## All-in-one Touchscreen Barebone PC

The Shuttle X50V2 Plus Barebone is an all-in-one PC boasting a 39.6cm (15.6-inch) touchscreen LCD powered by Intel's dual core Atom processor D525. Intended for use in the home environment, the Shuttle X50V2 Plus Barebone is targeted at hardware experts seeking to build a complete system according to their individual requirements. The bulk of components is yet built in, just three components need to be installed: memory, hard disk and operating system. Equipped with Intel's integrated graphics, it provides generous performance for daily computing with internet and office applications. A 2.0 MP webcam, built-in speakers, card reader, WLAN and other features leave nothing you could ask for. Have any applications start up quickly by just touching the screen for working most swiftly and conveniently.

### Shuttle All-in-One PC
### X50v2 Plus Black
### Barebone

**Touchscreen**   **Dual Core**   **Fanless**
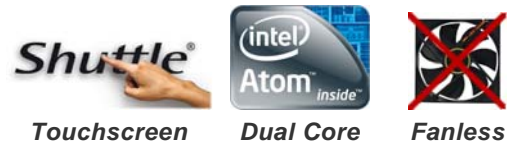


## Feature Highlight

| | |
|---|---|
| *All-in-one design* | • Full featured stylish PC platform<br>• Small: 391 x 327 x 36 mm (WHL)<br>• Stand can also be used as a handle<br>• External, fanless power supply (40W) |
| Display & Graphics | • 39.6cm (15.6") touchscreen (1366x768)<br>• Integrated graphics (GMA3150, DX9)<br>• VGA Video output (Extended Mode) |
| CPU & Chipset | • CPU: Intel ATOM D525 Dual Core , 1.8GHz<br>Chipset: NM10 (Plattform Controller Hub) |
| Storage (not included) | • Supports DDR3-667/800 (or higher)<br>2x 204 pin SO-DIMM slots, max. 2x 2GB<br>• Supports one 6,35cm/2,5" SATA hard disk |
| Operating system | • Operating system not included, compatible with Windows XP/Vista/7, POSReady 2009/7 |
| Connectivity | • 4x USB, Audio: Mic, Line-out<br>• LAN connector, Wireless LAN (draft-n)<br>• Optional: 2x RS232, 1x LPT (PCL68) |
| Built-in | • SD card reader<br>• 2.0 Megapixel webcam<br>• 2x 2W speakers<br>• Electret Condenser Microphone<br>• 100mm VESA mount capable<br>• Light bar at the bottom |
| Power Supply | • 40W, fanless, Energy Star 5 compliant |
| Warranty | • 24 months Bring-in Service |

Images for illustration purposes only.
Product name: **X50V2 Plus Black**
Order no.: **PAB-X50V2P32**

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# Shuttle X50V2 PLUS Barebone - Special Product Features

**Intel Atom Dual Core**
**(Pineview-D)**

## 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.
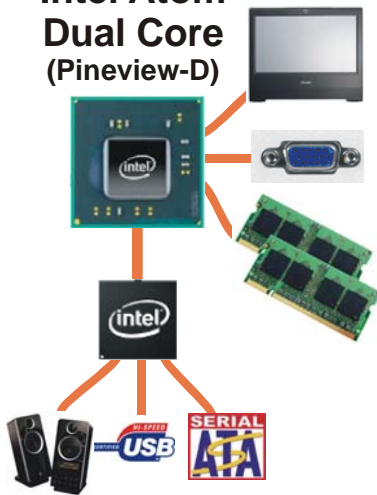
## New Atom processor integrates the graphics core

Shuttle X50V2 PLUS is equipped with Intels Atom processor D525, codenamed Pineview. It brings both the memory controller and graphics core on-die which helps to reduce the thermal output and memory latency. The CPU is connected to the Southbridge NM10, codenamed Tiger Point.

## Dual Core. Do more.

The vast majority of the existing netbooks and all-in-one PCs with an Intel Atom CPU use the Single Core version. In contrast to this, Shuttle's all-in-one PC stands out from the crowd with its embedded Intel Atom D525 Dual Core processor, which is boosting the productivity of the PC system, particularly with regards to multithreaded applications.
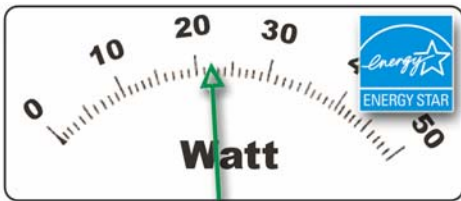
## Power saving

The new X50V2 Plus version equipped with Intel Atom D525 Dual-Core processor and eco-friendly ENERGY STAR 5.0 qualified power adapter consumes about 22 Watt in full load mode, which is approximately half as much as with the first X50 version with Atom 330 processor and 945GC chipset.

