

Fanless All-in-one PC for POS applications

The Shuttle POS X504 is a valued All-in-One POS Terminal PC boasting a 15.6-inch touchscreen and powered by Intel's Celeron® Processor. This system is compatible with major operation systems including Windows Embedded POSReady 7 and is suitable for small and medium retailers to serve customers effectively. It offers numerous connectors for typical POS peripherals like receipt printer, customer display, barcode scanner, keyboard, mouse, external storage, cash drawer and more. In addition, the HDMI and VGA ports can be used to drive two more displays with basic digital signage applications. Thanks to its passive cooling, the system is virtually noiseless, maintenance-free and is approved for 24/7 nonstop operation. Particularly suitable for POS 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. POS X504 offers a high level of reliability and is a lower priced alternative to conventional POS systems.

Shuttle All-in-One PC POS X504 Black



Images for illustration purposes only.

Feature Highlights

All-in-One Design	<ul style="list-style-type: none"> All-in-One PC Barebone with touchscreen Small: 391 x 327 x 42 mm (WHL) 100mm VESA mount capable IP54 dust and water resistant (front panel) Approved for 24/7 nonstop operation
Display & Graphics	<ul style="list-style-type: none"> 39.6cm (15.6") resistive touchscreen with 1366x768 resolution Integrated Intel HD graphics HDMI 1.4 + D-Sub/VGA Video output
CPU & Cooling	<ul style="list-style-type: none"> Intel Celeron 2957U, 1.4 GHz, 15W TDP Fanless heatpipe cooling system
Storage	<ul style="list-style-type: none"> 4 GB DDR3L-1600 SO-DIMM memory 60GB / 2.5" Solid State Drive (SSD)
Operating System	<ul style="list-style-type: none"> Operating system is not included Supports Windows 7 / 8 (Embedded), Linux
Connectivity	<ul style="list-style-type: none"> HDMI (digital), D-Sub/VGA (analog) 2x USB 3.0, 4x USB 2.0, internal: 2x USB 2.0 Microphone input, head phone output Gigabit LAN, Wireless LAN 802.11n 4x RS232, 1x LPT, 1x RJ11 (for cash drawer)
Built-in	<ul style="list-style-type: none"> SD card reader, 2.0 Megapixel HD webcam 2x 2W speakers, Microphone
Power Supply	<ul style="list-style-type: none"> External fanless power adapter, 65W



15.6" Touchscreen



Nonstop operating



Fanless cooling



Front protected: dust & water



Up to four COM ports



Windows 7/8 + Linux support



Wireless and Wired Network



2x USB 3.0
4x USB 2.0



Watchdog Hardware



Shuttle All-in-One PC POS X504 – Overview



- | | | | | | |
|----|-------------------------|----|---------------------------------|----|------------------------------------|
| 1 | Touchscreen LCD display | 11 | 2x USB 2.0 | 21 | DIO for Cash Drawer (RJ11, 6 pins) |
| 2 | Webcam | 12 | Clear CMOS Button | 22 | Perforation for TV antenna (9 mm) |
| 3 | Microphone | 13 | Stand (handle) | 23 | DC-input for Power Adapter |
| 4 | Power on LED | 14 | Cooling Vents | 24 | 2x USB 2.0 |
| 5 | Hard disk LED | 15 | Kensington lock | 25 | RJ45 Gigabit LAN |
| 6 | Stereo speakers | 16 | D-Sub/VGA Video Output | 26 | 2x USB 3.0 |
| 7 | Power-on button | 17 | Vesa Mount 100x100mm | 27 | HDMI Video Output |
| 8 | Stylus with holder | 18 | LPT / parallel (D-Sub, 25 pins) | 28 | Audio Line-out (Head Phone) |
| 9 | Power Button | 19 | 2x COM / serial (D-Sub, 9 pins) | 29 | Microphone Input |
| 10 | SD Card Reader | 20 | 2x COM / serial (RJ45, 8 pins) | | |

Shuttle All-in-One PC POS X504 – Special Features



All applications at your fingertips

The innovative touchscreen technology delivers the simplest operation possible and makes the screen the centre of action. Have any applications start up quickly by just touching the screen for working most swiftly and conveniently.



Great connectivity

Equipped with six USB ports, four COM ports and a RJ11 for cash drawers it offers sufficient connectivity for typical POS peripherals like receipt printer, customer display, barcode scanner, cash drawer, keyboard, mouse and more.



