Stylish 1-litre PC - fanless and reliable

The *XS35V5 Pro* represents the fifth generation of Shuttle's successful XS35 range and is the first XS35 model to sport an aluminium chassis while maintaining the proven key advantages such as high connectivity and a fanless cooling. The soldered Intel Celeron Dual Core processor, codenamed "Braswell", is manufactured in 14nm architechture and very energy efficient. Still, it clocks up to 2.16 GHz and brings Intel's powerful HD Graphics (8th Gen) that supports hardware acceleration for full HD video encoding/decoding on up to three displays. With appropriate SSDs or hard drives installed, the *XS35V5 Pro* is suitable for continuous 24/7 operation and the Mini PC of choice for office and media applications.

Feature Highlights

Chassis	• Slim 1.5 litre chassis • Dimensions: 25.2 x 16.2 x 3.85 cm • Hole for the Kensington Lock • Optional: VESA75/100 mounting kit PV01
Operating System	• Without operating system • Compatible with Windows 7 / 8.1 / 10 (64-bit) and Linux (64-bit)
CPU	• Intel Celeron N3050, 14nm Braswell Dual Core, up to 2.16 GHz
Graphics	• Integrated Intel HD Graphics (8th Gen) • Supports Triple Display and 1080p Video
Memory	• 1x SO-DIMM socket (204-pin) • Max. size: 8 GB DDR3L-1600 (1.35V)
Storage	• Supports one 2.5" SATA hard disk or SSD • Supports one optical slimline drive (or otherwise a second 2.5" drive that occupies the ODD bay, to be used with the optional accessory PHD2N) • With SD card reader (SD/SDHC/SDXC)
Connectors and WLAN	• 3 video ports: HDMI, DisplayPort, D-Sub • 2x USB 3.0, 3x USB 2.0, internal: USB 2.0 • 2x Audio (mic, headphones) • Gigabit LAN (Intel i211), WLAN 802.11g/n
Power Supply	• External 40 W fanless power adapter • Energy saving: 8.4~19.6W under Windows
Applications	• Office, Home Media, Digital Signage

Images are for illustration purposes only.
The optical drive is not included.

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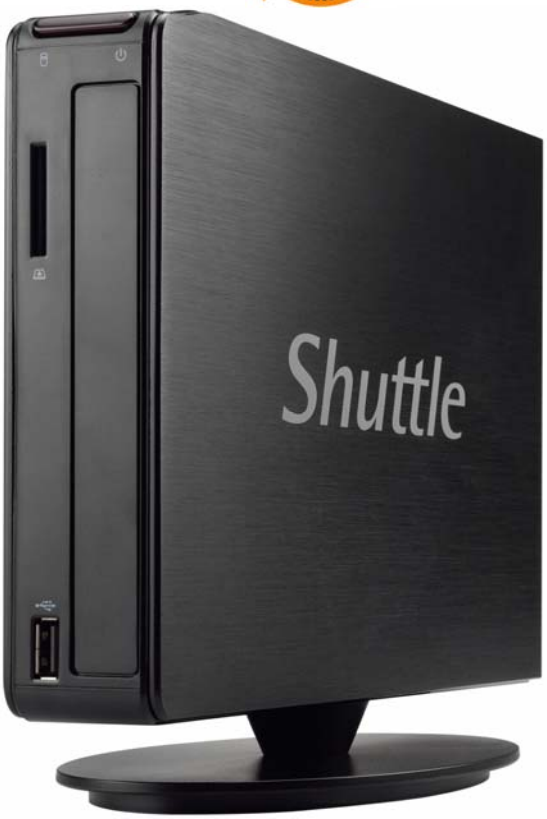
Shuttle XPC slim Barebone

