DS50U

SLIM PC

PROCESSOR	Intel® Alder Lake-U/Raptor Lake-U up to 15W CPU Intel® Processor Celeron 7305, Core i3-1315U/i5-1335U/i7-1355U	
MEMORY	Supports DDR5 4800 MHz (Celeron)/5200 MHz (Core CPUs) SODIMM memory, 2 x 262 pin (32GB per DIMM, Max 64GB)	
VIDEO GRAPHICS	Intel UHD graphics	
VIDEO OUTPUT	HDMI 2.0b + DisplayPort 1.4 + VGA, Supports triple independent displays	
AUDIO	2 channel HD audio	
ETHERNET	Intel i219 + i226 Dual LAN 10/100/1000 Mbps (left LAN)	Supports Wake on LAN function 100/1000/2500 Mbps (right LAN)
STORAGE INTERFACE	SATA III for HDD/SSD	
FRONT PANEL	(1) Power Button (1) Power LED (1) HDD LED (2) USB 3.2 Gen 2 (red)	(4) USB 3.2 Gen 1 (blue) (1) MIC-in (1) Headphone out
BACK PANEL	(2) Intel® RJ45 LAN (1 Gbps left, 2.5 Gbps right) (1) HDMI 2.0b (1) DisplayPort 1.4 (1) VGA (2) USB 2.0	(1) External power on/Clear CMOS header (2) Antenna hole (1) DC-in (1) RS232/RS422/RS485
DRIVE BAYS	(1) 2.5" HDD / SSD drive bay (max height 9.5mm)	
DIMENSIONS	7.9(L) x 6.5(W) x 1.55(H) inches	
POWER	Input: 100 - 240V AC, 50/60 Hz, max 1.6A Output: 19V DC/4.74A, max 90W	90W 19V power adapter
ACCESSORIES	Quick Guide Screw packs 90W power adapter Power cord Driver DVD Vertical Stand (PS02)	VESA mount VESA mount screws WLN-M/WLN-M1 (optional WLAN w/ antenna) CXP01 (optional adapter cable for external power button) PCP11 (optional COM port, replaces VGA)
EXPANSION SLOT	(2) M.2 2280 Type M	(1) M.2 2230 Type E key socket
OS SUPPORT	Windows 10/11 64 bit, Linux 64 bit	
CERTIFICATION	BSMI, CB, CE, cTUVus, Energy Star, ErP, FCC, RCM, RoHS, VCCI	

BIOS DOWNLOADS: https://global.shuttle.com/products/productsDownload?pn=DS50U

SUPPORT LIST: https://global.shuttle.com/products/productsSupportList?pn=DS50U

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

PRODUCT WARRANTY: https://www.shuttlecomputers.com/warrantypolicies

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CHASSIS	Black slim type metal chassis Kensington lock slots on the sides as part of anti-theft system Dimensions: 7.9(L) x 6.5(W) x 1.55(H) inches Weight: 3.5 LBS (net) / 5 LBS (gross)
24/7 NONSTOP OPERATION	Approved for 24/7 permanent operation Free air circulation around the PC needed Ventilation holes must be kept clear Any installed disk must also be approved for permanent operation by manufacturer
OPERATION POSITION	1) Vertical with mounted feet (optional accessory PS02) 2) Vertical (ie VESA mounted) Note: Horizontal operation is permitted, however the device has no rubber feet. The maximum operating temperature is 35°C if used in this position.
BIOS	AMI BIOS, 32 MB Flash-EPROOM Supports Firmware-TPM (fTPM) v2.0 Supports boot up from M.2 SSD cards and USB devices Supports Unified Extensible Firmware Interface (UEFI) Supports Wake-on-LAN (WOL) Supports power on after power failure [2]* Supports hardware monitoring and Watchdog function
POWER SUPPLY	External 90W power adapter (fanless) AC input voltage: 100 - 240V AC, 50/60 Hz, max 1.6A Output: 19V DC 4.74 A, max 90W DC cable: 67 inches, DC-input: 12V ±5% or 19V ±5%
OPERATING SYSTEM	The system comes without an operating system installed. Compatibility: Windows 10/11 (64bit), Linux (64bit)
PROCESSOR SUPPORT	Intel® Celeron 7305, Alder Lake-U (12th Gen Intel Core) Intel 7 process (10 nm enhanced SuperFin) Max supported processor power consumption (TDP): 15W Performance-cores (P-cores): 1 core (1 thread), clock rate: 1.1 GHz Efficient-cores (E-cores): 4 cores (4 threads), clock rate: 0.9 GHz Smart-Cache (L3): 8MB Maximum Tjunction Temperature: 100°C System-on-Chip processor (SoC) with integrated graphics processor, no chipset required
SYSTEM COOLING	Completely fanless, perfect for noise-sensitive environments Passive cooling through convective heat transfer Less dust, virtually no maintenance required
MEMORY SUPPORT	2 x 262 pin SODIMM slots, two thermal pads for the RAM modules are included [7]* Supports DDR5 4800 MHz memory, SDRAM at 1.1V Supports Dual Channel mode, Supports a max. of 32GB per DIMM (2 x 32GB) Supports two unbuffered DIMM modules (no ECC or registered)
DRIVE BAYS	1 x 2.5" drive bay supports one hard disk or SSD drive, max height 9.5 mm Pre-installed SATA cable (data/power) Supports Unified Extensible Firmware Interface (UEFI)
M.2 SLOTS	Two M.2 2280 M slot provides the following interfaces: -Supports M.2 cards with a width of 22 mm and a length of 80 mm (type 2280). -One M.2 SSD w/ PCIe/NVMe interface supported, 2nd M.2 SSD must have SATA interface -Second slot can be used for optional WWN04 kit to support 4G/5G wireless network card -Two thermal pads for the M.2 SSDs are included (70 x 20 mm size)

