for power adapter      |
| 3. Optional: 2x COM ports (Sub-D)      | 10. Power button                         | 20. 2x USB 2.0 (black)              |
| 4. Hole for Kensington lock            | 11. SD card reader                       | 21. RJ45 Gigabit LAN port           |
| 5. Stand                               | 12. 2x USB 3.2 Gen 1 (5 Gbps, blue)      | 22. 2x USB 3.2 Gen 1 (5 Gbps, blue) |
| (a) Stand mounting plate               | 13. Hole with Clear CMOS button          | 23. HDMI video output               |
| (b) VESA cover                         | 14. Power LED                            | 24. Audio Line-out (headphones)     |
| (c) 100 x 100 mm VESA mount            | 15. Hard disk LED                        | 25. Microphone input                |
| 6. Microphone                          | 16. Battery LED (reserved – no function) | 26. Rubber feet                     |
| 7. Full HD Webcam                      | 17. 2x COM ports (Sub-D)                 |                                     |

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

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

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

## SHUTTLE XPC all-in-one System POS P520 – SPECIFICATIONS

|                                |   |
|--------------------------------|---|
| <b>FANLESS AND SILENT</b>      | <p>Passive heatpipe cooling, absolutely no fan noise<br/>           Perfect for noise-sensitive environments<br/>           Fanless, dust-free and thus virtually maintenance-free</p>  |
| <b>24/7 NONSTOP OPERATION</b>  | <p>This device is approved for 24/7 permanent operation.<br/>           Requirements:<br/>           - Free circulation of air amongst the PC must be guaranteed.<br/>           - Ventilation holes must be kept clear.<br/>           - If a hard disk is installed, this must also be approved for permanent operation by its manufacturer.</p>  |
| <b>IP54 PROTECTED</b>          | <p>The front panel is dust-protected and protected from splashing of water according to protection class IP54.</p>  |
| <b>CHASSIS</b>                 | <p>Colour: black<br/>           Dimensions: 393.6 x 272.5 x 39.8 mm (W x H x D)<br/>           100 mm VESA mountable<br/>           Hole for Kensington lock<br/>           Weight: 3.25 kg net, 4.5 kg gross</p>   |
| <b>OPERATING SYSTEM</b>        | <p>This system comes without operating system.<br/>           It is compatible with:<br/>           - Windows 11 - 64-bit<br/>           - Windows 10 - 64-bit<br/>           - Linux - 64-bit</p>  |
| <b>TOUCHSCREEN</b>             | <p>Touchscreen function supports fingertip input<br/>           Capacitive Touch Panel with 10-point multi-touch<br/>           Supports touch input with gloves made of PVC, cotton, cotton/linen - max. 0.4 mm thick<br/>           Stylus pen not supported</p>  |
| <b>15.6" DISPLAY</b>           | <p>39.6 cm / 15.6" LC display, IPS technology<br/>           Ratio: 16:9 wide-screen panel<br/>           Native resolution: 1920 x 1080 = 2 Megapixel (Full HD / 1080p)<br/>           Brightness: 250 cd/sqm</p>  |
| <b>PROCESSOR</b>               | <p>Model: Intel Celeron 5205U (JLV)<br/>           System-on-a-chip architecture (SoC): no chipset required<br/>           FCBGA1528 package - directly soldered onto the mainboard<br/>           Code name: Comet Lake-U (10th Generation Intel Core)<br/>           Cores / Threads: 2 / 2<br/>           Clock rate: 1.9 GHz<br/>           L1/L2/L3 Cache: 256 kB / 1 MB / 2 MB<br/>           Memory controller: DDR4-2400 Dual Channel (1.2 V)<br/>           TDP wattage: 15 W maximum<br/>           Manufacturing process: 14 nm<br/>           Maximum Tjunction Temperature: 100 °C<br/>           Supports 64-bit, VT-x (EPT), VT-d, Enhanced SpeedStep, NX bit, AES-NI, SSE 4.1/4.2</p> |
| <b>INTEGRATED GRAPHICS</b>     | <p>Intel HD Graphics 610<br/>           GPU clock frequency: 300~900 MHz<br/>           Execution Units (EUs): 12<br/>           Supports DirectX 12<br/>           Supports full H264, H265 8/10 bit, VP8/9, VC-1, AVC hardware decoding<br/>           Supports Quick Sync Video and Clear Video HD technology</p>  |
| <b>SUPPORTS TRIPLE DISPLAY</b> | <p>Supports up to three displays simultaneously<br/>           Two video ports support two additional independent screens:<br/>           1) HDMI 1.4b supports 1920 x 1080 @ 60 Hz or 3840 x 2160 @ 30 Hz<br/>           2) VGA / D-Sub analog video supports 1920 x 1080 @ 60 Hz<br/>           Multi-Monitoring modes as follow:<br/>           Clone mode: All displays show the same content at 1920 x 1080.<br/>           Extended mode: All displays show different content.</p>  |
| <b>BIOS</b>                    | <p>AMI BIOS in 16 MByte EEPROM with SPI interface<br/>           Supports Power-on-after-power-fail / always on<br/>           Supports Wake-on-LAN (WOL) from S3, S4, S5 ACPI states<br/>           Supports hardware monitoring and Watchdog function<br/>           Supports Firmware TPM v2.0 function</p>  |

