

## BAREBONE XPC all-in-one P52U Black

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

Shuttle's range of All-in-One PCs yet comprises models with three different screen sizes: 11.6", 15.6" and 19.5". The P52U series model with a capacitive 15.6" multi-touchscreen offers 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. Particularly suitable for vertical applications is the arrangement of connectors at the bottom and the IP54 compliant front panel which is dust-protected and protected from splashing of water.



CAPACITIVE  
MULTI TOUCH



FULL-HD  
1920x1080



2x 32 GB  
SUPPORT



HDMI  
VGA



Full HD  
WEBCAM



NVMe SSD  
SUPPORT



2.5" BAY



INTEL LAN



VESA MOUNT



IP54  
FRONT



Max.  
40 °C



24/7  
SUPPORT

### 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

- Supports max. 2x 32 GB DDR4-2400/2666 SO-DIMM modules
- 2.5" bay supports SATA hard disk or SSD in 2.5" format, max. 9.5 mm
- M.2-2280M slot supports M.2 SSD card (SATA or PCIe X4/ NVMe)
- M.2-2230E slot for WLAN module (2x internal antenna pre-installed)
- Internal Type-A USB 2.0 connector

### 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

Product	Colors	Intel ULV CPU	Cores	Threads	Clock/Turbo	Cache	Max. RAM support	UPC Code
<b>P52U</b>	<b>Black</b>	Celeron 5205U	2	2	1.9 / -- GHz	2 MB	2x 32 GB DDR4-2400	887993005768
<b>P52U3</b>	Black	Core i3-10110U	2	4	2.1 / 4.1 GHz	4 MB	2x 32 GB DDR4-2666	887993005782

## 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 P52U 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
- If a hard disk is installed, this must also be approved for permanent operation by its manufacturer.



### Fanless and quiet

The Shuttle XPC all-in-one P52U 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 P52U 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 P52U 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 P52U 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)                 |                                     |

## Installable Components



### 1. Optional external Antennas

The chassis features two perforated 7 mm holes for optional WLAN or 4G antennas mounted with an (RP-)SMA connector.

### 2. 2.5" SATA Drive

Hard disk or SSD in 2.5" format, max. 9.5 mm in height

### 3. M.2-2230 WLAN Card

The M.2-2230 slot supports one M.2 WLAN card. Two internal WLAN antennas are already pre-installed. Shuttle offers the optional WLAN kits

**WLN-M** (802.11ac) and **WLN-M1** (802.11ax)

with two external antennas and antenna cables included.

### 4. M.2-2280 SSD Card

Supports one M.2-2280 SSD card (80 mm length) with SATA or PCIe/NVMe interface

### 5. DDR4 SODIMM memory

max. 2x 32 GB DDR4-2400/2666 SODIMM memory





### 6. Internal USB Port

Internal USB 2.0 Type A connector for expansion sticks (such as flash memory or LTE). Max. length = 100 mm overall.