M.2 Slot	Interface	Config 1	Config 2	Config 3
Slot 1	PCIe Gen 4 x4, SATA 3.0	M.2 SSD (SATA)	M.2 SSD (PCIe/NVMe)	M.2 SSD (SATA)
Slot 2	PCIe Gen 4 x4, USB 3.2 Gen 2*	M.2 SSD (PCIe/NVMe)	Optional WWN04 kit	Optional WWN04 kit

*USB 3.2 interface can only be used with optional accessory WWN04

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AUDIO	Realtek® ALC888S audio codec Two analog audio connectors (3.5 mm) on the front panel: Line-out (headphones), Microphone input Digital multi-channel audio output (HDMI and DisplayPort)
INTEGRATED GRAPHICS	Intel® UHD graphics, GPU frequency: max 1100 MHz Execution Units (EU): 48 This model has triple video outputs: -HDMI 2.0b: supports Ultra HD, 60 Hz -DisplayPort 1.4: supports Ultra HD, 60 Hz -D-sub/VGA supports analog displays
WIRELESS NETWORK	Dual network with two RJ45 ports 1) Intel i219 Ethernet Controller supports 10/100/1000 Mbps operation 2) Intel i226 Ethernet Controller supports 100/1000/2500 Mbps operation Supports Wake-on-LAN Supports network boot by Preboot eXecution Environment (PXE)
FRONT PANEL CONNECTORS	Microphone input Power button Headphone output (line-out) Power indicator (Blue LED) 2 x USB 3.2 Gen 2 (red) Hard disk drive indicator (Yellow LED) 4 x USB 3.2 Gen 1 (blue)
BACK PANEL CONNECTORS	HDMI 2.0b Clear CMOS button/external Power on button DisplayPort 1.4 [3]* Intel RJ45 LAN x 2 (1 Gbps left, 2.5 Gbps right) D-sub/VGA connector Serial COM port (5/12V, 1 x RS422/RS485 switchable) [1]* USB 2.0 x 2 4-pin connector (2.54 mm pitch) for power button, Clear CMOS Kensington Lock x 2 and 5V DC [4]* WLAN antenna holes x 2 DC-input connector for external power adapter
INCLUDED ACCESSORIES	XPC installation guide External 90W power adapter with cord Driver DVD VESA mount (75/100mm standard) SATA and power cables 4 x Thermal Pad (for cooling optional components; 2 for M.2 SSD, 2 Screw pack for RAM modules) Vertical Stand (PS02)
OPTIONAL ACCESSORIES	Adapter cable for COM port (PCP11) 2U rack mount front plate for two slim PCs (PRM01) DIN-Rail mounting kit (DIR01) Adapter cable for external power button (CXP01) WLN-M/WLN-M1 (WLAN module)
ENVIRONMENTAL CRITERIA	Operating temperature: 0 - 40°C [5]* Humidity: 10 - 90% (non-condensing)
CERTIFICATIONS	EMI: FCC, CE, BSMI, RCM, VCCI Other: RoHS, Energy Star, ErP Safety: cTUVus, CB, BSMI 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: (1) 2014/30/EU relating to electromagnetic compatibility (EMC) (2) 2014/35/EU 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)

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[1] JUMPER FOR COM PORT CONFIGURATION

Pin 9 of the COM port is a multi-functional signal. Based on the Jumper JP2 configuration on the mainboard, it can be configured as a Ring Indicator (RI) or external power supply with a voltage level of either 5V or 12V and each COM port can be configured separately. COM 1 can be set to RS232/RS422/RS485 in the BIOS, the second COM port (COM 2) supports RS232 mode only and in the standard model of this product is only available as an onboard connector on the mainboard. An appropriate adapter (optional PCP11 accessory) is required in order to use this port as a D-Sub connector in case the VGA port cannot be used.

