Powerful PC system in nano form factor

XPC nano System
NC3000BA

The XPC nano NC3000BA PC system is powered by Intel's power-saving ULV (ultra-low-voltage) processors of the Kaby Lake generation. Furthermore, it is equipped with 4GB RAM, 32 GB SSD and Windows 10 Pro operating system. The DisplayPort connector delivers video resolutions of up to 4K at 60 frames per second while a second display can be connected via HDMI. USB peripherals use either the type A or type C ports. Professional users will appreciate Intel Gigabit-LAN and one serial port which indicates what purposes this system is mainly intended for: Digital Signage, POS, control, office or even multimedia.

intel Kaby Lake 7th Gen

Dual Video

nonstop 24/7

40 °C 0

COM RS232

intel LAN

Feature Highlights

Slim Design	• Slim plastic chassis, black, 835 ml • Dimensions: 142x142x42 mm (LWH), 847 ml • Incl. Stand & VESA mount (75/100 mm) • Hole for Kensington Lock • Operating temperature: max. 40 °C
Operating System	• Windows 10 Pro (64-bit)
Processor	• Intel Celeron 3865U, 1.8 GHz "Kaby Lake" • Intel HD610 Graphics, supports 2160p/60
Memory	• 4 GB DDR4-2133 SO-DIMM
Storage	• 32 GB SSD flash memory in M.2 format
Drive Bay	• One 6.35 cm / 2.5" bay, 15 mm height supports one SATA hard disk or SSD
Connectors	• HDMI 1.4, DisplayPort 1.2 supports 2160p/60 • 2x USB 3.0 (Type A/C), 2x USB 2.0, Gigabit LAN • SD card reader, Audio Combo, COM port
WLAN	• Wireless LAN 802.11n, internal antenna
Power Supply	• External 65 W fanless power adapter
Applications	• Home Media, Office, Digital Signage, etc

Supports Hard Disk up to 5 TB

Images for illustration purposes only.
This product does include the stand and VESA mount.

Product version of the Shuttle XPC nano NC3000BA

Product	Category	Processo	RAM	SSD (M.2)	2.5" bay	Operating System	Bar Code
NC03U	Barebone	Intel Celeron 3865U	–	–	–	–	UPC: 887993001272
NC3000XA	System	Intel Celeron 3865U	4 GB	128 GB	–	–	EAN: 4046047103300
NC3000BA	System	Intel Celeron 3865U	4 GB	32 GB	–	Windows 10 Pro (64 bit)	EAN: 4046047103287

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Shuttle XPC nano System NC3000BA – Product Views

A	USB 3.0 Type A	**K**	DC input for power adapter
B	USB 3.0 Type C	**L**	HDMI
C	SD Card reader	**M**	DisplayPort
D	Hard disk LED indicator	**N**	Gigabit LAN (RJ45)
E	On/Off Button	**O**	2x USB 2.0
F	Power-on LED indicator	**P**	Audio Combo (Headphones & Mic)
G	2x perforation for optional WLAN antenna	**Q**	4x Mounting hole for vertical stand
H	Vents	**R**	RS232 COM port *)
I	Hole for Kensington Lock	**S**	4x Rubber foot
J	2x Vertical stand	**T**	VESA mounting kit (2 pieces)

*) Note: The serial connector (COM port) cannot be used, if NC3000BA is operated in vertical position.

Operating Positions

1. **Horizontal**
2. **Vertical with Stand**
3. **VESA-mounted behind a monitor**

Stand and VESA mount with screws are included.

Product Features

Stylish and absolutely small

The black plastic case with its curves and coppery elements is certain to be the eyecatcher on your desk. Its volume of barely 850 ml makes it hardly noticeable as a PC, particularly when it is hidden behind monitors thanks to the supplied VESA mount. Despite its dinky dimensions, it provides generous connectivity options and even room for one 2.5 inch drive which can be an SSD or HDD.

SD Card Reader

The built-in SD card reader at the front side makes file transfer from and to a digital camera easy. It takes SD, SDHC and SDXC memory flash cards in standard size format and also supports booting from bootable SD cards.

Serial Port

Many PCs do not have these legacy ports any longer, since they have been superseded and replaced by USB for most consumer applications, but they are still commonly used for applications such as industrial automation systems, scientific analysis, POS systems and other such fields. The Shuttle XPC nano System NC3000BA features one serial RS-232 interface with the traditional 9-pin D-Sub connector for easy connection of appropriate components. Note: The serial connector (COM port) cannot be used, if NC3000BA is operated in vertical position.

