

DH32UE

SLIM PC



PROCESSOR	Intel Pentium Gold 7505 15W CPU Intel Core i3-1115G4 28W CPU (DH32U3)	Intel Core i5-1135G7 28W CPU (DH32U5) Intel Core i7-1165G7 28W CPU (DH32U7)
MEMORY	2 x 260 pin DDR4 3200 MHz SODIMM slots, Supports dual channel up to 64GB (32GB x 2)	
VIDEO GRAPHICS	Pentium/Core i3: 48 EUs (Intel UHD) Core i5: 80 EUs (Intel Iris Xe)	Core i7: 96 EUs (Intel Iris Xe)
VIDEO OUTPUT	HDMI 2.0b x 4, Supports quad independent displays, Supports 4K Ultra HD Supports EDID Emulation Function	
AUDIO	Realtek ALC662/ALC897/ALC888S, 5.1 channel HD audio	
ETHERNET	Intel i210 x 2 100/1000 MB/s operation Supports Teaming mode	Supports Wake on LAN function Supports network boot by Preboot eXecution Environment (PXE)
STORAGE INTERFACE	SATA 6 GB/s	
ONBOARD CONNECTORS	(1) 4 pin fan connector (1) connector for CMOS battery (1) SATA connector w/ power (2) COM ports	(1) jumper for power on after power fail (hardware solution) (1) VGA graphics output (for PVG01 accessory) (1) USB header (1x4 pin; for WWN03 accessory)
FRONT PANEL	(1) Power Button (1) Power LED (1) HDD LED (4) USB 3.2 Gen 2 (Type A)	(1) External microphone jack 1/8" (1) External headphone jack 1/8" (1) SD Card Reader
BACK PANEL	(4) USB 3.2 Gen 1 (Type A) (4) HDMI 2.0b (1) RS232/RS422/RS485 (1) RS232 (2) RJ45	(1) Clear CMOS button (2) Wireless Antenna holes (2) Kensington Lock (1) DC-in (1) VGA connector PVG01 (optional)
DRIVE BAYS	(1) 2.5" HDD/SSD bay	
DIMENSIONS	7.5(L) x 6.5(W) x 1.7(H) inches	
POWER	Input: 100 - 240V AC, 50/60 Hz Output: 19V 4.74A DC, max 90W	19V/90W power supply
ACCESSORIES	Quick Guide Screw package SATA cable Power cord Driver DVD	VESA mount VESA screw pack PVG01 (optional VGA video output) WWN03 (LTE adapter kit w/o LTE card) Stand for vertical operation
EXPANSION SLOT	(1) M2. MAX to 2280 Type M	(1) M.2 MAX to 2230 Type E
OS SUPPORT	Windows 10 64 bit, Linux	

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CHASSIS	Black slim type metal chassis Kensington lock slot on the sides as part of anti-theft system Dimensions: 7.5 (L) x 6.5 (W) x 1.7 (H) inches Weight: 2.8 LBS (net) / 4.6 LBS (gross)
MAINBOARD AND CHIPSET	Intel Pentium Gold 7505 (ULV), 10 nm SuperFin process technology Mainboard in Shuttle form factor proprietary design for the XPC DH32Ux System-on-a-chip architecture (SoC), Tiger Lake U (11th Gen Intel Core processors) Cores/Threads: 2/4 Base Frequency: 2.0 GHz Max. Turbo Frequency: 3.5 GHz Intel Smart Cache: 4 MB TDP wattage: 15W max Solid capacitors for sensitive areas provide excellent heat resistance for enhanced system durability
BIOS	AMI BIOS, SPI Interface, 32 MB Flash EEPROM with SPI interface Supports Hardware Monitoring and Watchdog functionality Supports Unified Extensible Firmware Interface (UEFI) Supports boot up from external USB flash memory Supports Firmware-TPM (fTPM) v2.0 [2]* Supports power on after power failure [7]*
INTEGRATED GRAPHICS	Intel UHD graphics Max. GPU clock frequency: 1.25 GHz Supports DirectX 12.1, OpenCL 2.0 Supports up to four independent screens via HDMI 2.0b at 4096x2304 at 60Hz Optional analog VGA video output [4]*
POWER SUPPLY	External 90W power adapter (fanless) AC input voltage: 100 - 240V, 50/60 Hz Output: 19V DC 4.74A, max 90W
OPERATING SYSTEM	The system comes without an operating system installed. Compatibility: Windows 10/11 and Linux 64 bit
SYSTEM COOLING	Heat sink with 50 mm fan (temperature controlled rotation speed)
MEMORY SUPPORT	2 x 260 pin SODIMM slots Supports DDR4 3200 MHz memory (PC4-25600) SDRAM at 1.2V Supports Dual Channel mode Supports a max. of 32GB per DIMM, up to 64GB total
DRIVE BAYS	1 x 2.5" drive bay supports one hard disk or SSD drive with SATA connector Max height 12.5 mm
M.2 SLOT	The M.2 2280 M slot supports M.2 SSD cards with a SATA interface and a width of 22 mm and a length of 42, 60, or 80 mm (type 2242/2260/2280). -PCI-Express Gen 4.0 X4, supports NVMe -SATA v3.0 (max 6 GB/s) Supports M.2 SSDs with SATA or PCI-Express interface The M.2 2230 E slot supports M.2 cards with a width of 22 mm and length of 30 mm (type 2230) Supports an optional WLAN card (Shuttle WLN-M), PCI-Express Gen 2.0 X1 and USB 2.0
AUDIO	Realtek® ALC662/ALC897/ALC888S 5.1 channel HD audio Two analog audio connectors (3.5 mm) on the front panel: 2 channel line-out (headphones), Microphone input Digital multi-channel audio output (HDMI)
GIGABIT LAN CONTROLLER	Dual network with two RJ45 ports, used network chips: 2 x Intel i211 Ethernet Controller with MAC, PHY, and PCI-E interface Supports 100/1000 MB/s operation Supports Teaming mode [5]* Supports Wake-ON-LAN Supports network boot by Preboot eXecution Environment (PXE)