## Shuttle Product Comparison: P52U versus predecessor P51U

MODEL	P52U Series	P51U Series
Processor	Intel Core Gen 10, TDP=15W Codename: "Comet Lake-U" <b>P52U:</b> Celeron 5205U <b>P52U3:</b> Core i3-10110U	Intel Core Gen 8, TDP=15W Codename: "Whiskey Lake-U" <b>P51U:</b> Celeron 4205U <b>P51U3:</b> Core i3-8145U
Operating System Support	Windows 11 – 64-bit Windows 10 – 64-bit Linux – 64-bit	Windows 11 – 64-bit Windows 10 – 64-bit Linux – 64-bit
RAM memory (max.)	Max. 2x 32 GB SO-DIMM <b>Celeron:</b> DDR4-2400 <b>Core i3:</b> DDR4-2666	Max. 2x 32 GB SO-DIMM Celeron: DDR4-2133 Core i3: DDR4-2400
M.2 Slot	M.2-2280 slot (PCIe X4 Gen 3 / SATA)	M.2-2280 slot (PCIe X4 Gen 3 / SATA)
2.5" bay	2.5" bay (max. 9.5 mm, SATA)	2.5" bay (max. 9.5 mm, SATA)
LAN	<b>Intel 219</b> Gigabit LAN	Intel i211 Gigabit LAN
WLAN	<b>No WLAN module</b> (2 internal antennas pre-installed)	Realtek RTL8821CE-CG (supports WLAN-ac and BT 4.2)
Audio	C-Media CM6542 (USB) or Realtek ALC269 (HD Audio)	Realtek ALC269 (HD Audio)
Connectors Left side	Power button 2x USB 3.2 Gen 1 SD card reader Hole with Clear CMOS button Perforation for opt. ext. antennas	Power button 2x USB 3.2 Gen 1 SD card reader Hole with Clear CMOS button Perforation for opt. ext. antennas
Connectors Right side	Optional: 2x COM (D-Sub) Hole for Kensington Lock Perforation for opt. ext. antennas	Optional: 2x COM (D-Sub) Hole for Kensington Lock Perforation for opt. ext. antennas
Connectors Bottom	HDMI 1.4b VGA/D-Sub 2x USB 3.2 Gen 1 2x USB 2.0 2x COM (RS232, D-Sub) Gigabit LAN (Intel) Audio Line-Out Microphone Input DC input (supports 12V and 19V)	HDMI 1.4b VGA/D-Sub 2x USB 3.2 Gen 1 2x USB 2.0 2x COM (RS232, D-Sub) Gigabit LAN (Intel) Audio Line-Out Microphone Input DC input (supports 12V and 19V)
Optional Shuttle Accessories	<b>PCP21</b> (2x COM port) <b>PCP11</b> (1x COM port) <b>WLN-M</b> (WLAN-ac-kit / Wi-Fi 5) <b>WLN-M1</b> (WLAN-at-kit / Wi-Fi 6)	<b>PCP21</b> (2x COM port) <b>PCP11</b> (1x COM port) <b>WLN-M</b> (WLAN-ac-kit / Wi-Fi 5) <b>WLN-M1</b> (WLAN-at-kit / Wi-Fi 6)

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

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

FANLESS AND SILENT	<p>Passive heatpipe cooling, absolutely no fan noise</p> <p>Perfect for noise-sensitive environments</p> <p>Fanless, dust-free and thus virtually maintenance-free</p>
24/7 NONSTOP OPERATION	<p>This device is approved for 24/7 permanent operation.</p> <p>Requirements:</p> <ul style="list-style-type: none"> <li>- Free circulation of air amongst the PC must be guaranteed.</li> <li>- Ventilation holes must be kept clear.</li> <li>- If a hard disk is installed, this must also be approved for permanent operation by its manufacturer.</li> </ul>
IP54 PROTECTED	<p>The front panel is dust-protected and protected from splashing of water according to protection class IP54.</p>
CHASSIS	<p>Colour: black</p> <p>Dimensions: 393.6 x 272.5 x 39.8 mm (W x H x D)</p> <p>100 mm VESA mountable</p> <p>Hole for Kensington lock</p> <p>Weight: 3.25 kg net, 4.5 kg gross</p>
OPERATING SYSTEM	<p>This system comes without operating system.</p> <p>It is compatible with:</p> <ul style="list-style-type: none"> <li>- Windows 11 - 64-bit</li> <li>- Windows 10 - 64-bit</li> <li>- Linux - 64-bit</li> </ul>
TOUCHSCREEN	<p>Touchscreen function supports fingertip input</p> <p>Capacitive Touch Panel with 10-point multi-touch</p> <p>Supports touch input with gloves made of PVC, cotton, cotton/linen - max. 0.4 mm thick</p> <p>Stylus pen not supported</p>
15.6" DISPLAY	<p>39.6 cm / 15.6" LC display, IPS technology</p> <p>Ratio: 16:9 wide-screen panel</p> <p>Native resolution: 1920 x 1080 = 2 Megapixel (Full HD / 1080p)</p> <p>Brightness: 250 cd/sqm</p>
PROCESSOR	<p>Model: Intel Celeron 5205U (ULV)</p> <p>System-on-a-chip architecture (SoC): no chipset required</p> <p>FCBGA1528 package - directly soldered onto the mainboard</p> <p>Code name: Comet Lake-U (10th Generation Intel Core)</p> <p>Cores / Threads: 2 / 2</p> <p>Clock rate: 1.9 GHz</p> <p>L1/L2/L3 Cache: 256 kB / 1 MB / 2 MB</p> <p>Memory controller: DDR4-2400 Dual Channel (1.2 V)</p> <p>TDP wattage: 15 W maximum</p> <p>Manufacturing process: 14 nm</p> <p>Maximum Tjunction Temperature: 100 °C</p> <p>Supports 64-bit, VT-x (EPT), VT-d, Enhanced SpeedStep, NX bit, AES-NI, SSE 4.1/4.2</p>
INTEGRATED GRAPHICS	<p>Intel HD Graphics 610</p> <p>GPU clock frequency: 300~900 MHz</p> <p>Execution Units (EUs): 12</p> <p>Supports DirectX 12</p> <p>Supports full H264, H265 8/10 bit, VP8/9, VC-1, AVC hardware decoding</p> <p>Supports Quick Sync Video and Clear Video HD technology</p>
SUPPORTS TRIPLE DISPLAY	<p>Supports up to three displays simultaneously</p> <p>Two video ports support two additional independent screens:</p> <ol style="list-style-type: none"> <li>1) HDMI 1.4b supports 1920 x 1080 @ 60 Hz or 3840 x 2160 @ 30 Hz</li> <li>2) VGA / D-Sub analog video supports 1920 x 1080 @ 60 Hz</li> </ol> <p>Multi-Monitoring modes as follow:</p> <p>Clone mode: All displays show the same content at 1920 x 1080.</p> <p>Extended mode: All displays show different content.</p>
BIOS	<p>AMI BIOS in 16 MByte EEPROM with SPI interface</p> <p>Supports Power-on-after-power-fail / always on</p> <p>Supports Wake-on-LAN (WOL) from S3, S4, S5 ACPI states</p> <p>Supports hardware monitoring and Watchdog function</p> <p>Supports Firmware TPM v2.0 function</p>