Highly energy-saving

The Shuttle All-in-One PC POS X504 barely consumes, depending on system load, about 11 ~ 22.5 Watts. Running the device*) 5 days a week for eight hours a day, the annual consumption would amount to approx. 23~47 kWh which would mean just 6~12 Euros on the power bill (25 Euro ct/kWh) - way less than a conventional desktop PC draws. *) Based on a configuration with 4 GB of memory, 60 GB SSD and Windows 7 Professional 64-bit.



24/7 nonstop operation

The Shuttle All-in-One PC POS X504 is officially approved for 24/7 permanent operation. Thanks to its low power consumption and completely passively 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: 5-35°C
- Air humidity while under load: 10-80% (not condensing)
- Free circulation of air amongst the PC must be guaranteed
- Ventilation holes must be clear



Fanless and quiet

The Shuttle All-in-One PC POS X504 uses a passive thermal module with heatpipes to lead heat out of the case quickly and evenly. The unique fanless design makes it perfect to be used in noise-sensitive environments such as living rooms, hospitals, libraries etc. 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.



Connects to two external Full HD displays

The Shuttle All-in-One PC POS X504 features two video outputs: One analog D-Sub/VGA connector and one HDMI connector. Two external Full HD displays can be connected in extended mode. Now add the built-in display of the POS X504 and there are three displays showing different content.



Protection Class IP54

The front panel of the Shuttle All-in-One PC POS X504 is dust-protected and protected from splashing of water according to IPprotection 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 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 side: card reader and two USB ports.



Power on after Power fail

The BIOS setup provides a "Power-On after Power Fail" function that can be found under "Power Management Configuration" where the PC's behaviour after power failure can be determined.



Always Power-on Jumper

The Shuttle All-in-One PC POS X504 also comes with a hardware-based solution. By removing Jumper 7 (see picture), the system will start unconditionally once power is applied.



Hidden Power Button

The power button can be deactivated to prevent unauthorized usage. Still it can be used with a straightened paper clip as shown on the left.



Internal USB Slot and perforation for external antenna

The Shuttle All-in-One PC POS X504 features an internal USB 2.0 connector (type A) for an USB stick of max. 9 cm in length and a 9 mm perforation for an optional antenna. The internal USB connector for expansion sticks (such as flash memory, DVB-T, SAT, 3G) or other USB devices like a radio module for home automation or RFID. Furthermore, there is a free USB header available on the mainboard.



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.



Stylus for the touchscreen

The Shuttle All-in-One PC POS X504 is equipped with a 5-wire resistive touchscreen for simple operation by finger (even with gloves) or stylus. The stylus comes supplied as standard and sits in an opening located at the top of the chassis. Using the stylus results in a smoother and more precise input than just using the finger.



Kensington Lock

This is a small, metal-reinforced hole as part of an anti-theft system. (Lock and cable not included.)



Carrying handle

The practical stand can be pulled upwards to also serve as a handle making the Shuttle All-in-One PC POS X504 easy to carry. Clever!

Shuttle All-in-One PC POS X504 – Specifications

<i>Fanless and silent</i>	<p>Passive heatpipe cooling, no fan noise at all Perfect to be used in noise-sensitive environments Fanless, dust-free and thus virtually maintenance-free</p>
<i>24/7 nonstop operation</i>	<p>This device is approved for 24/7 permanent operation. Requirements: - Free circulation of air amongst the PC must be guaranteed. - Ventilation holes must be clear. - If a hard disk is installed, this must also be approved for permanent operation by its manufacturer.</p>
<i>IP54 protected</i>	<p>The front panel is dust-protected and protected from splashing of water according to protection class IP54.</p>
<i>Low power consumption</i>	<p>Power consumption: ca. 11 W (idle mode) and ca. 22.5 W (full load) When switched off: 0.25W (S5 mode with EUP=on) (Configuration: 4 GB RAM, 60 GB SSD and Windows 7)</p>
<i>Chassis</i>	<p>Colour: black Dimensions: 391 x 327 x 42 mm (WxHxL) 100mm VESA mount capable Mounting hole for Kensington lock Weight: 3.08 kg net, 4.24 kg gross</p>
<i>Operation System</i>	<p>This system comes without operating system. It is compatible with: Windows 7 / 8 / 8.1 (also Embedded) 32- and 64-bit, Linux 32- and 64-bit (tested with Ubuntu Fedora 20 x64, Ubuntu 14.04 x64 and OpenSuse 13.1 x64)</p>
<i>Touchscreen</i>	<p>Touchscreen function supports fingertip input Resistive 5-wire single-touch technology Including stylus for the touchscreen</p>
<i>15.6" Display</i>	<p>39.6cm / 15.6" LCD display, ratio: 16:9 widescreen panel Resolution: 1366x768 = 1.05 Megapixel Backlight unit: High power LED, Luminance: 220 cd/sqm Glass thickness: 0.5 mm</p>