## What does "Barebone" mean?

The Shuttle X50V2 PLUS Barebone is targeted at hardware experts seeking to build a complete system according to their individual requirements. The bulk of components is yet built in, just the following hardware is required to be installed by the purchaser in this case:
- One 6.35cm/2.5" Serial ATA hard disk
- One or two DDR3-667/800 SO-DIMM memory modules (204 pins)
- Optional: USB keyboard and USB mouse
- Operating system: Windows XP / Vista / 7 or Linux

## All-in-one PC

Your complete PC system with many components already built in comes in just one single device! This includes the webcam, microphone, mainboard, display, touchscreen input interface, Wireless LAN module and speakers. Saves you more space, looks simply stylish, less wiring.

## VGA Port

This VGA port can be used to connect a secondary external LCD display or beamer to the PC.

## Built-In Webcam and Microphone

The built-in 2.0 mega pixel webcam and microphone makes it easy to take pictures or stream live images across the Internet – and connect in real-time with friends, family, and colleagues.

## Slim and chic

Designed as space-savers, this 15.6 inch all-in-one desktop PC only measures 3.6cm in depth.

## Fanless - as quiet as 22dBA

The Shuttle X50V2 PLUS features a cooling system that combines an integrated heat-sink with thermal pads - and removes the fan. As an added benefit, it's not only quiet but also dust-free.
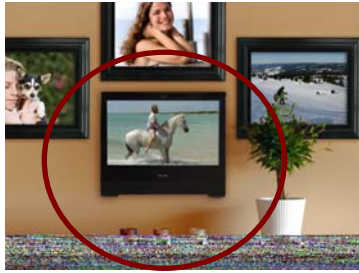
## Carrying handle

Cleverly, the stand can be pulled up to serve as a handle - easy to move and light to carry with one hand.

## Kensington Lock

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

## VESA mounting

The stand on the rear can easily be removed unveiling four VESA mounting screw holes that can be used for mounting arms and other mounting devices from a variety of manufacturers.



## Control AP Software

Click the „ControlAP"-Button  and you can configure the following items with your fingers on the touchscreen:

- Screen brightness
- Light bar brightness
- Wireless LAN On/Off
- Web camera On/Off
- Configuration of LCD and external VGA screen
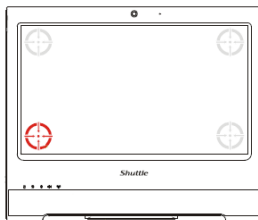


## 4 Point Touch Screen Calibration

The X50V2 PLUS features a precise touch screen input device. This can easily be calibrated just by pointing four times with the stylus pen on the  screen. With this four point calibration, you can use demanding graphical user interfaces (GUI) that require precise cursor control to properly activate small icons, buttons, scroll bars, etc.



## Optional serial and parallel legacy ports

Legacy ports are still a requirement for certain industrial applications. Thus, X50V2 PLUS optionally provides one parallel and two serial ports at the back panel (Accessory PLC68).



## Tiny power adapter

The external 40W power adapter is virtually noiseless and can easily be hidden behind the desk thanks to its tiny dimensions.
Dimensions: 89.5 x 37 x 26.5 mm (LWH) = 88ml

## 24/7 nonstop operation

The Shuttle All-in-One PC X50V2 Plus 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
- If a hard disk is installed, this must also be approved for permanent operation by its manufacturer.

# Shuttle X50V2 PLUS Barebone Overview (Connectors, buttons, etc.)
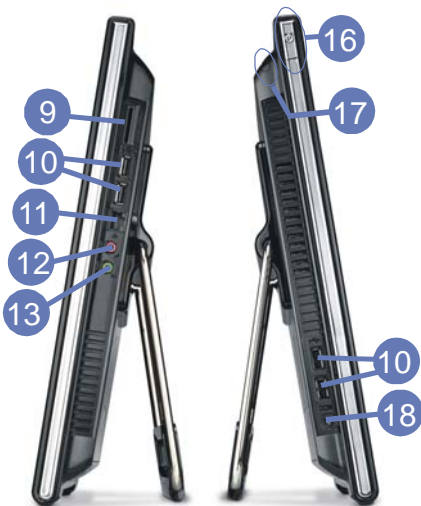
| 1 | Touchscreen LCD display |
|---|---|
| 2 | Webcam |
| 3 | Microphone |
| 4 | Power on LED |
| 5 | Hard disk LED |
| 6 | Wireless LAN LED (Wifi) |
| 7 | Stereo speakers |
| 8 | Light bar |
| 9 | Card reader |
| 10 | 4 USB connectors |
| 11 | LAN connector |
| 12 | Microphone input |
| 13 | Audio line out (head phone) |
| 14 | VGA video output |
| 15 | Stand (handle) |
| 16 | Power on button |
| 17 | Stylus pen with holder |
| 18 | DC-input for power supply |
| 19 | Kensington lock hole |
| 20 | Vesa mount |
| 21 | 2x COM, 1x Par. Ports (optional accessory PCL68) |

