

# NC03U

## NANO PC



<b>PROCESSOR</b>	Intel® Celeron® 3865U (i3-7100U/i5-7200U/i7-7500U)	
<b>MEMORY</b>	2 x 260 pin DDR4 SODIMM 2133 MHz slots, Supports dual channel up to 32GB (16GB x 2)	
<b>VIDEO GRAPHICS</b>	Intel HD Graphics 610	
<b>VIDEO OUTPUT</b>	HDMI + DisplayPort, Supports dual independent displays	
<b>AUDIO</b>	Realtek ALC662, 2 channel HD audio	
<b>ETHERNET</b>	Intel i211 Gigabit LAN 10/100/1000 MB/s operation	Supports Wake on LAN function
<b>STORAGE INTERFACE</b>	SATA 6 GB/s	
<b>ONBOARD CONNECTORS</b>	(1) RS232 COM port (1) jumper JP2 for Clear CMOS	(1) jumper JP1 for power on after power fail [4]*
<b>FRONT PANEL</b>	(1) Power Button (1) Power LED (1) HDD LED	(1) USB 3.0 type A (1) USB 3.0 type C (1) SD Card Reader
<b>BACK PANEL</b>	(1) HDMI 1.4b (1) DisplayPort 1.2 [1]* (2) USB 2.0 (1) Gigabit LAN port	(2) Perforation for optional WLAN antenna (1) Audio combo port (MIC/headphone) [2]* (1) DC-in
<b>DRIVE BAYS</b>	(1) 2.5" HDD/SSD bay (15mm max height)	
<b>DIMENSIONS</b>	5.5(L) x 5.5(W) x 1.7(H) inches	
<b>POWER</b>	Input: 100 - 240V AC Output: 19V 3.42A	65W 19V power supply
<b>ACCESSORIES</b>	Quick Guide Vertical stand 65W power adapter Power cord	VESA mount VESA mount screws Driver DVD 2.5" drive bracket with screws
<b>EXPANSION SLOT</b>	(1) M.2. MAX to 2280 Type BM	(1) M.2 MAX to 2230 Type AE key socket
<b>OS SUPPORT</b>	Windows 10 64 bit, Linux 64 bit	

For more information on all products, please contact us at [sales@us.shuttle.com](mailto:sales@us.shuttle.com) or 626.820.9000

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<b>CHASSIS</b>	Black slim type metal chassis Kensington lock slot on both sides of chassis Dimensions: 5.5 (L) x 5.5 (W) x 1.7 (H) inches Weight: 0.88 LBS (net) / 2.65 LBS (gross)
<b>POWER SUPPLY</b>	External 65W power adapter (fanless) AC input voltage: 100 - 240V, 50 - 60 Hz, max 1.6A Output: 19V DC 3.42A
<b>OPERATING SYSTEM</b>	The system comes without an operating system installed. Compatibility: Windows 10, Linux 64 bit
<b>PROCESSOR SUPPORT</b>	Intel® Celeron® 3865U (ULV) 14 nm structure, KabyLake-U platform CPU cores/threads: 2/2, L1/L2/L3 cache: 128 kb/512 kb/2048 kb CPU clock frequency: 1.8 GHz, Max Tjunction Temperature: 100°C Max supported processor power consumption (TDP): 15W Supports 64 bit, VT-x (EPT), VT-d, Enhanced Speedstep, NX bit, AES-NI, SSE 4.1/4.2 System on chip processor (SoC) with integrated graphics processor, no chipset required
<b>COOLING</b>	Built-in CPU cooling fan with 4 pin connector Supports temperature controlled RPM fan speed
<b>MEMORY SUPPORT</b>	2 x 260 pin SODIMM slots, Supports Dual Channel mode Supports DDR4 2133 (PC3-17000) SDRAM at 1.2V Supports a max. of 16GB per DIMM, up to 32GB max Supports two unbuffered DIMM module (no ECC or registered)
<b>M.2 SLOT</b>	M.2 2280 BM slot provides the following interfaces: PCI-Express Gen 2.0 X4 (up to 32 GB/s), SATA v3.0 (6 GB/s) interface  Supports M.2 cards with a width of 22 mm and a length of 42, 60, or 80 mm (type 2242/2260/2280). Supports M.2 SATA SSDs (with BM key) and M.2 PCI-E SSDs (with M key).
<b>AUDIO</b>	Realtek® ALC 662 audio codec Audio connector (3.5 mm) on the back panel: [2]* Digital multi-channel audio output: via HDMI and DisplayPort
<b>WIRED NETWORK</b>	RJ45 connector supports Gigabit LAN at 10/100/1000 MB/s, Supports Wake on LAN Intel i211 ethernet controller with MAC, PHY, PCIe interface Supports network boot by Preboot eXecution Environment (PXE)
<b>WIRELESS NETWORK</b>	M.2 2230 AE WLAN card and internal antenna Supports IEEE 802.11 b/g/n, Max 150 MB/s up-/downstream Single chip 1T1R WLAN Controller Realtek RTL8188EE Security: WPA/WPA2 (-PSK), WEP 64/128bit, IEEE 802.11 x/i
<b>LOW POWER</b>	Power consumption in idle mode under Windows 10: about 5W
<b>INTEGRATED GRAPHICS</b>	Intel HD 610 graphics, GPU clock rate: 300 - 900 MHz Execution Units (EUs): 12  This model has the following video outputs: -HDMI 1.4b (3840 x 2160/30 Hz) -DisplayPort 1.2 (3840 x 2160/60Hz) [1]*
<b>CARD READER</b>	Integrated card reader supports SD, SDHC, SDXC memory flash cards Supports boot up from SD card
<b>STORAGE</b>	Supports one 2.5" SATA hard disk or SSD drive, max height 15 mm Supports SATA III, 6 GB/s bandwidth
<b>FRONT PANEL CONNECTORS</b>	SD Card Reader USB 3.0 type A USB 3.0 type C  Power button Power indicator (Blue LED) Hard disk drive indicator (Yellow LED)

