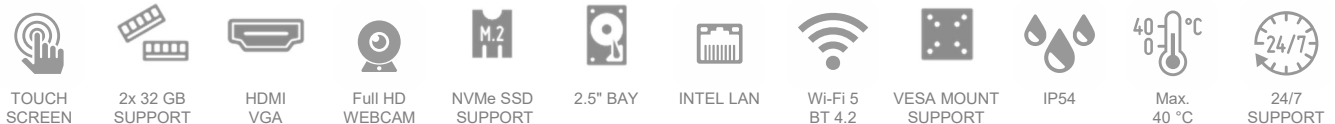


## BAREBONE XPC all-in-one X50V8U3 White

With Intel Core i3 ULV processor

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

The Shuttle XPC all-in-one X50V8(U3) is the latest addition to the X50 Series and is powered by an Intel ULV processor of the 10th generation "Comet Lake". The modern processor architecture helps improve on power consumption and computing power. 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.



### COMMON FEATURES

- IP54 compliant front panel ■ Dimensions: 391 x 327 x 42 mm (WHD)
- Supports 24/7 Nonstop Operation ■ 100 mm VESA mount capable
- Operating temperature: 0~40 °C ■ Fanless heatpipe cooling system

### DISPLAY & GRAPHICS

- 39.6 cm (15.6") LC Display, 1366 x 768 pixel ■ Resistive touchscreen
- 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 Core i3-10110U, 2 Cores, 4 Threads, clock rate: 2.1/4.1 GHz
- Intel Generation 10 "Comet Lake-U" TDP: 15W

### STORAGE (not included)

- Supports max. 2x 32 GB DDR4-2666 SO-DIMM ■ Supports one M.2-2280 SSD (SATA or 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) ■ 2x Audio (Mic & headphones) ■ Gigabit LAN (Intel)

### BUILT-IN

- SD card reader ■ 2.0 Megapixel FHD webcam ■ 2x 2 W speakers
- Electret Condenser Microphone ■ Wi-Fi 5 Wireless Network with two Antennas (supports WLAN 802.11ac and Bluetooth 4.2)

### POWER SUPPLY

- External 65 W / 19 V power adapter (DC-in supports 12 or 19 V)

### OPTIONAL ACCESSORIES

- PCL71: 2x COM, 1x LPT
- POS01: 4x COM (2x D-Sub, 2x RJ45), LPT, RJ11

### MODELS OF THE X50V8 SERIES

Product	Intel ULV CPU	Cores/ Threads	Clock/ Turbo	Cache	Max. RAM Support	WLAN Support	Color	UPC-Code (depends on LAN chip)	
								with Intel 211	with Intel 219LM
<b>X50V8</b>	Celeron 5205U	2/2	1.9 / -- GHz	2 MB	2x 32 GB DDR4-2400	Yes	Black	887993005072	887993005201
							White	887993005096	887993005225
<b>X50V8U3</b>	Core i3-10110U	2/4	2.1 / 4.1 GHz	4 MB	2x 32 GB DDR4-2666	Yes	Black	887993005089	887993005218
							White	887993005102	887993005232

## 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 X50V8U3 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 X50V8U3 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 X50V8U3 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 to two external Full HD displays

The Shuttle XPC all-in-one X50V8U3 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 X50V8U3 and there are three displays showing different content.



### Hidden Power Button

The power button can be deactivated to prevent unauthorised use. Still, it can be used with a straightened paper clip (see photo).



### 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



### Black and White versions available

Choose the right colour for your application. As a rule, black is preferred for use in the office, as a POS system in retail or as a control unit in manufacturing. The white version is often used in the health sector, in the kitchen area or as a POS system in the cosmetics/massage studio.

## Front and Back Panel



- |  |                                  |                                     |
|--|----------------------------------|-------------------------------------|
| 1. Stand                               | 8. SD card reader                | 18. 2x RJ45 COM port (optional)     |
| (a) Stand mounting plate               | 9. 4x USB 3.2 Gen 1 (5 Gbps)     | 19. RJ11 for cash drawer (optional) |
| (b) VESA cover                         | 10. Power LED                    | 20. DC-input for power adapter      |
| (c) 100 x 100 mm VESA mount            | 11. Hard disk LED                | 21. 2x USB 2.0                      |
| 2. Full HD Webcam                      | 12. 2x speakers (stereo)         | 22. RJ45 Gigabit LAN port           |
| 3. Microphone                          | 13. Name plate (rating label)    | 23. HDMI video output               |
| 4. Touchscreen LC-display              | 14. Hole for Kensington lock     | 24. Audio Line-out (headphones)     |
| 5. Power button                        | 15. D-Sub/VGA video output       | 25. Microphone input                |
| 6. 2x Perforation for external antenna | 16. LPT Parallel Port (optional) | 26. Openings for ventilation        |
| 7. Hole for hidden power button        | 17. 2x D-Sub COM port (optional) | 27. Stylus with holder              |

## Installable Components



1. **2.5" SATA Drive**

Hard disk or SSD, max. 12.5 mm in height

2. **Internal USB Port**

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

3. **Optional COM-, LPT- and DIO ports**

While the Shuttle Accessory **PCL71** adds two serial COM ports and one parallel LPT port, the **POS01** adds two more COM ports (with RJ45 connector) and one Digital I/O 12 V / 24 V (RJ11) for a cash drawer.