[2] 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 behavior after a power failure. This function may fail after short power failures, but the DS50U comes with a hardware based solution in these cases. By removing the Jumper J9 on the mainboard (refer to the quick user guide), the system will start unconditionally once power is supplied.

[3] HOW TO CONVERT DISPLAYPORT TO HDMI/DVI

The DisplayPort output can be converted into a HDMI or DVI output using an additional passive adapter cable.
The integrated graphics automatically detects the connected display and outputs the appropriate electric signal - either 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.

[4] FOUR-PIN HEADER ON BACK PANEL

The header allows for connecting an external power button and also provides a 5V DC voltage for external devices and a Clear CMOS function (optional adapter cable CPX01 for external push button switch)

[5] HIGH AMBIENT TEMPERATURE

For high ambient temperature over 35°C, SSDs are strongly recommended instead of hard disk drives.

BIOS DOWNLOADS: https://global.shuttle.com/products/productsDownload?pn=DS50U
SUPPORT LIST: https://global.shuttle.com/products/productsSupportList?pn=DS50U
FAQ LIST: http://global.shuttle.com/support/faq
PRODUCT WARRANTY: https://www.shuttlecomputers.com/warrantypolicies

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Front View

1	USB 3.2 Gen 2 x 2	**5**	Power Button
2	USB 3.2 Gen 1 x 4	**6**	MIC input
3	Power LED	**7**	Headphones output
4	Hard Disk LED		

Back View

A	4-pin connector for external power on/Clear CMOS	**F**	USB 2.0 x 2
B	Connector for optional WLAN antenna	**G**	RJ45 1GB LAN
C	DisplayPort 1.4	**H**	RJ45 2.5GB LAN
D	HDMI 2.0b	**I**	D-Sub/VGA port (analog)
E	COM port (RS232/RS422/RS485)	**J**	DC-in

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DS50U

INTEL® 13TH GEN RAPTOR LAKE-U

The DS50U supports 13th Gen 10nm Raptor Lake-U processor with a base TDP of 15W with DDR5 memory support for powerful performance and consuming less power for efficiency and productivity. The 13th Gen U-series CPUs range from Core i3 to Core i7 with up to 10 cores and 12 threads.

VESA MOUNTABLE

The supplied VESA mount allows for installation of the DS50U 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.

NETWORKING CONNECTIVITY

The DS50U has Dual Intel® Gigabit LAN (1 x 2.5 GB/s, 1 x 1 GB/s) for enhanced productivity, featuring BIOS Wake-On-LAN and powering on from S3/S4/S5 mode. WLAN can be used via M.2 2230 E key, providing wireless convenience.

x2

DUAL LAN

24/7 NONSTOP OPERATION

24/7

NONSTOP

Approved for 24/7 operation, a low power consumption design allows for stable operation to meet the long-term demands of digital signage or other vertical applications.

FANLESS COOLING

A passive thermal cooling system reduces power consumption required by a fan as well as the cost of replacing fans on-site. Use solid state disks for an operational platform completely free of noise.

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ACCESSORY	CXP01
DESCRIPTION	Connector for an external power button, includes fitting connection that requires a push button switch
PORTS	Dual header connector, 2.54mm pitch Two female crimp contact pins, tin-plated Outer Diameter: 6.5 mm Two-pole cable: 2 x 0.34 mm²
REMARKS	Cable provides tin-plated leads for a push button switch Connection to the external power button can be screw-type or soldering

ACCESSORY	PCP11
DESCRIPTION	The PCP11 accessory adds a COM port for compatible models listed
COMPATIBILITY	P20U/P22U/P51U/P52U series, DS10U/DS20U/DS50U series, XH410G/XH510G/XH510G2/XH610G, SH610R4
PORTS	External: Sub-D, 9-pin, male Internal: 10-pin (2x5), female, 2 mm pitch

ACCESSORY	PS02
DESCRIPTION	The PS02 stand is required for placing 1.3L slim PC models into a vertical orientation.
COMPATIBILITY	See list on https://global.shuttle.com/products/productsSupportList?pn=PS02