MEMORY SUPPORT	<p>2x SO-DIMM slot with 260 pins</p> <p>Supports DDR4-2400 (PC4-19200) SDRAM at 1.2 V</p> <p>Also compatible with DDR4-2666/3200 memory modules</p> <p>Supports Dual Channel mode</p> <p>Supports a maximum of 32 GB per DIMM, maximum capacity: 64 GB</p> <p>Supports two unbuffered DIMM modules (no ECC or registered)</p>
2.5" BAY FOR HDD/SSD	<p>Supports one SATA hard disk or one SATA SSD drive in 6.35 cm / 2.5" format</p> <p>The SATA 3.0 interface supports up to 600 MB/s of data transfer speed (6 Gbit/s)</p> <p>Supports one drive with up to 9.5 mm in height</p> <p>SATA cable pre-installed</p>
M.2-2280M SSD SLOT	<p>The M.2 2280 BM slot provides the following interfaces:</p> <ul style="list-style-type: none"> <li>- PCI-Express Gen. 2.0 X4</li> <li>- SATA v3.0 (max. 6 Gbps)</li> </ul> <p>It supports M.2 cards with a width of 22 mm and a length of 80mm.</p> <p>Supports M.2 SATA SSDs (with B+M key) and M.2 PCIe NVMe-SSDs (with M key)</p>
CARD READER	Integrated card reader supports SD, SDHC and SDXC memory flash cards
WEBCAM	Integrated Full-HD 2.0 Megapixel (1920 x 1080) camera
MICROPHONE AND SPEAKERS	Front panel with integrated Electret Condenser Microphone and 2x 2 W speakers
INTEGRATED AUDIO	<p>C-Media CM6542 (USB) or Realtek ALC269 (HD Audio)</p> <p>Two analog audio connectors (3.5 mm) on the bottom side:</p> <ol style="list-style-type: none"> <li>1) Line-out (head-phones)</li> <li>2) Microphone input</li> </ol> <p>Digital Audio is supported via HDMI.</p>
WIRED NETWORK	<p>Intel 219 Ethernet Controller</p> <p>Supports 10 / 100 / 1.000 MBit/s operation</p> <p>Supports WAKE ON LAN (WOL) from S3, S4 modes</p> <p>Supports network boot by Preboot eXecution Environment (PXE)</p>
M.2 SLOT FOR WLAN	<p>M.2-2230E slot supports USB2.0, PCIe X1 and CNVi</p> <p>suitable for commonly available WLAN modules in M.2 format</p> <p>Two internal WLAN antennas for 2.4/5 GHz are already pre-installed.</p> <p>The chassis has two 7-mm perforations for optional external antennas.</p>
FRONT LEDs	<p>Power LED (blue)</p> <p>Hard disk LED (orange)</p> <p>Battery LED (red) – reserved, no function</p>
CONNECTORS LEFT SIDE	<p>Power button</p> <p>2x USB 3.2 Gen. 1 (max. 5 Gb/s, blue)</p> <p>SD card reader</p> <p>Hole with Clear CMOS button</p>
CONNECTORS RIGHT SIDE	<p>Optional: 2x COM/serial (D-Sub, RS232)</p> <p>Hole for the Kensington Lock</p>
CONNECTORS BOTTOM SIDE	<p>HDMI 1.4b (supports digital video and digital audio)</p> <p>VGA connector (D-Sub 15 pol., analog video)</p> <p>2x USB 3.2 Gen. 1 ( max. 5 Gb/s, blue)</p> <p>2x USB 2.0</p> <p>2x COM/serial (D-Sub, RS232)</p> <p>Gigabit Network (LAN, RJ45)</p> <p>Audio Line-out / headphones (3.5 mm jack)</p> <p>Microphone input (3.5 mm jack)</p> <p>DC input for external power adapter (5.5 / 2.5 mm)</p> <p>2x Perforation for optional WLAN/LTE antennas (diameter: 7 mm)</p>