## Shuttle X50V2 PLUS Barebone – Range of Applications

**Entertainment**
Music, Movies,
Photo gallery, TV*

*) TV tuner USB stick
required
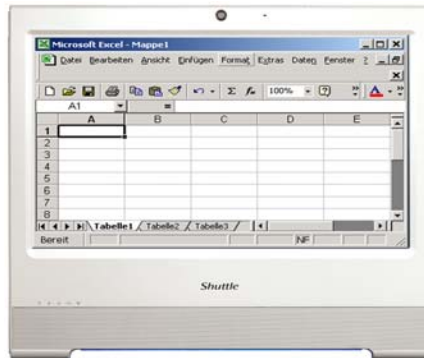
**Work**
Banking, Shopping,
Office, Stock trading

**Control**
Surveillance,
Home Automation,
Control device

**P.O.S.**
Point of sales

**Education**
In schools, at home,
for children and adults

**Communication**
Email, VoIP, Messenger,
Blog, Video Conferencing

**Digital Signage**
Visual advertising,
entertainment, displaying
information in public areas

## Shuttle X50V2 PLUS Barebone Black – Specifications

| | |
|---|---|
| **Chassis** | Color: black<br>Dimensions: 391.3 x 327 x 36 mm (WxHxL), Weight: 3.6 kg<br>100mm VESA mount capable<br>Mounting hole for Kensington lock<br>Light bar at the bottom |
| **Operating system** | This system comes without operating system.<br>It is compatible with Windows XP, Windows Vista, Windows 7,<br>Windows Embedded POSReady 2009, Windows Embedded POSReady 7 |
| **Touch-screen** | Touchscreen function support fingertip input<br>Resistance and single touch  technology<br>Including stylus pen for the touchscreen |
| **39.6cm (15.6-inch) display** | 39.6cm/15.6" LCD display, ratio: 16:9 wide screen panel<br>Resolution: 1366x768 = 1.05 Megapixels<br>Adjustable Backlight: CCFL (Cold cathode fluorescent lamp) |
| **Processor** | Intel Dual Core Atom processor D525 (Codename: Pineview-D)<br>45nm manufacturing process, FCBGA559<br>Intel Hyper-Threading technology: 2-threads per core<br>Intel 64 architecture, Core clock: 1.8 GHz<br>L2 Cache: 1024kB , TDP: max. 13W<br>Integrated North Bridge with controller for memory and graphics |
| **South bridge** | Intel® NM10 Platform Controller Hub (PCH), Codename: Tiger Point |
| **BIOS** | AMI BIOS in a 8Mb Flash ROM supports PnP, ACPI 3.0<br>Supports external USB flash memory card boot up |
| **Memory** | Supports up to 2 modules DDR3-667/800 SO-DIMMs with 204 pins<br>Max. 2GB per module, total size max. 4 GB, Single channel architecture<br>Memory modules that are designed for higher frequencies can also be used.<br>The installed modules then run at an actual frequency of 800 MHz. |
| **Hard disk drives** | Supports one Serial ATA hard disk<br>or SATA SSD drive in 6.35cm/2.5" format |

| Chip name | Module name | Memory clock | I/O clock | Effective clock |
|---|---|---|---|---|
| DDR3-667 | PC3-5300 | 83 MHz | 333 MHz | 667 MHz |
| DDR3-800 | PC3-6400 | 100 MHz | 400 MHz | 800 MHz |
| DDR3-1066 | PC3-8500 | 133 MHz | 533 MHz | 1066 MHz |
| DDR3-1333 | PC3-10667 | 166 MHz | 667 MHz | 1333 MHz |
| DDR3-1600 | PC3-12800 | 200 MHz | 800 MHz | 1600 MHz |