Dual Monitoring via HDMI and DisplayPort

The NC3000BA can connect two digital displays through its HDMI and DisplayPort. Dual monitoring helps improve on productivity by allowing for spreading multiple windows across two monitors while working with them simultaneously.
Note: Dual channel memory (two identical modules) is required to support 4K Ultra-HD resolution (2160p).
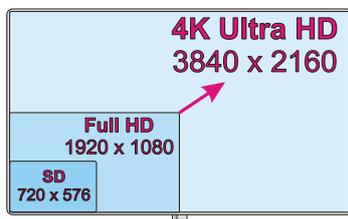
Supports 4K Ultra HD at 60 Hz

The NC3000BA supports displays running at 4K (3840 x 2160 / 2160p) high resolution at 60Hz frames per second when connected to its DisplayPort video output. Being the successor to the Full HD standard, Ultra HD delivers a four times higher resolution with a wider colour space and colour depth. Note: dual channel memory (two identical modules) is required.

USB 3.0 type A and type C

The Shuttle XPC nano System NC3000BA has four USB ports, two of which are USB 3.0. USB 3.0 "SuperSpeed" provides a significant performance increase over previous USB generations making it the ideal interface for demanding, external peripherals. USB 3.0 supports up to 5Gb/s full duplex which means an up to 10 times greater performance than USB 2.0. One of the USB 3.0 connectors is a "type-C" connector with reversible plug orientation. This type of connector is especially intended to connect new-generation mobile devices.

Supports high-capacity drives

The NC3000BA supports 2.5 inch drives up to a maximum height of 15 mm. This makes overall capacities of up to 4 TB possible, while many other PCs in a similar form factor are limited to drives with a maximum height of 7 to 9.5 mm.
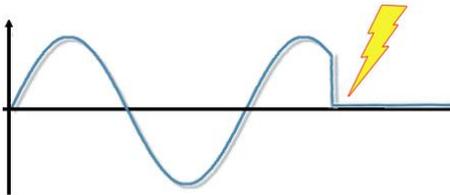
Power-on after Power Fail

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. As a matter of the nature of this function, it may fail after short power failures. This is why the NC3000BA also comes with a hardware-based solution. By removing Jumper JP1 (see Quick Installation Guide), the system will start unconditionally once power is applied.

Kensington Lock

This is a small, metal-reinforced hole as part of an anti-theft system. The Shuttle XPC nano System NC3000BA provides an appropriate hole on both sides of its chassis. The lock-and-cable is not included.

Shuttle XPC nano System NC3000BA - Specifications

Chassis	Barebone PC with a black plastic chassis Dimensions: 142 x 142 x 42 mm (LWH) = 835 ml Hole for Kensington Lock Includes vertical stand and 75 / 100 mm VESA mount
Low Power Consumption	Power consumption in idle mode under Windows 10: ca. 5 W
Operation Position	1) Horizontal 2) Vertical with stand 3) VESA-mounted behind an appropriate monitor
Operation System	Winodws 10 Pro (64-bit)
Processor	Model: Intel Celeron 3865U (ULV) System-on-a-chip architecture (SoC): no chipset required BGA1356 package - directly soldered onto the mainboard Code name: Kaby Lake-U (7th Generation Intel Core) Cores / Threads: 2 / 2 Clock rate: 1.8 GHz L1/L2/L3 Cache: 128 kB / 512 kB / 2048 kB Memory controller: DDR4-2133 Dual Channel (1.2 V) TDP wattage: 15 W maximum Manufacturing process: 14 nm Maximum Tjunction Temperature: 100 °C Supports 64-bit, VT-x (EPT), VT-d, Enhanced SpeedStep, NX bit, AES-NI, SSE 4.1/4.2 Integrated graphics engine
Cooling fan	Built-in CPU cooling fan with 4-pin connector Supports temperature-controlled RPM fan speed
Integrated Graphics	Intel HD graphics 610 GPU clock frequency: 300~900 MHz Execution Units (EUs): 12 Two digital audio/video ports support two independent screens (dual monitoring): Supports Ultra HD / 4K resolution at 3840 x 2160 Pixels 1) DisplayPort 1.2 [1] supports Ultra HD @ 60 Hz 2) HDMI 1.4b supports Ultra HD @ 30 Hz