XS35V5 Pro

Fanless

nonstop 24/7

intel LAN



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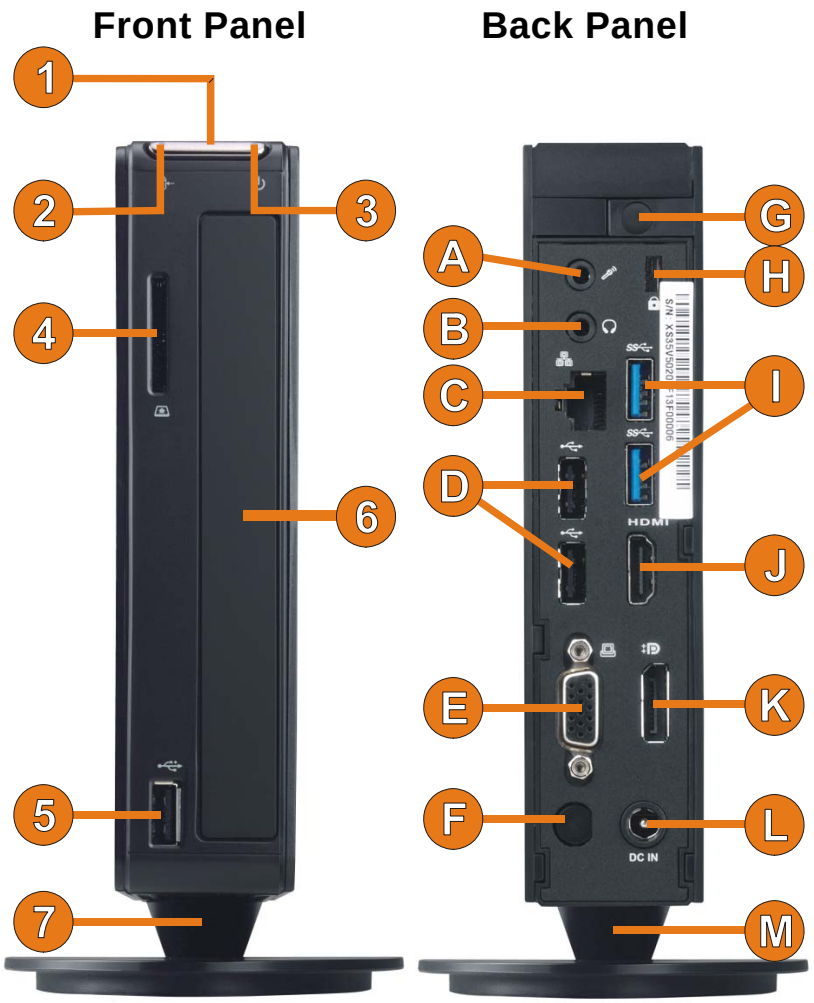
Shuttle XPC slim Barebone XS35V5 Pro – Connectors



1	Power button	**A**	Microphone input	**I**	2x USB 3.0 connector
2	Hard disk LED	**B**	Headphones output (Line out)	**J**	HDMI connector
3	Power LED	**C**	Gigabit LAN connector (RJ45)	**K**	DisplayPort connector
4	SD card reader	**D**	2x USB 2.0 connectors	**L**	DC input for the power adapter
5	USB 2.0 connector	**E**	D-Sub/VGA connector		
6	Bay for the optical slimline drive *)	**F**	Perforation for optional connector	**M**	Vertical stand
7	Vertical stand	**G**	One screw to open the chassis		
		H	Hole for the Kensington-Lock		

*) Note: The optical drive is not included.

Notice:
Please make sure the system is always operated in upright position using either its stand or the optional VESA mount. Ventilation holes must not be blocked to ensure sufficient cooling.

