Robust Slim PC with LGA1151 processor for various professional applications

The Shuttle XPC slim D1150EP is a robust 1.3l PC equipped with a powerful Intel Pentium processor ("Kaby Lake"), 32 GB SSD, 4 GB DDR4 memory and Windows operating system. It allows for two digital displays to be operated at the same time. Its slim metal chassis provides versatile connectivity and reliable operation in environments with ambient temperatures of up to 50 °C. It can be easily upgraded with another 2.5" storage drive. This Slim-PC is targeted at professional applications such as Digital Signage, POS, POI, gambling machines, office, healthcare and industry.

XPC slim PC System D1150EP













Feature Highlights

Slim Design	• Slim 1.3 litre metal chassis, black • 190 x 165 x 43 mm (LWH) • Operating temperature: 0~50 °C
Operating System	• Windows 10 Pro – 64 Bit
Processor	• Intel® Pentium® Processor G4560 3.5 GHz, 3MB Cache, 54W TDP, 14 nm LGA 1151, code name: Kaby Lake • Heatpipe cooling system with two fans
Chipset	• Intel H110 Chipset
Memory	• 4 GB DDR4-2133 (1.2V) 260-pin SO-DIMM • 32 GB SSD als M.2-Karte • Empty 2.5” bay for SATA hard disk or SSD
Graphics	• Intel HD graphics 610, 4K support • HDMI, DisplayPort • Supports two independent displays
Other Connectors	• SD card reader, 2x audio (line out, mic) • 2x USB 3.0, 4x USB 2.0 • Gigabit LAN (RJ45), supports WOL • Connector for external power button • “Always on” Jumper, DC-input 19 V • Optional Accessories: WLAN (WLN-M), Vertical stand (PS02), VESA mount (PV04)
Power Supply	• External 90 W / 19 V fanless power adapter



Images for illustration only.

© 2017 by Shuttle Computer Handels GmbH (Germany). All information subject to change without notice. Pictures for illustration purposes only.

Shuttle Computer Handels GmbH
Fritz-Strassmann-Str. 5
25337 Elmshorn | Germany

Tel. +49 (0) 4121-47 68 60
Fax +49 (0) 4121-47 69 00
sales@shuttle.eu

4 046047 103188

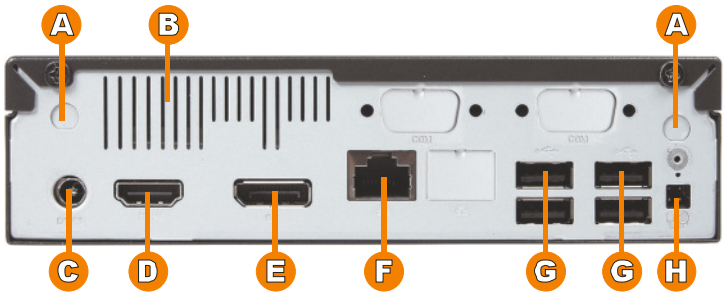
Shuttle XPC slim PC-System D1150EP – Front and Back Panel

Front view



1 Microphone input
2 Headphone output
3 Power LED
4 Hard disk LED
5 Power Button
6 SD Card Reader
7 2x USB 3.0
8 2x USB 2.0

Rear view



A 2x WLAN perforation
B Ventilation grille
C DC power input
D HDMI video output
E DisplayPort (DP) video outputs
F RJ45 Gigabit LAN
G 4x USB 2.0
H Connector for external power button, Clear CMOS and 5V DC voltage (4-pin, 2.54 mm pitch)
I 2x hole for Kensington Lock

Right side



Left side



Product Comparison

	DH110SE	D1150XA	D1150EP
Type	**Barebone**	**System without OS**	**System with Windows**
Shuttle XPC	DH110SE	DH110SE	DH110SE
Processor	---	Pentium G4560	Pentium G4560
SSD (M.2 card)	---	128 GB SSD	32 GB SSD
Memory	---	4 GB DDR4-2133	4 GB DDR4-2133
Operation System	---	---	Windows 10 Pro
Bar code	887993000916	4046047103218	4046047103188