ACCESSORY	WLN-M
DESCRIPTION	The WLN-M wireless LAN kit can be used to equip various models with the wireless LAN standard 802.11 b/g/n/ac at 2.4/5 GHz band. The combo device supports Bluetooth 4.2.
COMPATIBILITY	See list on https://global.shuttle.com/products/productsSupportList?pn=WLN-M
REMARKS	M.2 2230 (NGFF) WLAN card, Antenna cable (XPC slim) x 2, Antenna cable (XPC cube) x 2, Dipole antenna x 2, Quick Guide, Driver DVD
OS SUPPORT	Windows 7, Windows 8.1, Windows 10, Windows 11, Linux (32/64 bit)

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DS50U vs DS20U V2

SLIM PC

MODEL	DS50U	DS20U V2
PROCESSOR	Intel® Celeron® 7305	Intel® Celeron® 5205U
PROCESSOR SUPPORT	max TDP 15W 7/10 nm Alder Lake-U/Raptor Lake-U (12th/13th Gen Core CPU) Intel® Core™ i3/i5/i7 (i3-1315U/i5-1335U/i7-1355U options)	max TDP 15W 14nm Comet Lake-U (10th Gen Core CPU) Intel® Core™ i3/i5/i7 (i3-10110U/i5-10210U/i7-10510U options)
MEMORY	2 x 32GB DDR5 4800/5200 MHz max* (262 pins)	2 x 32GB DDR4 2400/2666 MHz max (260 pins)
VIDEO OUTPUT	HDMI 2.0b x 2 + DisplayPort 1.4 + VGA, Supports triple displays, Supports 4K Ultra HD, Intel HD graphics	HDMI 2.0a x 2 + DisplayPort 1.2 + VGA, Supports triple displays, Supports 4K Ultra HD, Intel HD graphics
AUDIO	Realtek ALC888S, HD audio	Realtek ALC897/ALC662, HD audio
ETHERNET	Intel i219 + i226 10/100/1000 Mbps operation (i219) 100/1000/2500 Mbps operation (i226) Supports Wake on LAN function Optional WLAN (pre-mounted antenna cables)	Intel i211 + i219LM 10/100/1000 Mbps operation Supports Wake on LAN function Supports Teaming mode Optional WLAN (pre-mounted antenna cables)
SATA INTERFACE	SATA III for HDD/SSD	SATA III for HDD/SSD
FRONT PANEL	Power button with LED, HDD LED, MIC-in, Headphone out, USB 3.2 Gen 2 x 2, USB 3.2 Gen 1 x 4	Power button with LED, HDD LED, MIC-in, Headphone out, SD Card Reader, USB 3.2 Gen 2 x 2, USB 2.0 x 4
BACK PANEL	HDMI 2.0b, DisplayPort 1.4, D-Sub/VGA USB 2.0 x 2 Gigabit LAN x 2 (1 Gbps left, 2.5 Gbps right) COM x 1 (RS232/RS422/RS485) WLAN antenna x 2 (optional) 4-pin connector for external power button and clear CMOS Kensington Lock x 2	HDMI 2.0a x 2, DisplayPort 1.2, D-sub/VGA USB 3.2 Gen 2 x 2** Gigabit LAN x 2 COM x 1 (RS232/RS422/RS485) WLAN antenna x 2 (optional) 4-pin connector for external power button and clear CMOS Kensington Lock x 2
DRIVE BAYS	(1) 2.5" HDD/SSD bay (9.5 mm max height)	(1) 2.5" HDD/SSD bay (12.5 mm max height)
OPTIONAL ACCESSORIES	Cable for external power button (CXP01) DIN Rail mounting kit (DIR01) 2U rack mount front plate for two slim PCs (PRM01) COM port adapter (PCP11) WLAN kit with external antennas (WLN-M1)	Cable for external power button (CXP01) DIN Rail mounting kit (DIR01) 2U rack mount front plate for two slim PCs (PRM01) COM port adapter (PCP11) LTE Adapter Kit (WWN03) WLAN kit with external antennas (WLN-M)
EXPANSION SLOT	M.2 2280 M slot x 2*** M.2 2230 E slot, Supports optional WLAN	M.2 2280 BM slot M.2 2230 E slot, Supports optional WLAN
OS SUPPORT	Windows 10/11 64 bit, Linux 64 bit	Windows 10/11 64 bit, Linux 64 bit

*Memory supported depends on CPU: Celeron supports 4800 MHz, i3/i5/i7 supports 5200 MHz

**DS20U V2 with Celeron processor supports USB 3.2 Gen 1 (blue connector) only

***Two M.2 2280 slots support one M.2 SSD with PCIe/NVMe interface and one M.2 SSD w/ SATA interface

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