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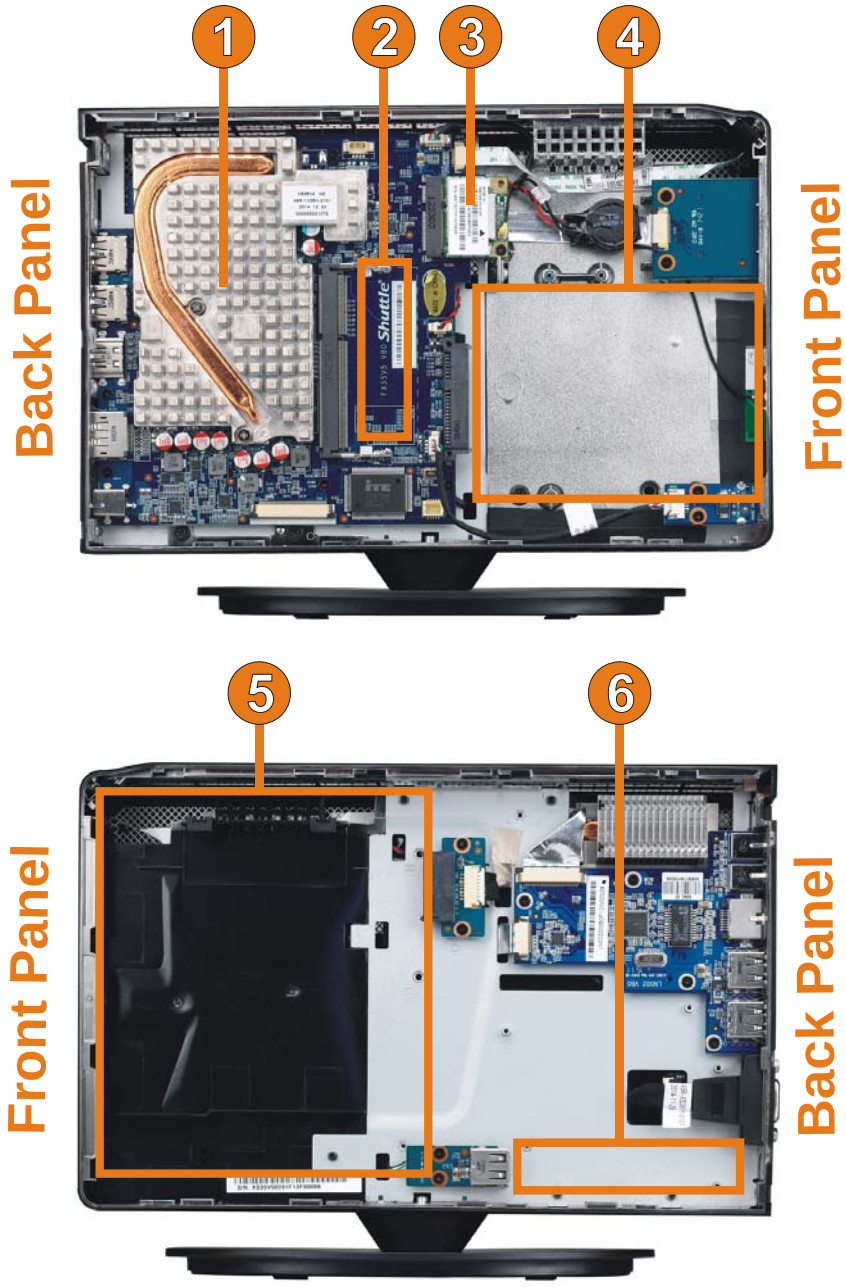
Shuttle XPC slim Barebone XS35V5 Pro – Side View



1 Heatpipe cooling system
2 SO-DIMM slot for one DDR3L module
3 Half-Size WLAN module
4 2.5” drive bay with SATA connector
5 5.25‘‘ slimline drive bay for an optical drive with SATA connector (also supports a second 2.5“ storage drive if the optional accessory PHD2N is used)
6 Slot for an internal USB stick

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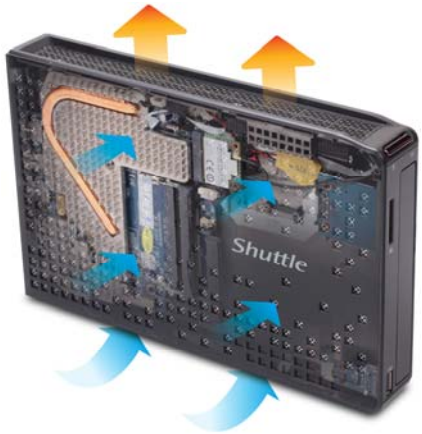
Shuttle XPC slim Barebone XS35V5 Pro - Product Features

Slim and stylish

Designed as a space-saver, this sleek 1.5 litre nettop PC only measures 3.8cm in width. It maximizes space whether it is placed upright using its stylish stand or affixed to the back of a monitor with the optional VESA mounting kit (PV01). Due to its small size and flexible design, this practical nettop offers exceptional functionality and is well-suited for home users, small offices, reception areas, classrooms, libraries, showrooms, call centres, public institutions and more.