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

SATA or PCIe interface

5. **DDR4 SO-DIMM memory**

max. 2x 32 GB DDR4-2400/2666



## Range of Applications (Examples)

### Digital Signage

Visual advertising,  
Info Terminal



### POS

Checkout system in Retail Stores, Res-  
taurants, Hotels



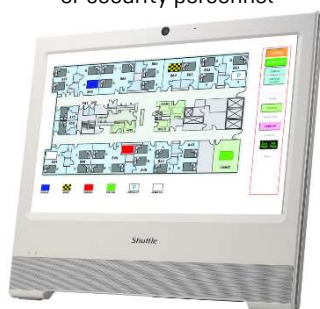
### POS Radio

Playing advertising  
and music



### Call System

e.g. for nurses (hospital)  
or security personnel



### Smart Home Control

Surveillance,  
Home Automation



### Device Control

e.g. for copy  
machines



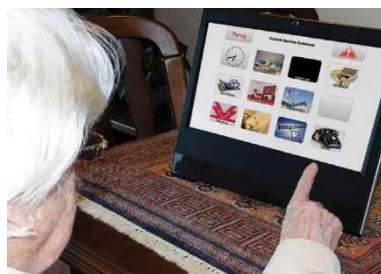
### Device Control

e.g. for health services or fitness  
equipment



### Communication Device

e.g. for the elderly



### Visualisation

e.g. for industrial production machines



### On a boat

e.g. for navigation and entertainment



### Data Collector

e.g. Recording of  
working hours



### Entertainment





e.g. at the dentist or  
in the waiting room



## Shuttle Product Comparison: X50V8 versus predecessor X50V7

MODEL	X50V7	X50V8
Processor	Intel Core Gen 8, TDP=15W Code name: "Whiskey Lake-U" <b>X50V7:</b> Celeron 4205U <b>X50V7U3:</b> Core i3-8145U	<b>Intel Core Gen 10, TDP=15W</b> <b>Code name: "Comet Lake-U"</b> <b>X50V8:</b> Celeron 5205U <b>X50V8U3:</b> Core i3-10110U
Operation System Support	Windows 10/11 – 64-bit Linux – 64-bit	Windows 10/11 – 64-bit Linux – 64-bit
RAM memory (max.)	Max. 2x 32 GB DDR4-2400 SO-DIMM (Celeron version: DDR4-2133)	<b>Max. 2x 32 GB DDR4-2666 SO-DIMM</b> <b>(Celeron version: DDR4-2400)</b>
LAN	Intel i211 Gigabit LAN	Intel <b>i211/i219LM</b> Gigabit LAN
WLAN	Realtek RTL8821CE (WLAN-ac und BT 4.2) with two internal antennas	Realtek RTL8821CE (WLAN-ac und BT 4.2) with two internal antennas
Audio	Realtek ALC269	Realtek ALC269 (HD audio) or <b>C-Media CM6542 (USB)</b>
Connectors left	Power Button 2x USB 3.2 Gen 1 SD Card Reader Perforation (7 mm)	Power Button 2x USB 3.2 Gen 1 SD Card Reader Perforation (7 mm)
Connectors bottom	HDMI 1.4b 2x USB 3.2 Gen 1 2x USB 2.0 Gigabit LAN (RJ45) Audio Line-out Microphone input DC input Perforation (7 mm) Optional 2x COM (RJ45), 1x DIO (RJ11)	HDMI 1.4b 2x USB 3.2 Gen 1 2x USB 2.0 Gigabit LAN (RJ45) Audio Line-out Microphone input DC input Perforation (7 mm) Optional 2x COM (RJ45), 1x DIO (RJ11)
Connectors rear	VGA Port Optional 2x COM (D-Sub), 1x LPT	VGA Port Optional 2x COM (D-Sub), 1x LPT
Power Adapter	65W/19V power adapter 2-pin AC plug (Euro)	65W/19V power adapter <b>3-pin AC plug (Schuko with PE)</b>
Optional Shuttle Accessories	<b>PCL71</b> (2x COM, 1x LPT) <b>P0S01</b> (4x COM, 1x LPT, 1x DIO)	<b>PCL71</b> (2x COM, 1x LPT) <b>P0S01</b> (4x COM, 1x LPT, 1x DIO)