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<b>BACK PANEL CONNECTORS</b>	HDMI v1.4b DisplayPort v1.2 [1]* USB 2.0 x 2 Gigabit LAN (RJ45)	RS232 Audio combo port (MIC/headphone) [2]* DC-input connector for external power adapter External WLAN antenna x 2 (optional)
<b>INCLUDED ACCESSORIES</b>	XPC installation guide Driver DVD Vertical stand with screws	External 65W power adapter VESA mount (75/100mm standard w/ screws) 2.5" drive bracket with screws
<b>ENVIRONMENTAL CRITERIA</b>	Operating temperature: 0 - 40°C [3]*	Humidity: 10 - 90% (non-condensing)
<b>CERTIFICATIONS</b>	EMI: FCC, CE, BSMI, R&TTE, VCCI Safety: ETL, 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)  (4) 1999/5/EC related to Radio and Telecommunications Terminal Equipment (R&amp;TTE)</p>		

### [1] HOW TO CONVERT DISPLAYPORT INTO 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. Connecting a UHD/4K display via the present HDMI 2.0 connector limits the refreshing rate to 24 HZ. A refreshing rate of 60 Hz can be achieved by using an active adapter.

### [2] AUDIO CONNECTOR

The 3.5 mm audio jack at the back panel of this device supports both a 4 pole connector for headphones and MIC/headphones with a 3 pole connector. Headsets with separate connectors for headphones and microphone require an appropriate adapter if the microphone is also used.

### [3] HIGH AMBIENT TEMPERATURES

For high ambient temperatures over 35°C, it's recommended to use SSDs (supporting at least 70°C) instead of hard disks

### [4] POWER ON AFTER POWER FAIL

The BIOS setup provides a "Power-On after Power Fail" function that can be found under "Power Management Configuration". This function may fail after short power failures, but the NC02U comes with a hardware based solution in these cases. By removing the Jumper JP1 on the mainboard (refer to the quick guide), the system will start unconditionally once power is supplied.

**BIOS DOWNLOADS:** <http://global.shuttle.com/products/productsDownload?productId=2111>

**SUPPORT LIST:** <http://global.shuttle.com/products/productsSupportList?productId=2111>

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

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

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## NANO PC

### Front View



- |   |                |   |               |
|---|----------------|---|---------------|
| 1 | USB 3.0 Type A | 4 | Hard Disk LED |
| 2 | USB 3.0 Type C | 5 | Power Button  |
| 3 | SD Card Reader | 6 | Power LED     |

### Back View



- |   |                 |   |                    |
|---|-----------------|---|--------------------|
| A | DC power input  | D | Gigabit LAN (RJ45) |
| B | HDMI 1.4b       | E | USB 2.0 x 2        |
| C | DisplayPort 1.2 | F | Audio combo port   |



LEFT: RS232/RS422/RS485 port, RIGHT: WLAN antenna perforation

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# NC03U

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## SUPPORTS INTEL® KABYLAKE-U PLATFORM

The NC03U series supports Intel® Skylake-U platform technology with a Intel® Celeron® 3865U processor.\* It supports DDR4 2133 MHz memory (up to 32GB) with Intel® HD graphics for 4K video playback.