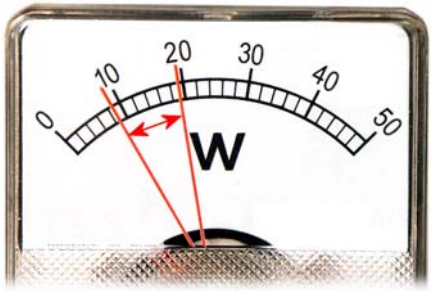
Fanless and quiet

The Shuttle XPC slim Barebone XS35V5 Pro uses a passive thermal module with heatpipes to transmit heat throughout the system quickly and evenly. 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 dust-free and virtually maintenance free.

24/7 nonstop operation

The Shuttle XPC slim Barebone XS35V5 Pro is officially approved for 24/7 permanent operation. Thanks to its low power consumption and completely passive cooling, this PC runs highly reliably making it perfectly suitable for digital signage and POI/POS applications.

<u>Conditions for permanent use:</u>
- Ambient temperature while under load: 5-35°C
- Air humidity while under load: 10-90% (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 (max. one hard disk)



Highly energy-saving

The Shuttle XPC slim Barebone XS35V5 Pro barely consumes, depending on system load, about 8.4~19.6 Watt. Running the device*) 5 days a week for eight hours a day, the annual consumption would amount to approx. 18~41 kWh which would mean just 4.5~10.2 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, 64 GB SSD and Windows 8.1 64-bit.

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What does "Barebone" mean?

Shuttle's barebones line such as the Shuttle XPC slim Barebone XS35V5 Pro is targeted at experienced users seeking to build a complete system to meet their individual requirements. The bulk of components is yet built in, simply the following hardware is to be installed upon purchase which is in this case:

- One 6.35 cm/2.5" Serial ATA hard disk or Solid State Disk (SSD)
- One DDR3L SO-DIMM memory module (204pin), max. 8 GB
- USB keyboard and USB mouse
- Optional: DVD or Blu-ray drive in slimline format
- Operating system: Windows 7 / 8.1 / 10 (64-bit) or Linux (64-bit)

Optional VESA mount (Accessory PV01)

Its optional VESA75/100 mount allows it to be installed on to walls or just affixed on the rear side of a monitor which is particularly interesting for the industry segment, company buildings and public institutions.

Celeron N3050 – energy efficient Dual Core CPU

The Shuttle XPC slim Barebone XS35V5 Pro is equipped with Intel's Celeron N3050 processor which is a power-efficient System-on-a-Chip (SoC) from the Braswell family. Thanks to the optimized 14 nanometer process, four x86-64 CPU cores and a clock speed of 1.60 to 2.16 GHz (Burst), energy efficiency and performance per clock have been significantly improved compared to its predecessors.

Supports Blu-ray playback

The integrated graphics chip is based on the Intel HD Graphics (8th Gen) architecture which supports DirectX 11.2 and features twelve execution units. It offers generous performance for most home, office and digital signage applications. It features a wide variety of multimedia features such as H.264 hardware decoding, support for 1080p full HD video, Blu-ray playback and 8-channel HD audio through HDMI and DisplayPort (DP).

Triple monitor support with HDMI, DisplayPort and VGA

The 8th generation of „Intel HD Graphics" supports DirectX 11.2 and features 12 execution units for 3D. It supports multiple displays connected through HDMI (DVI through optional adapter), DisplayPort (DP) and D-Sub/VGA. This improves user capability and productivity by allowing for spreading multiple windows across three monitors and view them simultaneously.