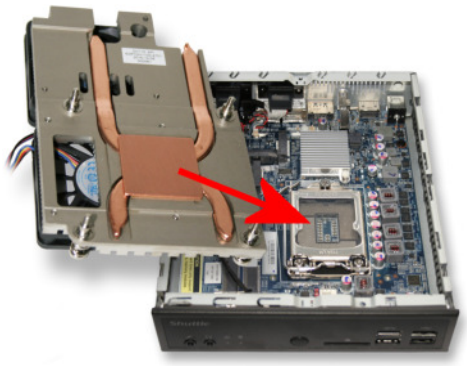
© 2017 by Shuttle Computer Handels GmbH (Germany). All information subject to change without notice. Pictures for illustration purposes only.

Shuttle Computer Handels GmbH
Fritz-Strassmann-Str. 5
25337 Elmshorn | Germany
Tel. +49 (0) 4121-47 68 60
Fax +49 (0) 4121-47 69 00
sales@shuttle.eu

Shuttle XPC slim PC-System D1150EP – Product Features



Robust, stylish and particularly small
You should have held it in your own hands to see how small it actually is. Barely measuring a volume of 1.35 litre, its steel chassis gives it the appropriate stability required for professional applications in digital signage. Despite its dimensions of 19 x 16.5 x 4.3 cm (LWH), the overall system performance is very high thanks to support of Intel Core desktop processors of the Skylake generation. The interior of the D1150EP is very tidy too so that it won't take long to set it up. Its sleek and stylish looks let it easily find a place in both home and office environments.



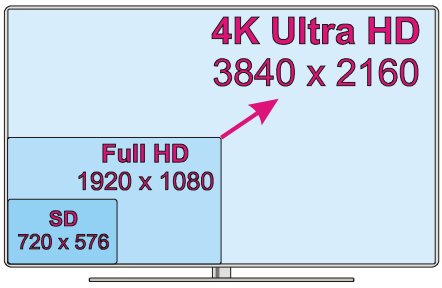
Low noise thanks to heatpipe cooling system
An active dual-fan heatpipe cooling system ensures whisper-quiet operation and system stability.



Extended temperature range and reliability
The D1150EP is outstandingly robust thanks to its rugged chassis. With an ambient temperature range from 0-50 °C it is suitable for use in the most demanding environments. Solely designed with all solid capacitors, the D1150EP is guaranteed to deliver maximum stability, reliability and longer system lifetime for long-term applications like digital signage.
Caution: For high ambient temperatures over 40 °C we strongly recommend to use SSDs (supporting at least 70 °C) and rugged SO-DIMM memory with a wider temperature tolerance (up to 95 °C).



Dual Display with HDMI and DisplayPort
The D1150EP features two digital video outputs: HDMI and DisplayPort (DP). Dual View technology offers multiple display support on up to two separate monitors. This helps improve on productivity by allowing for spreading multiple windows across two monitors while working with them simultaneously.



Supports 4K Ultra HD at 60 Hz
The D1150EP supports displays running at 4K (3840 x 2160 / 2160p) high resolution at 60 Hz frames per second when connected to its DisplayPort video outputs. Being the successor to the Full HD standard, Ultra HD delivers a four times higher resolution with a wider colour space and colour depth.

© 2017 by Shuttle Computer Handels GmbH (Germany). All information subject to change without notice. Pictures for illustration purposes only.

Shuttle Computer Handels GmbH
Fritz-Strassmann-Str. 5
25337 Elmshorn | Germany
Tel. +49 (0) 4121-47 68 60
Fax +49 (0) 4121-47 69 00
sales@shuttle.eu



Kensington Lock
This is a small, metal-reinforced hole as part of an anti-theft system. The D1150EP provides an appropriate hole on both side of its chassis. The lock and cable are not included.