\*i3-7100U, i5-7200U, i7-7500U options available



## SPACE SAVING SIZE

The small size of the NC03U makes it suitable to mount or fit in limited spaces with a thickness of only 1.65 inches.



## EASY INSTALLATION

Designed for easy configuration, users can simply open both upper and lower covers to easily install a memory module, HDD, or other hardware components. The case can install a 2.5" HDD up to 15 mm\* for flexible storage capacity without volume restriction.

\*Other HDD heights that will fit: 7/9.5/12 mm



## SMART FAN DESIGN

A heatpipe 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.



## GREAT CONNECTIVITY WITH MULTIPLE I/O

The NC03U provides multiple I/O to connect with peripherals via HDMI, DisplayPort, RS232, USB 2.0, USB 3.0, and SD Card Reader. One built-in USB 3.0 Type-C provides users with more convenience with no up or down orientation required for plugs.

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## NANO PC



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, DS57U, DS67U, DS77U, NC02U, NC03U



ACCESSORY	WLN-M
DESCRIPTION	The WLN-M wireless LAN kit can be used to equip XPC models with the wireless LAN standard 902.11 n/ac at 2.4/5 GHz. The combo device supports Bluetooth 4.0.
ITEMS INCLUDED	M.2 2230 (NGFF) WLAN card, XPC slim antenna cables x 2, XPC cube antenna cables x 2, Dipole antennas x 2, Quick guide, Driver DVD
SPECIFICATIONS	<ul style="list-style-type: none"> <li>-Support Wi-Fi IEEE 802.11 b/g/n/ac in 2.4/5 GHz band, 1T1R PCI-Express V1.1 host interface</li> <li>-Supports Bluetooth 4.0 in 2.4 GHz band (USB 2.0 host interface), AzureWave adapter card</li> <li>-Supports WPA2 (IEEE 802.11 with AES0), WPA, and WAPI</li> </ul>

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# NC02U vs NC03U

NANO PC



MODEL	NC02U	NC03U
CHIPSET	Intel Celeron 3855U	Intel Celeron 3865U
PROCESSOR SUPPORT	SoC, max TDP 15W, 1.6 GHz 14nm Skylake-U	SoC, max TDP 15W, 1.8 GHz 14nm Kabylake-U
MEMORY	2 x 16 GB DDR3L 1600 MHz max	2 x 16 GB DDR4 2133 MHz max
VIDEO OUTPUT	HDMI + DisplayPort, Supports dual displays, Supports 4K Ultra HD	HDMI + DisplayPort, Supports dual displays, Supports 4K Ultra HD
GRAPHICS	Intel HD Graphics 510	Intel HD Graphics 610
AUDIO	Realtek AL662, HD audio	Realtek AL662, HD audio
ETHERNET	Intel i211 Gigabit LAN 10/100/1000 MB/s operation Supports Wake on LAN function	Intel i211 Gigabit LAN 10/100/1000 MB/s operation Supports Wake on LAN function
FRONT PANEL	Power button with LED, HDD LED, SD Card Reader, USB 3.0 type A, USB 3.0 type C	Power button with LED, HDD LED, SD Card Reader, USB 3.0 type A, USB 3.0 type C
BACK PANEL	HDMI, DisplayPort USB 2.0 x 2 Gigabit LAN (Intel i211) COM port (RS232)	HDMI, DisplayPort USB 2.0 x 2 Gigabit LAN (Intel i211) COM port (RS232)
DRIVE BAYS	(1) 2.5" HDD/SSD bay	(1) 2.5" HDD/SSD bay
ACCESSORIES	Vertical Stand (PS02) VESA mount 2.5" drive bracket	Vertical Stand (PS02) VESA mount 2.5" drive bracket Optional Wireless LAN module (WLAN-M)
EXPANSION SLOT	M.2 2280 M slot M.2 2230 AE slot	M.2 2280 M slot M.2 2230 AE slot
OS SUPPORT	Windows 7, Windows 8.1, Windows 10, Linux (64 bit)	Windows 10, Linux (64 bit)

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