Mainboard & BIOS	AMI BIOS in 8 MByte EEPROM with SPI interface Supports resume after power failure Supports Wake on LAN (WOL) Supports Power on by RTC Alarm Supports booting from USB devices and SD card reader Supports hardware monitoring and watch dog function Supports Unified Extensible Firmware Interface (UEFI)
Power Adapter	External 65 W power adapter (fanless) Input: 100~240 V AC, 50/60 Hz, max. 1.6 A Output: 19 V DC, max. 3.42 A, max. 65 W DC Connector: 5.5/2.5 mm (outer/inner diameter)
Memory	4 GB DDR4-2133 (PC4-17000) SDRAM at 1.2 V SO-DIMM memory Supports a maximum of 16 GB per DIMM, maximum total size: 32 GB
2.5" Drive Bay	In addition to the M.2-SSD drive, it also supports one Serial ATA hard disk or one SATA SSD drive in 6.35 cm / 2.5" format Device height: 15 mm (max.) Supports Serial-ATA III, 6 Gb/s (600 MB/s) bandwidth
Card Reader	Integrated SD card reader Supports SD, SDHC and SDXC memory flash cards Supports booting from SD card
M.2 SSD storage	32 GB SSD flash memory storage (SATA) in M.2 form factor
Audio	Audio Realtek® ALC 662 High-Definition Audio Codec 3.5 mm / 4-pole combo audio connector for headphones and microphone [2] Digital multi-channel audio output: via HDMI and DisplayPort
Gigabit LAN	Ethernet Controller Intel i211 Supports 10 / 100 / 1.000 MBit/s operation (Gigabit) Supports WAKE ON LAN (WOL) Supports network boot by Preboot eXecution Environment (PXE) IEEE 802.3az Energy Efficient Ethernet (EEE) Interface: PCIe v2.1
Wireless Network (WLAN)	Built-in M.2-2230-A/E WLAN card and internal antenna Single-Chip 1T1R WLAN Controller Realtek RTL8188EE Supports IEEE 802.11b/g/n, max. 150Mbps up-/downstream Security: WPA/WPA2(-PSK), WEP 64/128-bit, IEEE 802.11x/i
Front Panel connectors	USB 3.0 type A USB 3.0 type C SD card reader (supports SD, SDHC, SDXC) Power button Power LED (blue, flashing when in suspend mode) HDD LED (orange)

Back Panel connectors	DisplayPort 1.2 [1] HDMI 1.4b 2x USB 2.0 Gigabit LAN (RJ45) Audio Combo Port for headphones and microphone (3.5 mm jack, 4-pole) [2] DC-input connector for external power adapter 2x perforation for optional external WLAN antennas
Left Side connectors	Serial RS232 COM port (D-Sub, 9-pin) Note: The serial connector (COM port) cannot be used, if the NC3000BA is operated in vertical position.
Always-On Jumper	By removing Jumper JP1 (please refer to the Quick Installation Guide), the system will start unconditionally once power is applied. [4]
Clear CMOS Jumper	Short Jumper JP2 for about 10 seconds to restore factory settings of BIOS.
Supplied Accessories	Multi-language Quick Installation Guide Driver DVD for Windows VESA mount set (two parts, made of steel, with 6 screws) 2x aluminium stand with screws for vertical operation Bracket for a 2.5" drive with 8 screws Power adapter with AC power cord
Environ-mental Spec	Operating temperature range: 0~40 °C [3] Relative humidity range: 10~90% (non-condensing)
Conformity & Certifications	EMI: CE, FCC, BSMI, RCM, R&TTE, VCCI Safety: CB, BSMI, ETL Other: RoHS, Energy Star, 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), (4) 1999/5/EC related to Radio and Telecommunications Terminal Equipment (R&TTE)

[1] 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 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. In this case an active adapter like Delock 62496 is required.
Connecting a UHD/4K display via the present HDMI port means the refreshing rate is limited to 24 Hz. 60 Hz can only be achieved by using the DisplayPort port. Should your display have a HDMI 2.0 connector, a refreshing rate of 60 Hz can be achieved by using an active adapter such as the Club 3D CAC-1070 for example.

[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 microphone and headphones with only a 3-pole connector. Headsets with separate connectors for headphones and microphone, though, require an appropriate adapter, if also the microphone should be used.

[3] Caution: For high ambient temperatures over 35 °C we strongly recommend 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 determines the PC's behaviour after power failure. As a matter of the nature of this function, it may fail after short power failures. This is why this PC also comes with a hardware-based solution. By removing Jumper JP1 (please refer to the Quick Installation Guide), the system will start unconditionally once power is applied.