| | |
|---|---|
| **Card reader** | Integrated card reader supports SD, SDHC and SDXC memory flash cards |
| **Webcam** | Integrated Webcam module<br>Max. Resolution: 2.0 Megapixel (1600x1200 UXGA) |
| **Audio Microphone Speakers** | IDT92HD81 Audio Codec with Azalia support, two analog audio connectors (3.5mm):<br>1) Line out (head phone)<br>2) microphone input<br>Front panel with integrated Electret Condenser Microphone and 2x 2W speakers |
| **Integrated graphics** | The Graphics Processing Unit (GPU) is integrated into the processor<br>Intel GMA 3150, 400MHz render clock frequency<br>Intel Dynamic Vidieo Memory Technology 4.0 (DVMT 4.0)<br>Share system memory max. 256MB<br>Supports DirectX 9 and 2D/3D instruction set, Pixel Shader 2.0<br>MPEG2 hardware acceleration<br>Intel Clear Video / ProcAmp technology allows<br>user adjustment of hue, saturation, brightness and contrast<br>Two display ports:<br>- Digital LVDS channel supports up to 1366*768, 18bpp resolution<br>- Analog RGB supports up to 2048*1536, 60Hz resolution<br>- Supports Extended Desktop Mode and Clone Mode |
| **LAN** | Single-chip PCIe Ethernet combo Card Reader Host controller<br>Supports S3 Wake-on-LAN (WOL) feature<br>Controller model: JMicron JMC261 (100 Mbps) or Realtek RTL8411 (1000 Mbps) |
| **Wireless LAN (Wifi)** | Supports 802.11 b/g and draft-n<br>Mini PCIe x1 card |
| **Connectors** | VGA connector (D-Sub 15 pol., analog)<br>4x USB 2.0 (2x left side, 2x right side)<br>Netzwerk (RJ45)<br>Audio Line-out (head phone)<br>Microphone input<br>DC input for power supply<br>Optional: 2x serial ports (9 pins)<br>Optional: 1x parallel ports (25 pins) |
| **LED's and buttons** | Power button<br>Power LED (blue)<br>Hard disk LED (orange)<br>Wireless-LAN / Wifi LED (green) |
| **Power supply** | External 40W AC/DC power adapter (fanless)<br>Energy Star 5 compliant<br>AC Input: 100~240V AC, 50~60Hz<br>DC Output: 19V DC, max. 2.1A<br>Dimensions: 27 x 37 x 90 mm<br>DC Connector: 5.5/2.5mm (outer/inner diameter) |

| | |
|---|---|
| Certifi-cations | Safety certifications: TÜV, CB, BSMI<br>EMI certifications: CE, FCC, BSMI, R&TT<br>Other certifications: RoHS, Energy Star 5 |
| Environment | Operating temperature: 0~35°C, Humidity: 10~90% |
| Included Accessories | Quick Guide<br>Driver DVD with Shuttle Control AP Software<br>40W Power Adapter<br>Power cord |
| Optional Accessories | PCL68: provides additional ports - 2x RS232 (serial), 1x LPT (parallel) |
| Warranty | 24 months Bring-in Service |

## Product overview: Shuttle X50 Barebone Series

| Name | Intel Processor | Chipset | SO-DIMM Memory | Web-cam | Ser/Par-Port | LAN | UPC Barcode No |
|---|---|---|---|---|---|---|---|
| Barebone **X50** | Atom 330 1.6GHz TDP=8W | Intel 945GC Intel ICH7 22.2+3.3W | Max. 2x2GB DDR2-533/667 200 pin | 1.3MP | Not available | JMC261 | White: 811686007593<br>Black: 811686002925 |
| Barebone **X50V2** | Atom D510 1.66GHz TDP=15W | Intel NM10 TDP= 2.5W | Max. 2x2GB DDR2-667/800 200 pin | 1.3MP | Included in the package | JMC261 | White: 811686003076<br>Black: 811686003083 |
| | | | | | Built-in | JMC261 | White: 811686003113<br>Black: 811686003090 |
| Barebone **X50V2 Plus** | Atom D525 1.8GHz TDP=13W | Intel NM10 TDP= 2.5W | Max. 2x2GB DDR3-667/800 204 pin | 2.0MP | Optional (PCL68) | JMC261 | White: **811686003434**<br>Black: **811686003441** |
| | | | | | | RTL8411 | White: 811686004219<br>Black: 811686004356 |

## Shuttle X50V2 PLUS Barebone Installation Instructions



As a barebone, the device is delivered without memory and hard drive. Please note the following when installing or removing certain components. The device features two SO-DIMM slots for a maximum capacity of 2x 2GB DDR3-667/800 (or higher) memory and one 2.5 inch drive bay for one S-ATA hard disk.

**Please note and proceed as follows:**
**a)** Only authorized and skilled personnel must intervent
**b)** Improper handling might damage the device which is not covered by warranty
**c)** To avoid damage of electronical components by electrostatic discharge (ESD), ensure that the static electricity of your body is diverted permanently before you touch electronical components. Use an earthing wrist strap and an anti-static ground mat, if possible.