Two USB 3.0 SuperSpeed connectors

The Shuttle XPC slim Barebone XS35V5 Pro has two built-in USB 3.0 ports at the rear panel. USB 3.0 "SuperSpeed" provides a significant performance increase over previous USB generations making it the ideal interface solution for demanding, external peripherals. USB 3.0 supports up to 5Gb/s full duplex which means up to 10 times greater performance over USB 2.0. It is also backward compatible with USB 2.0.

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SD card reader

The built-in SD card reader at the front makes it easy to transfer files from your camera so you can share videos and photos on your Shuttle XPC slim Barebone XS35V5 Pro with ease.

Internal USB connector

The Shuttle XPC slim Barebone XS35V5 Pro features an internal USB 2.0 Type-A connector supporting a variety of USB sticks such as flash memory, 3G function, DVB-T TV tuner and others.
The chassis also provides a perforation (9mm hole) for an external antenna or additional connector.
In the picture you can see a conventional USB stick as an internal boot device.

Kensington Lock

This is a small, metal-reinforced hole as part of an anti-theft system. As known from notebooks, this Slim PC can also be safely locked by tieing it to a solid object.
(Lock-and-cable not included.)

Optional second disk (Accessory PHD2N)

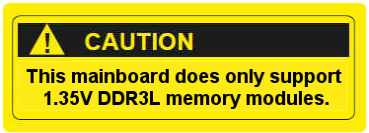
The optional accessory PHD2N makes for support of a second 2.5" hard disk or SSD. Please note that the bay for the optical drive will be occupied then and cannot be used.

Tiny power adapter

The external fanless 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

Watchdog – protecting system security

The built-in Watchdog Timer provides excellent security protection for systems that need to operate continuously for a long period of time. Use Shuttle's Watch Dog utility to maintain normal operation and stability of the system at all times. If, due to a hardware failure or program error, this utility fails to restart the watchdog, the timer will elapse and generate a hardware reset and reboot the system.



Supports Energy-Efficient DDR3L memory only

Please note that this PC does only support 1.35V DDR3L memory modules. DDR3L has a lower operation voltage compared to DDR3 and draws less power without compromising on performance or reliability.

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Shuttle XPC slim Barebone XS35V5 Pro Specifications

Fanless and silent	Completely fanless, virtually noiseless Passive cooling through convective heat transfer Perfect to be used in noise-sensitive environments Fanless means less dust and thus virtually no maintenance required
Energy Efficient	Power consumption: ca. 8.4 W (idle mode) and ca. 19.6 W (full load) (Configuration: 4 GB RAM, 64 GB SSD and Windows 8.1)
Operation Position	Please make sure the system is always operated in upright position using either its stand or the optional VESA mount. Ventilation holes must not be blocked to ensure sufficient cooling.
Chassis	Dimensions without stand: 25.2 x 16.2 x 3.85 cm (DxHxW) = 1.57 L Hole for Kensington Lock at the back panel Optional accessory: 75mm and 100mm VESA mounting kit (PV01)
Operation System	This system comes without operating system. It is compatible with Windows 7 / 8.1 / 10 (64-bit) und Linux (64-bit) **[3]** Caution: Windows 8 is not supported
Processor	Intel Celeron N3050, Dual Core CPU clock frequency: 1.6 GHz, max. Turbo frequency: 2.16 GHz Braswell platform, Airmont architecture, 14 nm structure CPU cores / Threads: 2 / 2 Cache: 2 MB Thermal Design Power (TDP): 6 W Scenario Design Power (SDP): 4 W Supports AES-NI and VT-x SOC design with integrated graphics processor, no chipset required
Integrated Graphics	Integrated Graphics The Graphics Processing Unit (GPU) is integrated into the processor Intel HD Graphics (8th Gen), graphics frequency: 320~600 MHz Supports DirectX 11.2, OpenGL, Quick Sync Execution Units (EU): 12 Three video outputs: - HDMI 1.4b: max. 1920 x 1200 resolution @ 60Hz - Display Port 1.1a: max. 2560 x 1600 resolution @ 60Hz **[2]** - D-Sub (VGA): max. 1920 x 1200 resolution @ 60Hz Triple display: supports max. three independent displays simultaneously
UEFI Firmware	8Mbit Flash ROM with AMI's Aptio UEFI BIOS Firmware Based on the Unified Extensible Firmware Interface (UEFI) [1] Supports Power fail resume / AC power on state / always on / always off Supports Wake-on-LAN (WOL) from S3, S3, S5 ACPI states Supports boot up from external flash memory cards