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SATA CONNECTORS	The mainboard provides one Serial-ATA III interface, max 6GB/s supported Serial-ATA power connector (onboard)	
CARD READER	Integrated card reader supports SD, SDHC, SDXC memory flash cards	
FRONT PANEL CONNECTORS	Microphone input Headphone output (line-out) 4 x USB 3.2 Gen 2 type A SD Card Reader	Power button Power indicator (Blue LED) Hard disk drive indicator (Yellow LED)
BACK PANEL CONNECTORS	HDMI 2.0b x 4 USB 3.2 Gen 1 x 4 Kensington Lock x 2 RS232 x 2 [3]* Clear CMOS button (4-pin connector)	Gigabit LAN (RJ45) x 2 WLAN antenna holes x 2 DC-input connector for external power adapter Optional VGA connector (PVG01) [4]*
OTHER CONNECTORS (ONBOARD)	Connector for CMOS battery Fan connectors x 1 (4 pin) USB 2.0 x 1 (4-pin for optional WWN03) [1]*	Power on after power failure (hardware solution by jumper) [7]* Analog VGA output [4]* COM x 2
INCLUDED ACCESSORIES	XPC installation guide Driver DVD SATA and power cables	External 90W power adapter with cord VESA mount Screw packs
OPTIONAL ACCESSORIES	CXP01 (adapter cable for power button) DIR01 (DIN rail mounting kit) PRM01 (2U rack mount) PS02 (stand for vertical operation)	PVG01 (optional VGA) [4]* WLN-M (WLAN module) WWN03 (LTE kit w/ antennas) [1]*
ENVIRONMENTAL CRITERIA	Operating temperature: 0 - 50°C [6]*	Humidity: 10 - 90% (non-condensing)
CERTIFICATIONS	EMI: FCC, CE, BSMI, RCM, VCCI Safety: cTUVus, CB, BSMI	Other: RoHS, Energy Star, ErP
<p>This model is classed as a technical information equipment (ITE) in class B and is intended for use in living rooms and offices. The CE mark approves conformity by the EU directives:</p> <p>(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 eco-design requirements for energy related products (ErP)</p>		

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[1] OPTIONAL ACCESSORY WWN03 (LTE KIT)

The Shuttle XPC accessory WWN03 allows this PC to be upgraded with an LTE/4G function for mobile network. The LTE card will occupy the 2.5" bay, so you will have to use an M.2 SSD as a mass storage device. The required LTE/4G card in M.2-3042 format and an activated Nano SIM card is not included in the scope of delivery.

[2] TPM FUNCTION

The DH32U features Firmware TPM v2.0 (fTPM); besides this, a hardware TPM chip can be fitted on request if required.