**(1)** As for tools, one 5mm hexagon screwdriver and one for cross-head screws is required.

**(2)** Disconnect the device from the mains and put it on a soft base with the display facing downward and fold the stand vertically upward. Next, carefully remove the cap with the Shuttle logo that is clicked into place by six hooks. The cap can be loosened using a plastic card.

**(3)** Loosen the four cross-head screws (or Phillips screws) to remove the stand. Remove the four cross-head screws that fix the case cover.



**(4)** The case cover is clicked into place by several hooks. At the bottom of the case is a notch that can be used to lever the case cover out of place by carefully using a screwdriver or plastic card. Be sure to apply only little force in order not to break the hooks.



**(5)** As the next step, remove the large electromagnetic shielding (EMI cover). This metal sheet is fixed by three cross-head screws.



**(6)** Another shielding is fixed by four screws. Only remove this part to install or exchange memory modules. Loosen the four screws of the drive cage and remove the latter.
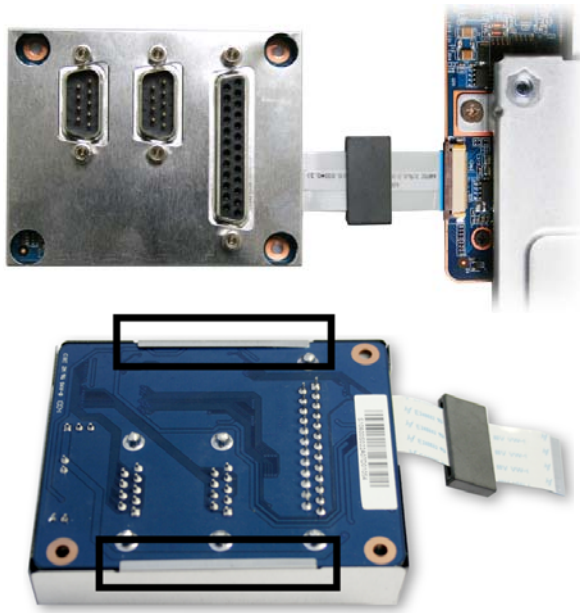
**(7)** Please insert a 2.5 inch S-ATA hard disk with the connectors facing towards the metal sheet into the drive cage. Please then fix the hard disk with four screws and carefully push it in afterwards to connect it. Please fix the drive cage with four screws.



**(8)** Now install the memory modules and make sure they are clicked into place properly. Please see the notch when installing the module to make sure it faces in the right direction.



**(9)** Optionally a COM/LPT adapter (PCL68) can be installed. This adapter is to be connected to the mainboard via a ribbon cable. The connectors of the ribbon cable have one securing clip each that needs to be pushed forward first. Having then connected the ribbon cable to the mainboard, the cable is to be fixed with the securing clip with the contacts of the cable facing towards the board. Please do not forget to lead the cable through the ferrite core.

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**(10)** Mount the electromagnetic shield of the COM/LPT adapter for which the hexagon screws need to be removed temporarily. Note: The electromagnetic shield must be attached to board so that the metal fixations of the shield clasp the board. Please connect the adapter with the mainboard afterwards. Make sure to have the cable and ferrite core aligned properly so that the electromagnetic shield is not damaged during further assembly.
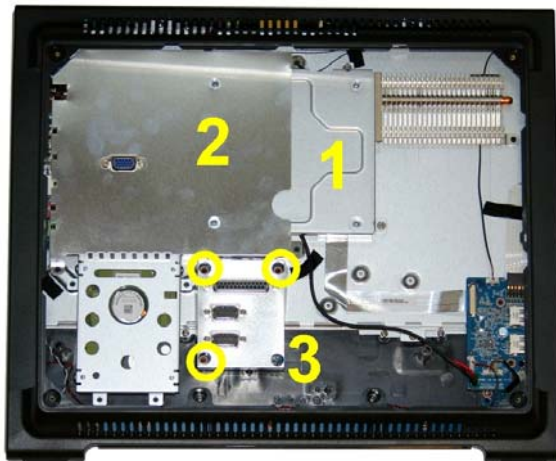


**(11)** Please re-mount the little (1) and the large (2) electromagnetic shield. Please affix the COM/LPT adapter (3) with three screws.



**(12)** Replace the existing type plate sticker by the sticker as delivered to provide openings for the COM/LPT ports. Please re-mount the case cover and the stand vice versa. Finally, click the cap with the Shuttle logo back into place and cover the four screw holes with the self-adhesive rubber coverings included in the delivery scope.