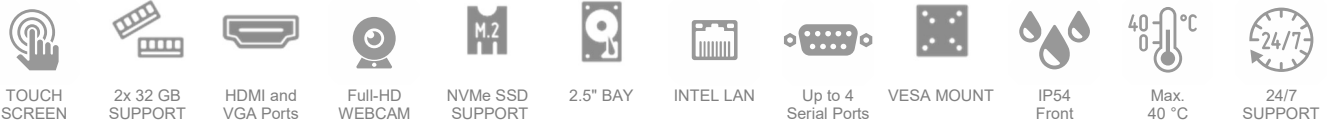


BAREBONE XPC all-in-one P22U Black

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

The Shuttle XPC all-in-one P22U with an 11.6" multi-touch display 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.



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 multi-touch 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 (not included)

- Supports max. 2x 32 GB DDR4-2400 SO-DIMM ■ Supports one 2.5" SATA hard disk / SSD
- Supports one M.2-2280 SSD (SATA or PCIe X4/ NVMe) ■ 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

OPTIONAL ACCESSORIES

- PCP21 or 2x PCP11: two additional RS232 COM ports



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)	—

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 P22U 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 P22U 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 P22U 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 P22U 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 P22U and there are three displays showing different content.



RS232 COM Ports

Serial ports are still widely used for applications of industrial automation systems, scientific analysis, POS systems and other. The Shuttle XPC all-in-one P22U features two serial RS-232 ports on the bottom side and two more ports can optionally be installed on the right side (Accessory PCP21 or 2x PCP11).



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.

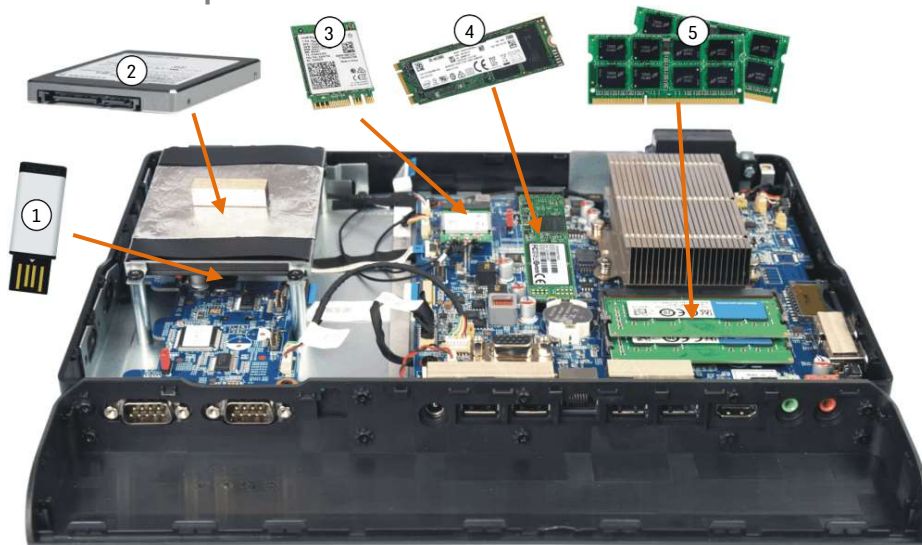
*) VESA mount is not included

Front and Back Panel



- | | | |
|---|--------------------------------------|---|
| 1. 2x Perforation for optional antennas | 11. SD card reader | 21. 2x serial COM port (D-Sub, RS232) |
| 2. Optional: 2x serial COM port | 12. 2x USB 3.2 Gen 1 (5 Gbps) | 22. DC-input for power adapter |
| 3. Line Collector Box | 13. Hole with Clear CMOS button | 23. 2x USB 2.0 |
| 4. Webcam | 14. Detachable VESA cover | 24. Gigabit LAN port (RJ45) |
| 5. Microphone | 15. Detachable stand | 25. 2x USB 3.2 Gen 1 (5 Gbps) |
| 6. Multi-touch LCD display | 16. D-Sub/VGA video output | 26. HDMI video output |
| 7. Hard disk LED | 17. 2x rubber foot | 27. Audio Line-out (headphones) |
| 8. Power-on LED | 18. Output of the Line Collector Box | 28. Microphone input |
| 9. Hole for Kensington lock | 19. Detachable chassis cover | 29. Screw holes for an optional 100x100 mm VESA mount |
| 10. Power-on button | 20. Mono speaker | |

Installable Components



1. **Internal USB Port**
Internal USB 2.0 Type A connector for expansion sticks
2. **2.5" SATA Drive**
Hard disk or SSD, max. 9.5 mm in height
3. **WLAN Card**
WLAN card in M.2-2230 form factor (two internal Antennas with cables are already installed)
4. **M.2-2280 SSD Card**
SATA or PCIe interface
5. **DDR4 SO-DIMM memory**
max. 2x 32 GB DDR4-2400/2666 SO-DIMM slots

Optional Shuttle Accessories



1. **2x COM Port Adapter PCP21 or 2x PCP11**
Provides two more COM port connectors on the right side.