[3] SERIAL PORTS

This PC features two serial RS232 ports with 9 pin D-sub connectors on the back panel. The left COM port (COM1) can also be configured as RS422 and RS485 in the BIOS setup. Pin 9 of the D-sub COM-port is a multi-functional signal. Based on the Jumper JP1 configuration on the mainboard, it can be configured as Ring Indicator (RI) or external power supply with a voltage level of either 5V or 12V (each COM port can be configured separately; the maximum current is 500 mA per connector).

[4] OPTIONAL D-SUB/VGA CONNECTOR

The mainboard features one analog graphics port CN6 and can be lead to the outside as a 15 pin VGA connector on the back panel by using the optional adapter accessory PVG01 (doing so means one less COM port will be available on the back panel).

[5] TEAMING MODE

The teaming function allows for grouping both available network adapters to work as one single adapter. This mode enables load balancing and failover.

[6] OPERATING TEMPERATURE

For high ambient temperatures over 40°C, we strongly recommend using SSDs (supporting at least 70°C) and rugged SODIMM memory modules with a temperature range of up to 95°C.

[7] POWER ON AFTER POWER FAILURE

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 behavior after a power failure: (1) unconditional power on, (2) restore former status, or (3) keep system turned off. This function may fail after short power failures, but the DH32Ux comes with a hardware based solution in these cases. By removing the Jumper JP2 on the mainboard (behind the power button), the system will start unconditionally once power is supplied.

BIOS DOWNLOADS: <https://global.shuttle.com/products/productsDownload?productId=2591>

SUPPORT LIST: <https://global.shuttle.com/products/productsSupportList?productId=2591>

FAQ LIST: <http://global.shuttle.com/support/faq>

PRODUCT WARRANTY: <https://us.shuttle.com/barebone-support/policy-xpc-barebone/>

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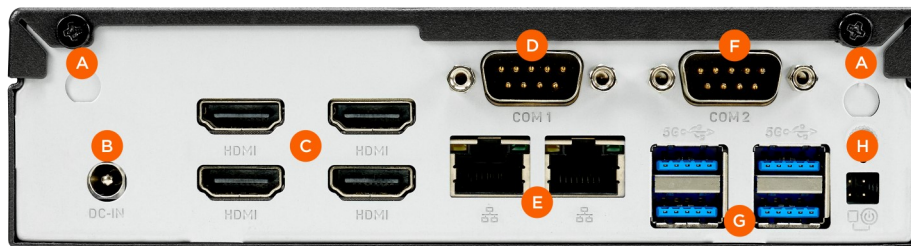
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Front View



- | | | | |
|---|------------------|---|-------------------|
| 1 | Microphone input | 5 | Power Button |
| 2 | Headphone input | 6 | SD Card Reader |
| 3 | Power LED | 7 | USB 3.2 Gen 2 x 4 |
| 4 | Hard Disk LED | | |

Back View



- | | | | |
|---|---------------------------------|---|----------------------|
| A | WLAN antenna hole x 2 | E | RJ45 Gigabit LAN x 2 |
| B | DC power input | F | COM2 (RS232) |
| C | HDMI 2.0b video output x 4 | G | USB 3.2 Gen 1 x 4 |
| D | COM port
(RS232/RS422/RS485) | H | Clear CMOS connector |



Kensington lock hole on left and right side

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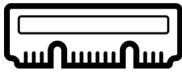
SUPPORTS INTEL® 11TH GENERATION PROCESSORS

Equipped with an Intel® 11th Generation Pentium® Gold SOC processor, the DH32UE has Intel Iris® Xe graphics, providing doubled graphics performance for content creation. With support for 3200 MHz DDR4 memory, it provides fast transmission bandwidth and better power efficiency.



VESA MOUNTABLE

The supplied 75/100mm VESA mount allows for installation of the DH32UE on walls or monitors, for use in company buildings, public institutions, or other industry buildings. With a thickness of 43mm, it allows for versatile integration into hardware systems and well suited for areas with limited space.

**M.2**

EXPANSION SLOTS

One M.2 2280/2260/2242 Type M and one M.2 2230 Type E slot are built-in for a M.2 SATA SSD, M.2 NVMe PCI-E SSDs, M.2 cards, a WLAN card, or other compatible devices. M.2 cards with a width of 22 mm and length of 42/60/80 mm are supported.