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<p><i>Processor</i></p>	<p>Intel® Celeron® Processor 2957U (ultra low voltage) SOC with integrated chipset including controller for memory and graphics 22 nm manufacturing process, FCBGA1168 package 4th Generation Intel® Core™ Processor (Codename "Haswell") Dual Core (two threads), Core frequency: 1.4 GHz L1/L2/L3 Cache size: 128 kB, 512 kB, 2 MB Max. Thermal Design Power (TDP): 15 W Supports 64-bit instructions, Execute Disable Bit Intel® Virtualization Technology (VT-x) with Extended Page Tables (EPT) Enhanced Intel SpeedStep® Technology Thermal Monitoring Technologies Passive cooling without any fan</p>
<p><i>Integrated Graphics</i></p>	<p>The Graphics Processing Unit (GPU) is integrated in the processor Intel® HD Graphics core 10 Execution Units (EUs) clocked at 200 - 1000 MHz Supports Intel® Quick-Sync-Video and Intel® Clear-Video Supports DirectX 11.1, OpenCL 1.2 and OpenGL 4.0, Shader 5.0 Shared Memory technology</p>
<p><i>Up to three displays</i></p>	<p>Two video outputs: HDMI v1.4 and D-Sub (VGA) Supports triple display: the integrated display plus two external displays 1) Clone mode: all displays show the same content at 1366x768 resolution 2) Extended mode: all displays show different content, while the external displays run at Full HD resolution (1920x1080) maximum.</p>
<p><i>BIOS</i></p>	<p>AMI BIOS in 8 MByte EEPROM with SPI interface Supports Power fail resume / AC power on state / always on / always off Supports Wake-on-LAN (WOL) from S3, S3, S5 ACPI states Supports hardware monitoring and watch dog functionality</p>
<p><i>Memory</i></p>	<p>4 GB DDR3L-1600 SO-DIMM memory (maximum capacity: 8 GB) <u>Caution:</u> This mainboard does only support 1.35V DDR3L memory modules. Note: DDR3L has a lower operation voltage compared to DDR3</p>
<p><i>Storage</i></p>	<p>60 GB SATA SSD drive in 6.35cm/2.5" format</p>
<p><i>Mini-Slots</i></p>	<p>This devices comes with two mini expansion slots: 1) the half-size slot is occupied with a WLAN module 2) the full-size slot supports a mSATA flash memory card (max. 6 Gbit/s)</p>
<p><i>Card Reader</i></p>	<p>Integrated card reader supports SD, SDHC and SDXC memory flash cards</p>
<p><i>Webcam</i></p>	<p>Integrated 2.0 Megapixel (1600x1200) HD webcam</p>
<p><i>Microphone Speakers</i></p>	<p>Front panel with integrated Electret Condenser Microphone and 2x 2W speakers</p>