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

Shuttle Product Comparison: P22U versus predecessor P20U

MODEL	P20U	P22U
Processor	Intel Core Gen 7, TDP=15W Code name: "Kaby Lake-U" Celeron 3865U (1.8 GHz)	Intel Core Gen 10, TDP=15W Code name: "Comet Lake-U" Celeron 5205U (1.9 GHz)
Operation System Support	Windows 10 – 64-bit Linux – 64-bit	Windows 11 – 64-bit Windows 10 – 64-bit Linux – 64-bit
RAM memory (max.)	Max. 2x 16 GB DDR4-2133 SO-DIMM	Max. 2x 32 GB DDR4-2400 SO-DIMM
M.2-2280 Slot	M.2-2280/2260/2242 Slot supports PCIe x4 and SATA	M.2-2280 Slot supports PCIe x4 and SATA
2.5" Bay	Supports one 2,5" hard disk or SSD max. height: 9.5 mm	Supports one 2,5" hard disk or SSD max. height: 9.5 mm
LAN	Intel i211 Gigabit LAN	Intel i219 Gigabit LAN
WLAN	WLAN-n + Bluetooth 4.1 2x internal antennas included 2x perforation for external antennas	Prepared for M.2-2230 WLAN card 2x internal antennas included 2x perforation for external antennas
Audio	Realtek ALC269 (HD Audio)	C-Media CM6542 (USB) or Realtek ALC269 (HD audio)
Buttons & LEDs	Power Button Power LED (blue) HDD/SSD LED (orange) Clear CMOS Button	Power Button Power LED (blue) HDD/SSD LED (orange) Clear CMOS Button
Connectors	HDMI 1.4b D-Sub VGA 2x USB 3.2 Gen 1 4x USB 2.0 Internal USB port (type A) Gigabit LAN 2x COM Ports (RS232) Audio Line-out Microphone input SD Card Reader DC input (12V and 19V)	HDMI 1.4b D-Sub VGA 4x USB 3.2 Gen 1 2x USB 2.0 Internal USB port (type A) Gigabit LAN 2x COM Ports (RS232) Audio Line-out Microphone input SD Card Reader DC input (12V and 19V)
Integrated Components	Full-HD Webcam Speaker (2W) Microphone	Full-HD Webcam Speaker (2W) Microphone
Power Adapter	65W / 19V	65W / 19V
TPM	Firmware TPM v2.0	Firmware TPM v2.0
Optional Shuttle Accessories	PNFC01 (NFC module) PCP11 (1x COM) PCP21 (2x COM)	PCP11 (1x COM) PCP21 (2x COM)
UPC Code	887993001487 887993003122	887993004648



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	
	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

SHUTTLE XPC all-in-one BAREBONE P22U – 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. Requirements:</p> <ul style="list-style-type: none"> - 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.
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:</p> <ul style="list-style-type: none"> - 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) <p>100 mm VESA mount capable</p> <p>Mounting hole for Kensington lock</p> <p>Weight: 2.47 kg net, 3.39 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"> - Windows 10/11 - 64-bit - Linux - 64-bit
TOUCHSCREEN	<p>Touchscreen function supports fingertip input</p> <p>Capacitive Touch Panel with 10-point multi-touch</p> <p>Supports input with gloves (PVC, cotton, cotton/linen)</p> <p>Stylus pen not supported</p>
15.6" DISPLAY	<p>39.6 cm / 15.6" LCD display, ratio: 16:9 wide-screen panel</p> <p>Resolution: 1366 x 768 = 1.05 Megapixel</p> <p>Backlight unit: High power LED, Luminance: 220 cd/sqm</p> <p>Glass thickness: 0.5 mm</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 UHD 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>Two video ports support two additional independent screens:</p> <ol style="list-style-type: none"> 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 <p>Multi-Monitoring modes as follow:</p> <p>Clone mode: All displays show the same content at 1366 x 768.</p> <p>Extended mode: all displays show different content.</p>
BIOS	<p>AMI BIOS in 8 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>Supports Dual Channel mode</p> <p>Supports a maximum of 32 GB per DIMM, maximum total size: 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>M.2-2280 M Slot</p> <p>The M.2 2280 BM slot provides the following interfaces:</p> <ul style="list-style-type: none"> - PCI-Express Gen. 2.0 X4 - SATA v3.0 (max. 6 Gbps) <p>It supports M.2 cards with a width of 22 mm and a length of 80 mm (= type 2280).</p> <p>Supports M.2 SATA SSDs (with B+M key) and M.2 PCIe SSDs (with M key)</p>
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	<p>Realtek ALC269 (HD-Audio) or C-Media CM6542 (USB)</p> <p>Two analog audio connectors (3.5 mm) on the bottom side:</p> <ol style="list-style-type: none"> 1) Line-out (head-phones) 2) Microphone input <p>Digital Audio is supported via HDMI.</p>
WIRED NETWORK	<p>Intel i219 Ethernet interface</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>
PREPARED FOR WIRELESS NETWORK (WLAN)	<p>2x pre-installed internal antennas</p> <p>WLAN card included</p> <p>Prepared for the installation of an M.2-2230 WLAN card</p>
HOLES FOR OPTIONAL ANTENNAS	<p>Opening holes for optional antenna</p> <p>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)</p>
FRONT LEDs	<p>Power LED (blue)</p> <p>Hard disk LED (orange)</p>
CONNECTORS LEFT SIDE	<p>Power button</p> <p>2x USB 3.2 Gen 1 (type A)</p> <p>SD card reader</p> <p>Hole with Clear CMOS button</p> <p>Mounting hole for Kensington lock</p>
CONNECTORS RIGHT SIDE	Optional: 2x COM port (RS232)
CONNECTORS BOTTOM SIDE	<p>HDMI 1.4 (supports digital video and digital audio)</p> <p>VGA connector (D-Sub 15 pol., analog video)</p> <p>2x USB 3.2 Gen 1 (type A)</p> <p>2x USB 2.0 (type A)</p> <p>Gigabit Network (LAN, RJ45)</p> <p>2x COM port (RS232)</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>
CONNECTORS ONBOARD	<p>Internal USB 2.0 type A connector for an USB cable</p> <p>Serial ATA (data and power)</p> <p>3x USB 2.0 header (all occupied)</p> <p>eDP connector (Embedded DisplayPort) - occupied by the display</p> <p>LPC connector (occupied)</p> <p>I2C connector</p>

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%.
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
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)

P22U Drawings