|                                |   |
|--------------------------------|---|
| <b>MEMORY (RAM)</b>            | 4 GB DDR4 SO-DIMM memory with 260 pins<br>Supports a maximum of 2x 32 GB DDR4-2400/2666/3200 capacity   |
| <b>M.2 SSD CARD</b>            | 120 GB SSD card in M.2-2280 format<br>with PCI-Express interface and NVMe support   |
| <b>2.5" BAY FOR HDD/SSD</b>    | Supports one SATA hard disk or one SATA SSD drive in 6.35 cm / 2.5" format<br>The SATA 3.0 interface supports up to 600 MB/s of data transfer speed (6 Gbit/s)<br>Supports one drive with up to 9.5 mm in height<br>SATA cable pre-installed  |
| <b>CARD READER</b>             | Integrated card reader supports SD, SDHC and SDXC memory flash cards  |
| <b>WEBCAM</b>                  | Integrated Full-HD 2.0 Megapixel (1920 x 1080) camera   |
| <b>MICROPHONE AND SPEAKERS</b> | Front panel with integrated Electret Condenser Microphone and<br>2x 2 W speakers  |
| <b>INTEGRATED AUDIO</b>        | C-Media CM6542 (USB) or Realtek ALC269 (HD Audio)<br>Two analog audio connectors (3.5 mm) on the bottom side:<br>1) Line-out (head-phones)<br>2) Microphone input<br>Digital Audio is supported via HDMI.   |
| <b>WIRED NETWORK</b>           | Intel 219 Ethernet Controller<br>Supports 10 / 100 / 1.000 MBit/s operation<br>Supports WAKE ON LAN (WOL) from S3, S4 modes<br>Supports network boot by Preboot eXecution Environment (PXE)   |
| <b>M.2 SLOT FOR WLAN</b>       | M.2-2230E slot supports USB2.0, PCIe X1 and CNVi<br>suitable for commonly available WLAN modules in M.2 format<br>Two internal WLAN antennas for 2.4/5 GHz are already pre-installed.<br>The chassis has two 7-mm perforations for optional external antennas.  |
| <b>FRONT LEDs</b>              | Power LED (blue)<br>Hard disk LED (orange)<br>Battery LED (red) – reserved, no function   |
| <b>CONNECTORS LEFT SIDE</b>    | Power button<br>2x USB 3.2 Gen. 1 (max. 5 Gb/s, blue)<br>SD card reader<br>Hole with Clear CMOS button  |
| <b>CONNECTORS RIGHT SIDE</b>   | Optional: 2x COM/serial (D-Sub, RS232)<br>Hole for the Kensington Lock  |
| <b>CONNECTORS BOTTOM SIDE</b>  | HDMI 1.4b (supports digital video and digital audio)<br>VGA connector (D-Sub 15 pol., analog video)<br>2x USB 3.2 Gen. 1 ( max. 5 Gb/s, blue)<br>2x USB 2.0<br>2x COM/serial (D-Sub, RS232)<br>Gigabit Network (LAN, RJ45)<br>Audio Line-out / headphones (3.5 mm jack)<br>Microphone input (3.5 mm jack)<br>DC input for external power adapter (5.5 / 2.5 mm)<br>2x Perforation for optional WLAN/LTE antennas (diameter: 7 mm) |
| <b>CONNECTORS ONBOARD</b>      | Internal USB 2.0 type A connector for a USB stick<br>Serial ATA (6 Gbps) data/power combo connector<br>3x USB 2.0 header (all occupied)<br>Microphone connector (2-pin, occupied)<br>Speakers connector (4-pin, occupied)<br>eDP connector (Embedded DisplayPort) - occupied by the display<br>LPC connector (occupied)<br>I2C connector for optional NFC accessory<br>CMOS battery connector (2-pin occupied)                    |
| <b>OPTIONAL ANTENNAS</b>       | The chassis features two perforated 7 mm holes<br>for optional antennas mounted with an (RP-)SMA connector<br>for wireless network such as WLAN or WWAN (e.g. LTE)  |

|                                     |   |
|-------------------------------------|---|
| <b>POWER ADAPTER</b>                | External 65 W power adapter (fanless)<br>Input: 100~240 V AC, 50/60 Hz, max. 1.6 A<br>Output: 19 V DC, max. 3.42 A, max. 65 W   |
| <b>DC INPUT CONNECTOR</b>           | DC Input Connector: 5.5 / 2.5 mm (outer/inner diameter)<br>The DC-input of the computer supports an external power source with either 12V ± 5 % or 19V ± 5%.  |
| <b>SUPPLIED ACCESSORIES</b>         | Quick Guide<br>Driver DVD<br>External Power Adapter (65W / 19V)<br>Power cord (2 pins)  |
| <b>OPTIONAL ACCESSORIES</b>         | 1) COM port adapter <b>PCP21</b> or <b>2x PCP11</b> provides two more serial COM ports on the right side<br>2) M.2 WLAN module with two external Antennas: <b>WLN-M</b> (802.11ac) or <b>WLN-M1</b> (802.11ax)<br>Two internal WLAN antennas are already pre-installed and can be used instead of the external antennas.  |
| <b>ENVIRONMENTAL SPECIFICATIONS</b> | Operating temperature: 0~40 °C<br>Humidity: 10~90 %   |
| <b>CERTIFICATIONS / COMPLIANCE</b>  | - EMI: CE, UKCA, FCC, RCM, VCCI, BSMI<br>- Safety: CB 60950/62368, cTUVus, BSMI<br>- Other compliances: RoHS, ErP Lot3, Energy Star<br>This device is classed as a technical information equipment (ITE) in class B and is intended for use in living room and office.<br>The CE-mark approves the conformity by the EU directives:<br>(1) 2014/30/EU relating to electromagnetic compatibility (EMC),<br>(2) 2014/35/EU relating to Electrical Equipment designed for use within certain voltage limits (LVD),<br>(3) 2009/125/EU relating to ecodesign requirements for energy-related products (ErP) |