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Memory	1x SO-DIMM slot with 204 pins Supports one module DDR3L-1333 (PC3-10600) at 1.35V Maximum capacity: 8 GB DDR3L-1600 is supported at DDR3L-1333 clock rate Caution: This mainboard does only support 1.35V DDR3L memory modules. DDR3L has a lower operation voltage compared to DDR3
Optical Drive (opt.)	Supports one optical DVD or Blu-ray slimline drive Serial ATA interface, 12.7 mm height, slimline SATA connector
2.5" Bay	Supports one Serial ATA hard disk (5400 / 7200 rpm) or one SATA SSD drive in 6.35cm/2.5" format Serial ATA III Interface with up to 600 MB/s transfer speed Supports a drive with a max. height of 9.5 mm Supports Unified Extensible Firmware Interface (UEFI)
Integrated Audio	Realtek ALC269 Audio Codec with Azalia and D3 mode support Two analog audio connectors (3.5mm): 1) Line out (head phone) 2) Microphone input
Card Reader	Integrated card reader supports standard SD, SDHC and SDXC memory flash cards
Wired Network	RJ45 connector supports Gigabit LAN at 10/100/1000 Mbit/sec. Intel i211 Ethernet Controller with MAC, PHY and PCIe interface Supports Wake-on-LAN
Wireless Network	Half-size Mini PCIe WLAN card WLAN chip: Realtek RTL8188EE Supports IEEE 802.11b/g/n, max. 150Mbps up-/downstream (1T1R)
LEDs and Buttons	Power button Power LED (blue)
Front Panel Connectors	1x USB 2.0 SD card reader
Back Panel Connectors	HDMI 1.4b digital video and audio output DisplayPort 1.1a digital video and audio output D-Sub/ VGA analog video output (15-pin) 2x USB 3.0 2x USB 2.0 Gigabit network (LAN, RJ45) Audio Line-out (headphones) Microphone input DC input for the external power adapter Perforation for TV antenna (diameter: 9 mm)

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Internal USB Connector	Internal USB 2.0 Type-A connector for USB dongle (for e.g. memory stick, 3G stick, DVB-T stick, etc.) Boot function supported
Power Supply	External 40W AC/DC power adapter (fanless) AC Input: 100~240V AC, 50~60 Hz DC Output: 19V DC / 2.1 A Automatic voltage adjust Dimensions: 89.5 x 37 x 26.5 mm (LWH) DC Connector: 5.5/2.5mm (outer/inner diameter)
Optional Accessories	1) VESA mount made of metal (PV01) 2) Adapter for second 2.5" drive instead of optical drive (PHD2N)
24/7 Nonstop Operation	This device is approved for 24/7 permanent operation. Requirements: - Free air circulation around the PC must be guaranteed. - Ventilation holes must be kept clear. - Any installed hard disk must also be approved for permanent operation by its manufacturer (max. one hard disk)
Environ-mental spec.	Operating temperature range: 0~35°C Relative humidity range: 10~90% (non-condensing)
Certification and Compliance	EMI: CE, FCC, BSMI, C-Tick Safety: CB, BSMI, ETL Other compliances: RoHS, Eup Lot6 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

[1] UEFI-Firmware (versus BIOS)
Just as with many modern PCs, the XS35V5 Pro does away completely with a BIOS, but uses a pure UEFI firmware instead. The terms UEFI firmware and BIOS are widely used synonymously, but hardware initialising is now performed by the UEFI. Users might not even notice, but the operating system must be installed and executed in UEFI mode. UEFI creates a GUID Partition Table (GPT) on the system partition instead of a Master Boot Record (MBR). A PC running pure UEFI firmware alone, must have a 64-bit operating system installed.