## 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 X50V8U3 White — 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"> <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: white</p> <p>Dimensions: 391 x 327 x 42 mm (W x H x D)</p> <p>100mm VESA mount capable</p> <p>Mounting hole for Kensington lock</p> <p>Weight: 3.5 kg net, 4.2 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 10/11 - 64-bit</li> <li>- Linux - 64-bit</li> </ul>
TOUCHSCREEN	<p>Touchscreen function supports fingertip input</p> <p>Resistive 5-wire single-touch technology</p> <p>Stylus for the built-in touchscreen</p>
15.6" DISPLAY	<p>39.6 cm / 15.6" LC-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 Core i3-10110U (ULV)</p> <p>System-on-a-chip architecture (SoC) with integrated memory and graphics controller</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 / 4</p> <p>Base frequency: 2.1 GHz</p> <p>Max. Turbo frequency: 4.1 GHz</p> <p>Intel Smart Cache: 4 MB</p> <p>TDP wattage: 15 W maximum</p> <p>Manufacturing process: 14nm</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 for 10th Gen Intel® Core™ Processors</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"> <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 1366 x 768.</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 DDR4-2666 (PC4-21300) SDRAM at 1.2 V</p> <p>Faster RAM modules (e.g. DDR4-3200) are backwards compatible and also run at DDR4-2666 speed here.</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 12.5 mm in height</p> <p>SATA cable pre-installed</p>
M.2 SLOT FOR SSD CARDS	<p>The M.2 2280 M-key slot provides the following interfaces:</p> <ul style="list-style-type: none"> <li>- PCI-Express Gen. 3.0 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 42, 60 or 80 mm (type 2242, 2260, 2280).</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 webcam (1920 x 1080 pixels)
MICROPHONE AND SPEAKERS	<p>Front panel with integrated Electret Condenser Microphone and</p> <p>2x 2 W speakers</p>
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"> <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 i211 or i219LM 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>
WIRELESS NETWORK (WLAN)	<p>Built-in M.2-2230-E WLAN card with two internal antennas</p> <p>WLAN Controller Realtek RTL8821CE-CG</p> <p>Supports WiFi IEEE 802.11b/g/n/ac on the 2.4 / 5 GHz band, 1T1R</p> <p>Supports 20 / 40 / 80 MHz channel bandwidth</p> <p>Security: supports WPA(-PSK), WPA2(-PSK), WEP 64/128 bit, IEEE 802.11x, IEEE 802.11i</p> <p>Supports Bluetooth 4.2 on the 2.4 GHz band</p>
FRONT LEDs	<p>Power LED (blue)</p> <p>Hard disk LED (orange)</p>
CONNECTORS LEFT SIDE	<p>2x USB 3.2 Gen 1 (5 Gbps)</p> <p>SD card reader</p> <p>Hole with power button</p> <p>Hole with Clear CMOS button</p> <p>Perforation for optional WLAN/LTE antenna (diameter: 6.5 mm)</p>
CONNECTORS BOTTOM SIDE	<p>HDMI 1.4a (supports digital video and digital audio)</p> <p>2x USB 3.2 Gen 1 (5 Gbps)</p> <p>2x USB 2.0</p> <p>Gigabit Network (LAN, RJ45)</p> <p>Audio Line-out / head-phones (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>Perforation for optional WLAN/LTE antenna (diameter: 6.5 mm)</p> <p>Optional: 2x COM/serial (RJ45), DIO (RJ11) for cash drawer (accessory POS01)</p>
CONNECTORS REAR SIDE	<p>VGA connector (D-Sub 15 pol., analog video)</p> <p>Optional: 2x COM/serial (D-Sub), 1x LPT/parallel (accessory: PCL71 or POS01)</p>
CONNECTORS ONBOARD	<p>Internal USB 2.0 type A connector for a USB stick</p> <p>Serial ATA (6 Gbps)</p> <p>Serial ATA power connector</p> <p>3x USB 2.0 header (all occupied)</p> <p>eDP connector (Embedded DisplayPort) - occupied by the display</p> <p>Connector for optional COM/LPT adapter POS01 or PCL71</p>

OPTIONAL ANTENNAS	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)
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 AC mains cable: 3 pins, ca. 1.7 m length, with C5/C6 coupler (called "Mickey Mouse" or "Clover-leaf") for the power adapter and CEE-7/7 plug with earth-contact (type E+F) for the power outlet
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 Guide Driver DVD for Windows External Power Adapter (65W / 19V) AC Power cord with protective-earth contacts Screws
OPTIONAL ACCESSORIES	<b>PCL71:</b> COM / LPT / RJ11 adapter: - 1x Parallel (25p D-Sub) - 2x Serial RS232 (9p D-Sub) supports 0 / 5 / 12V <b>POS01:</b> COM / LPT / RJ11 adapter: - 1x Parallel (25p D-Sub) - 2x Serial RS232 (9p D-Sub) supports 0 / 5 / 12V - 2x Serial RS232 (8p RJ45) - 1x DIO/RJ11 connector for cash drawer supports 12 / 24V
ENVIRONMENTAL SPECIFICATIONS	Operating temperature: 0~40 °C Humidity: 10~90 %
CERTIFICATIONS / COMPLIANCE	EMI: CE, FCC, BSMI, RCM, VCCI Safety: CB, 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/EC relating to eco design requirements for energy-related products (ErP), (4) 2014/53/EU Radio Equipment Directive (RED)

### X50V8U3 Series – Technical Drawings