External power button by separate remote line
If because of space constraints (e.g. in case of a fixed installation), the machine cannot be switched on by pressing the front power button, it can be powered on by a separate remote line. You will find an appropriate four-pin connector at the back panel of the D1150EP (pitch 2.54 mm). Furthermore, this connector provides a Clear CMOS function and +5V DC voltage supply for external devices.

+5V voltage (2) (4) Power Button
Clear CMOS (1) (3) Ground

- Front Panel -

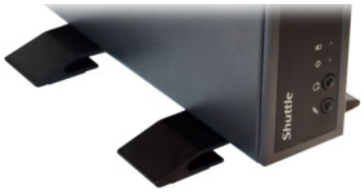


Power on after Power fail
The BIOS setup provides a "Power-On after Power Fail" function that can be found under "Power Management Configuration". As the name indicates, this function determines the PC's behaviour after power failure: (1) unconditional power on, (2) restore former status (3) keep system turned off (4) Power-On by LAN or (5) Power-On by Real-Time-Clock. As a matter of the nature of this function, it may fail after short power failures. This is why the D1150EP also comes with a hardware-based solution. By removing Jumper JP2 (see image) the system will start unconditionally once power is applied.

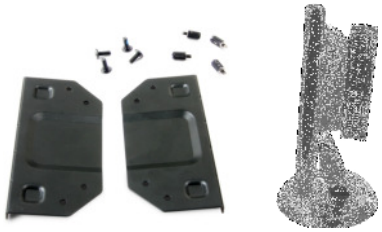
Optional Accessories



Optional WLAN Kit (WLN-M)
Shuttle bietet das optionale Zubehör „WLN-M“, welches diesen PC mit WLAN 802.11ac- und Bluetooth-4.0-Funktionalität und zwei externen Antennen ergänzt.
Shuttle offers the optional accessory „WLN-M“, which provides WLAN 802.11ac and Bluetooth 4.0 functionality with two external antennas.



Optional Stand (PS02)
With the optional accessory „PS02“ the PC can also be placed in vertical position.



Optional VESA Mounting Kit (PV04)
The optional „PV04“ VESA75/100 wallmount allows this PCs 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.

© 2017 by Shuttle Computer Handels GmbH (Germany). All information subject to change without notice. Pictures for illustration purposes only.

Shuttle Computer Handels GmbH
Fritz-Strassmann-Str. 5
25337 Elmshorn | Germany
Tel. +49 (0) 4121-47 68 60
Fax +49 (0) 4121-47 69 00
sales@shuttle.eu

Shuttle XPC slim PC-System D1150EP - Specifications

Chassis	Nettop PC with black chassis made of steel Dimensions: 190 x 165 x 43 mm (LWH) = 1.35-litre Weight: 1.3 kg net and 2.1 kg gross Two holes for Kensington Locks and numerous threaded holes (M3) at both sides of the chassis
Storage Bay	1x 6.35 cm / 2.5" storage bay supports one hard disk or SSD drive Device height: 12.5 mm (max.)
Operation System	Windows 10 Pro - 64 Bit
Mainboard *Chipset* *BIOS*	Chipset: Intel® H110 Chipset (Intel® DH82H110 PCH, code name "Sunrise Point") Platform Controller Hub (PCH) as Single-Chip-Solution AMI BIOS in 8 Mbit EEPROM with SPI interface All capacitors are high quality solid capacitors Supports hardware monitoring and watch dog functionality Supports Unified Extensible Firmware Interface (UEFI) Supports power on after power failure [3]
Power Adapter	External 90 W power adapter (fanless) Input: 100~240 V AC, 50/60 Hz, Output: 19 V DC, 4.74 A, max. 90 W DC Connector: 5.5 / 2.5 mm (outer / inner diameter)
Processor	Intel® Pentium® Processor G4560 7th generation Intel Core Prozessor, code name "Kaby Lake" Dual Core with Hyper-Threading Technology (4 Threads) Clock frequency: 3.5 GHz Socket LGA 1151 (H4) Processor power consuption (TDP) = max. 54W Manufacturing process: 14 nm technology L3 cache: 3 MB Supports SSE4.1/4.2, VT-x with EPT, VT-d, Intel 64 The processor integrates PCI-Express, memory controller and the graphics engine on the same die.
Processor Cooling	Heatpipe processor cooling with two 60 mm fans on the upper side of the chassis
Memory	4 GB DDR4-2133 (PC4-17000) SDRAM memory at 1.2 V 260-pin SO-DIMM Supports Dual Channel mode Supports max. 2x 16 GB, maximum total size of 32 GB Supports two unbuffered DIMM modules (no ECC)