[2] 4K resolution
Playback of videos in 4K resolution (3840x2160) at 30Hz is technically possible through both HDMI and DisplayPort. However Shuttle does not recommend it, as the refresh rate appears to be too low for cursor moves and the processor performance is considered to be not sufficient for fluent playback of 4K content.

[3] Selection of the Operation Systrem
Prior to the installation of the operation system, please enter BIOS (press "Delete" key while booting), switch to "Boot" menu and then change the setting "OS Select" according to the operation system used.

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Shuttle XPC slim Barebone XS35/XS36 Series – A History

XS35 Series

Supports Slimline-DVD drive

XS36 Series

Supports two serial ports

Model	Graphics	Graphics output	USB 3.0	COM	WOL [3]	ODD [4]	Processor	Memory	LAN
XS35	Intel GMA3150	D-Sub	-	-	-	Yes	**Atom D510** 1.66 GHz 45nm Pineview	**Max. 2 GB** DDR2-800 1x SO-DIMM	100
XS35GT	NVIDIA ION2	D-Sub, HDMI	-	-	-	Yes			
XS35V2	Intel GMA3150	D-Sub	-	-	-	Yes	**Atom D525** 1.80 GHz 45nm Pineview	**Max. 4 GB** DDR3-800 1x SO-DIMM	Giga
XS35GT V2	NVIDIA ION2	D-Sub, HDMI	-	-	-	Yes			
XS35GTA V2	ATI Mobility Rad. HD 5430	D-Sub, HDMI	-	-	-	Yes			
XS35GS V2	ATI Radeon HD 7410M	D-Sub, HDMI	-	-	-	Yes			
XS35V3(L)	Intel GMA3650 [2]	D-Sub, HDMI	-	-	Yes	Yes	**Atom D2700** 2.13 GHz 32nm Cedarview	**Max. 4 GB** DDR3-1066 2x SO-DIMM	Giga
XS35GTA V3 XS35GS V3 [1]	ATI Radeon HD 7410M	D-Sub, HDMI	-	-	Yes	Yes			
XS36V	Intel GMA3650 [2]	D-Sub, HDMI, DVI	-	**2x**	Yes	-			
XS35GS V3L	ATI Radeon HD 7410M/7450[6]	D-Sub, HDMI	-	-	Yes	Yes	**Atom D2550** 1.86 GHz [5] 32nm Cedarview		
XS36VL	Intel GMA3650 [2]	D-Sub, HDMI, DVI	-	**2x**	Yes	-			
XS35V4	Intel HD Graphics (7th Gen) [8]	D-Sub, HDMI, DisplayPort	**1x**	-	Yes	Yes	**Celeron J1900** 2.00~2.42 GHz) 22nm Bay Trail	**Max. 8 GB** DDR3L-1333 1x SO-DIMM	Giga
XS36V4			**1x**	**2x** [7]	Yes	-			
XS35V5 Pro	Intel HD Graphics (8th Gen) [8]	D-Sub, HDMI, DisplayPort	**2x**	-	Yes	Yes	**Celeron N3050** 1.6~2.16 GHz 14nm Braswell	**Max. 8 GB** DDR3L-1600 1x SO-DIMM	Giga
XS36V5			**2x**	**2x** [7]	Yes	-			

[1] **XS35GTA V3** is called **XS35GS V3** outside EU.
[2] Intel offers sophisticated graphics drivers for the integrated Intel GMA3650 graphics for Windows 7 32-bit only.
[3] Supports Wake-on-LAN (WOL), Power fail resume (always on/off) and Resume by RTC Alarm
[4] "ODD" means a 5.25" bay for an optical drive in slimline format
[5] In 2012, Intel phased out the Atom D2700 processor and introduced the D2550 as its successor.
[6] XS35GS V3L: In the beginning of 2014, the GPU was updated from HD 7410M to HD 7450.
[7] XS36V4/V5 provides two serial RS232 ports which both support 0V/5V/12V. The upper port is switchable to RS422 / RS485.
[8] Supports Windows 7 / 8.1 / 10 and Linux – 64-bit only

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