CONNECTORS ONBOARD	<p>Internal USB 2.0 type A connector for a USB stick</p> <p>Serial ATA (6 Gbps) data/power combo connector</p> <p>3x USB 2.0 header (all occupied)</p> <p>Microphone connector (2-pin, occupied)</p> <p>Speakers connector (4-pin, occupied)</p> <p>eDP connector (Embedded DisplayPort) - occupied by the display</p> <p>LPC connector (occupied)</p> <p>I2C connector for optional NFC accessory</p> <p>CMOS battery connector (2-pin occupied)</p>
OPTIONAL ANTENNAS	<p>The chassis features two perforated 7 mm holes for optional antennas mounted with an (RP-)SMA connector for wireless network such as WLAN or WWAN (e.g. LTE)</p>
POWER ADAPTER	<p>External 65 W power adapter (fanless)</p> <p>Input: 100~240 V AC, 50/60 Hz, max. 1.6 A</p> <p>Output: 19 V DC, max. 3.42 A, max. 65 W</p>
DC INPUT CONNECTOR	<p>DC Input Connector: 5.5 / 2.5 mm (outer/inner diameter)</p> <p>The DC-input of the computer supports an external power source with either 12V <math>\pm 5\%</math> or 19V <math>\pm 5\%</math>.</p>
SUPPLIED ACCESSORIES	<p>Quick Guide</p> <p>Driver DVD</p> <p>2x bracket to install a 2.5" drive</p> <p>External Power Adapter (65W / 19V)</p> <p>Power cord (2 pins)</p> <p>Screws (2x for M.2 slots, 8x for 2.5" bay)</p>
OPTIONAL ACCESSORIES	<p>1) COM port adapter <b>PCP21</b> or <b>2x PCP11</b> provides two more serial COM ports on the right side</p> <p>2) M.2 WLAN module with two external Antennas: <b>WLN-M</b> (802.11ac) or <b>WLN-M1</b> (802.11at)</p> <p>Two internal WLAN antennas are already pre-installed and can be used instead of the external antennas.</p>
ENVIRONMENTAL SPECIFICATIONS	<p>Operating temperature: 0~40 °C</p> <p>Humidity: 10~90 %</p>
CERTIFICATIONS / COMPLIANCE	<p>- EMI: CE, FCC, RCM, VCCI, BSMI</p> <p>- Safety: CB 60950/62368, cTUVus, BSMI</p> <p>- Other compliances: RoHS, ErP Lot3, Energy Star</p> <p>This device is classed as a technical information equipment (ITE) in class B and is intended for use in living room and office.</p> <p>The CE-mark approves the conformity by the EU directives:</p> <p>(1) 2014/30/EU relating to electromagnetic compatibility (EMC),</p> <p>(2) 2014/35/EU relating to Electrical Equipment designed for use within certain voltage limits (LVD),</p> <p>(3) 2009/125/EU relating to ecodesign requirements for energy-related products (ErP)</p>