**QUAD DISPLAY**

QUAD DISPLAY

The DH32UE supports up to four independent displays through its four native HDMI 2.0b outputs, for smoothly running 4K UHD video at 60 Hz, providing maximum flexibility and dynamic visualization for multi-tasking and digital signage applications. The DH32UE is integrated with hardware EDID.*

*EDID emulation can significantly eliminate maintenance issues of resetting caused by power failure, cable disconnection, or unrecognized signal

**SMART FAN**

SMART FAN DESIGN

A heat-pipe cooling system with smart fan design can be set in the BIOS for faster fan speed automatically when CPU temperature increases for high stability and low noise during long term operation.

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ACCESSORY	PS02
DESCRIPTION	The PS02 stand is required for placing 1.3L slim PC models into a vertical orientation.
COMPATIBILITY	DX30, DL10J, DS61, DS81, DH110, DH110SE, DH170, DQ170, DH270, DH310, DH370, DH02U



ACCESSORY	PVG01
DESCRIPTION	The PVG01 equips compatible slim PCs with an analog VGA output. For slim 1L PCs, this means only one serial interface (COM 1) can be used after installation.
SPECIFICATIONS	Length: 6.3 inches, Back panel connector: 15 pin Mini D-sub female socket, Internal connector: Subminiature 2x10 pin female
REMARKS	Slim PCs with H81/H110 chipsets can support up to two displays at the same time, so only two out of the available video outputs can be used.



ACCESSORY	WWN03
DESCRIPTION	The WWN03 accessory kit adds a 4G/LTE function for mobile networks. The required 4G/LTE card in M.2 3042 format and activated nano SIM is not included
INCLUDED	M.2 adapter card, external 4G/LTE antennas x 2, internal transfer cables x 2
REMARKS	If this accessory is installed, it will occupy the 2.5" HDD rack, so a M.2 SSD will have to be used for storage. Only nano SIM cards (12.3 mm x 8.8 mm) are compatible with this kit

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DH02U vs DH32UE

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MODEL	DH02U	DH32UE
PROCESSOR SUPPORT	Intel Celeron 3865U, max TDP 15W 14nm Kabylake (7th Gen Core CPU) Intel® Core™ i3-7100U/i5-7200U/i7-7500U (optional)	Intel Pentium Gold 7505 SOC, max TDP 15W/28W 10nm Tiger Lake (11th Gen Core CPU) Intel® Core™ i3-1115G4, i5-1135G7, i7-1165G7 (optional)
MEMORY	2 x 16GB DDR4 2133 MHz max	2 x 32GB DDR4 3200 MHz max
VIDEO OUTPUT	HDMI 2.0b, Supports four displays Supports 4K Ultra HD	HDMI 2.0b, Supports four displays Supports 4K Ultra HD Supports EDID Emulation Function
AUDIO	Realtek AL662, HD audio	Realtek AL662/ALC897/ALC888S, HD audio
ETHERNET	Intel i211 x 2 10/100/1000 MB/s operation Supports Wake on LAN function Supports Teaming mode Preboot eXecution Environment (PXE) support	Intel i211 x 2 100/1000 MB/s operation Supports Wake on LAN function Supports Teaming mode Preboot eXecution Environment (PXE) support
SATA ONBOARD	SATA 6G x 1	SATA 6G x 1
FRONT PANEL	Power button with LED, HDD LED, MIC-in, Headphone out, USB 3.2 Gen 2 x 4	Power button with LED, HDD LED, MIC-in, Headphone out, SD Card Reader, USB 3.2 Gen 2 x 4
BACK PANEL	HDMI 2.0b x 4 USB 3.2 Gen 1 x 2 Gigabit LAN (Intel i211) x 1 RS232 x 1 WLAN antenna x 2 (optional) Clear CMOS 4-pin connector	HDMI 2.0b x 4 USB 3.2 Gen 1 x 4 Gigabit LAN (Intel i211) x 2 RS232/RS422/RS485 x 2 WLAN antenna x 2 (optional) Clear CMOS 4-pin connector
DRIVE BAYS	(1) 2.5" HDD/SSD bay	(1) 2.5" HDD/SSD bay
OPTIONAL ACCESSORIES	Vertical Stand (PS02) VGA connector (PVG01) WLAN kit (WLN-M)	Vertical Stand (PS02) VGA connector (PVG01) WLAN kit (WLN-M) WWN03 (LTE kit)
EXPANSION SLOT	M.2 2280 M slot M.2 2230 E slot	M.2 2280 M slot M.2 2230 E slot
OS SUPPORT	Windows 10, Linux 64 bit	Windows 10, Linux 64 bit

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