© 2017 by Shuttle Computer Handels GmbH (Germany). All information subject to change without notice. Pictures for illustration purposes only.

Shuttle Computer Handels GmbH
Fritz-Strassmann-Str. 5
25337 Elmshorn | Germany
Tel. +49 (0) 4121-47 68 60
Fax +49 (0) 4121-47 69 00
sales@shuttle.eu

Integrated Graphics	Intel® HD Graphics 610 Two digital video outputs: DisplayPort 1.2 and HDMI 1.4 - supports two independent Full HD displays simultaneously [3] - supports Full HD resolution at 1920 x 1200 (1080p / 60 Hz) - supports 4K UHD resolution at 3840 x 2160 (max. 2160p / 60 Hz on DP or max. 30 Hz on HDMI) [4] - supports Blu-ray (BD) playback with HDCP - supports HD video plus multi-channel digital audio via a single cable.
SSD-Speicher	32 GB SSD module as M.2 card with SATA interface
M.2 2230 AE Slot	The M.2 2230 AE slot provides the following interfaces: - PCI-Express v2.0 X1 - USB 2.0 It supports M.2 cards with a width of 22 mm and a length of 30 mm. This slot is intended for Wireless LAN (Wifi), Bluetooth, GSM/UMTS cards and others. A SATA interface for SSD cards is not available here.
Audio	Audio Realtek® ALC 662 5.1 channel High-Definition Audio Two analog audio connectors (3.5 mm) at the front panel: 1) 2-channel line out (headphones) 2) microphone input Digital multi-channel audio output: by HDMI and DisplayPort
Gigabit LAN Controller	Realtek 8111G Ethernet network controller (Gigabit) Supports 10 / 100 / 1.000 MBit/s operation Supports WAKE ON LAN (WOL) Supports network boot by Preboot eXecution Environment (PXE)
Drive Connectors	1x Serial-ATA III, 6 Gb/s (600 MB/s) bandwidth With Serial-ATA power connector (onboard)
Card Reader	Integrated card reader supports SD, SDHC and SDXC memory flash cards Supports boot up from SD card
Front Panel Connectors	Microphone input Audio Line-out (headphones) 2x USB 3.0 2x USB 2.0 SD card reader Power button Power LED (blue) HDD LED (yellow)

© 2017 by Shuttle Computer Handels GmbH (Germany). All information subject to change without notice. Pictures for illustration purposes only.

Shuttle Computer Handels GmbH
Fritz-Strassmann-Str. 5
25337 Elmshorn | Germany
Tel. +49 (0) 4121-47 68 60
Fax +49 (0) 4121-47 69 00
sales@shuttle.eu