Audio	<p>Realtek ALC269 Audio Codec</p> <p>Two analog audio connectors (3.5mm):</p> <ol style="list-style-type: none"> 1) Line-out (head phone) 2) Microphone input <p>Digital Audio is supported via HDMI.</p>
Wired Network	<p>RJ45 connector supports Gigabit LAN at 10/100/1000 Mbit/sec.</p> <p>Network controller Realtek 8111G</p> <p>Supports Wake-on-LAN (WOL) from S3, S3, S5 ACPI states</p>
Wireless Network	<p>WLAN chip: Realtek 8188EE</p> <p>Supports IEEE 802.11b/g/n, max. 150Mbps up-/downstream</p> <p>Security: WPA/WPA2, WEP</p> <p>Half-size Mini-PCIe-Card</p>
Front LEDs	<p>Power LED (blue)</p> <p>Hard disk LED (orange)</p>
Connectors left side	<p>Power button</p> <p>2x USB 2.0</p> <p>SD card reader</p> <p>Hole with power button</p> <p>Hole with Clear CMOS button</p>
Connectors bottom side	<p>HDMI 1.4 digital audio/video</p> <p>2x USB 3.0</p> <p>2x USB 2.0</p> <p>Gigabit Network (RJ45, 8 pins)</p> <p>2x COM / serial (RJ45, 8 pins)</p> <p>Digital I/O (DIO, RJ11, 6 pins) for cash drawer</p> <p>Audio Line-out /head phone (3.5 mm jack socket)</p> <p>Microphone input (3.5 mm jack socket)</p> <p>DC input for external power adapter (5.5 / 2.5 mm)</p> <p>Perforation for optional TV/3G antenna (diameter: 9 mm)</p>
Connectors back side	<p>VGA analog video (D-Sub, 15 pin)</p> <p>2x COM / serial (D-Sub, 9 pin)</p> <p>1x LPT / parallel (D-Sub, 25 pin)</p>
Connectors onboard	<p>Serial ATA (6 Gbps)</p> <p>Serial ATA power connector</p> <p>4x USB 2.0 header (three occupied, one free)</p> <p>Fan connector (4-pin)</p> <p>LVDS header (Low Voltage Differential Signaling)</p> <p>LPC header (Low Pin Count)</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> <p>DC Connector: 5.5 / 2.5 mm (outer/inner diameter)</p>

<p><i>Included Accessories</i></p>	<p>Quick Guide Driver DVD External Power Adapter (65W) Power cord Serial ATA cable for the 2.5" drive Screws</p>
<p><i>Optional Accessories</i></p>	<p><u>PF55</u>: Carrying bag</p>
<p><i>Environmental criteria</i></p>	<p>Operating temperature: 0~40°C Humidity: 10~90%</p>
<p><i>Certification and Compliance</i></p>	<p>EMI: CE, FCC, BSMI, C-Tick Safety: CB, BSMI, ETL, CCC Other compliances: RoHS, ErP Lot6, Energy Star v5.0</p>
<p><i>Conformity</i></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. The CE-mark approves the conformity by the EU-guidelines: - EMV-guideline 89/336/EWG electromagnetic tolerance - LVD-guideline 73/23/EWG use of electric devices within certain voltage limits</p>

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Shuttle POS-Series - Product Comparison

Model ->	POS X503	POS X504
Lifetime	Q1/2013 - Q1/2014	01/2015 - present
Processor	Atom D2550 [1] 1,86 GHz TDP: 10W Cache: 1 MB	Celeron 2957U 1,4 GHz TDP: 15W Cache: 2 MB
Memory	2 GB DDR3	4 GB DDR3L
Storage	60 GB SSD	60 GB SSD
Operation System	Compatible with Windows 7 32 bit only (not included)	Windows 7/8, Linux 32 Bit and 64 Bit (not included)
BIOS Version	AMI	AMI
Integr. Graphics	GMA3650, DX9 [2]	Intel HD,DX11.1
Cooling	Passive	Passive
North Bridge	-	-
South Bridge	Intel NM10 2.5W	-
Webcam	2,0 MP	2,0 MP
Display Backlight	LED	LED
Connectors	HDMI 1.3 D-Sub VGA 4x USB 2.0 RJ45 (Gigabit) 2x Audio Card reader 2x COM (D-Sub) LPT	HDMI 1.4 D-Sub VGA 2x USB 3.0 4x USB 2.0 RJ45 (Gigabit) 2x Audio Card reader 2x COM (D-Sub) 2x COM (RJ45) LPT RJ11 for cash drawer
Power consumption (Idle/Full)	20 - 27 W	11 - 22.5 W
Power Adapter	40 W	65 W
H/W control Webcam, WLAN	BIOS setting	BIOS setting
Chassis / Dimensions	Non-Glossy 391 x 327 x 42	Non-Glossy 391 x 327 x 42
24/7 approved	Yes	Yes
Other	-	IP54 compliant (front side) Onboard: one free USB port
EAN bar code	White: 4046047102747 Black: 4046047102754	White: 4046047102884 Black: 4046047102891

[1] In 2012, Intel phased out the Atom D2700 processor and introduced the D2550 as its successor. This new model comes with a slightly reduced clock rate, while any other features are maintained.

[2] Intel offers sophisticated graphics driver for the integrated Intel GMA3650 graphics only for Windows 7 32-bit.