Back Panel Connectors	1x HDMI connector [1] 1x DisplayPort connector (DP) [2] 4x USB 2.0 1x Gigabit LAN (RJ45) DC-input connector for external power adapter 4-pin connector (2.54 mm pitch) supports - external power on button - Clear CMOS function - +5V DC voltage for external components 2x Perforation for optional Wireless LAN antennas 2x hole for Kensington Locks
Other Onboard Connectors	1x jumper for power on after power fail (hardware solution) [3] 1x fan connector (4-pin) occupied by the cooling system 1x connector for CMOS battery (occupied)
Supplied Accessories	Multi-language user guide (EN, DE, FR, ES, JP, KR, SC, TC) Four screws M3 x 4 mm (to mount a 2.5" storage device into the bay) Driver DVD (Windows 64-bit) Serial ATA cable for 2.5" drive including power cable External 90 W power adapter with power cord
Optional Accessory	**WLN-M.** WLAN module in M.2-2230 format supports IEEE 802.11ac and Bluetooth 4.0 **PS02:** Stand for vertical operation **PV04:** VESA mounting kit
Environmental Specifications	Ambient temperature range: 0~50 °C [5] Relative humidity, non-condensing: 10~90%
Conformity Certifications	EMI: FCC, CE, BSMI, C-Tick Safety: ETL, CB, BSMI Other: RoHS, Energy Star 5.0, ErP 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) 2004/108/EC relating to electromagnetic compatibility (EMC), (2) 2006/95/EC relating to Electrical Equipment designed for use within certain voltage limits (LVD), (3) 2009/125/EC relating to ecodesign requirements for energy-related products (ErP)

© 2017 by Shuttle Computer Handels GmbH (Germany). All information subject to change without notice. Pictures for illustration purposes only.

www.shuttle.eu

Shuttle Computer Handels GmbH
Fritz-Strassmann-Str. 5
25337 Elmshorn | Germany

Tel. +49 (0) 4121-47 68 60
Fax +49 (0) 4121-47 69 00
sales@shuttle.eu

Footnotes:

[1] HDMI output supports DVI-D with optional adapter

[2] How to convert DisplayPort into HDMI/DVI

The DisplayPort outputs can be converted to HDMI or DVI by an additional, passive adapter cable. For example:
DELOCK 82590: 1 m, DisplayPort (male, 20p) to HDMI-A (male, 19p)
DELOCK 82435: 5 m, DisplayPort (male, 20p) to DVI-D (male, 24p)
The integrated graphics automatically detects the connected display and puts out the appropriate electric signal - either through DisplayPort (without an adapter) or HDMI/DVI (with an adapter). However, a monitor with a DisplayPort connector cannot be connected to the HDMI port with a simple, passive adapter.

[3] Power on after power fail - The BIOS setup provides a "Power-On after Power Fail" function that can be found under "Power Management Configuration". As the name indicates, this function determines the PC's behaviour after power failure: (1) unconditional power on, (2) restore former status or (3) keep system turned off. As a matter of the nature of this function, it may fail after short power failures. This is why the D1150EP also comes with a hardware-based solution. By removing Jumper JP2 (on the mainboard behind the power button) the system will start unconditionally once power is supplied.

[4] 4K Ultra-HD resolution - A 4K-display with Ultra-HD resolution (3840 x 2160) should only be connected via DisplayPort, as only this port supports a higher refresh rate of 60 Hz. Certain displays (e.g. Dell UP2414Q) however require MST mode (Multi-Stream Transport) to be enabled which sends two separate images at half resolution each to the display. These two images are then combined and put in correct order by the Intel graphics driver when in Collage mode. Please note that HBR2-mode (High Bit Rate 2) must be supported by each display to have more than one of them run at 4K resolution.

[5] Note– on operating temperature - For high ambient temperatures over 40 °C we strongly recommend to use SSDs (supporting at least 70 °C) and rugged SO-DIMM memory modules with a temperature range of up to 95 °C.

© 2017 by Shuttle Computer Handels GmbH (Germany). All information subject to change without notice. Pictures for illustration purposes only.

www.shuttle.eu

Shuttle Computer Handels GmbH
Fritz-Strassmann-Str. 5
25337 Elmshorn | Germany

Tel. +49 (0) 4121-47 68 60
Fax +49 (0) 4121-47 69 00
sales@shuttle.eu