

Features and Specifications

This chapter lists the features and specifications of the Nitro N50-620 Desktop Computer.

NOTE The items listed in this section are for reference only. The exact configuration of your PC depends on the model purchased.

System Features

Component	Description
Operating system support	<ul style="list-style-type: none"> • Microsoft Windows 10 ML x64 • Microsoft Windows 10 SL x64 • Microsoft Windows 10 CN x64 • UEFI Shell
Processor	<ul style="list-style-type: none"> • Socket LGA1200 • Supports the following Intel Rocket Lake-S processors: <ul style="list-style-type: none"> – Intel Core i9 11900 2.5G 16M 3200 Octa Core 65W – Intel Core i9 11900F 2.5G 16M 3200 Octa Core 65W – Intel Core i7 11700 2.5G 16M 3200 Octa Core 65W – Intel Core i7 11700F 2.5G 16M 3200 Octa Core 65W – Intel Core i5 11400 2.6 12M 3200 Hexa Core 65W – Intel Core i5 11400F 2.6 12M 3200 Hexa Core 65W
Chipset	PCH: Intel B560
Graphics controller	One PCIe x16 graphics card (nVidia RTX3060Ti / nVidia RTX2060 / nVidia GTX1660 / nVidia GTX1650)
Hardware monitor	Super I/O
Memory	Support DDR4 1.2V 3200 U-DIMMs (4GB/8GB/16GB) dual channel up to 64GB total memory
Expansion options	<ul style="list-style-type: none"> • One PCI Express x16 slot (reserved for GPU card installation) • Three M.2 slots
Display	No on-board graphics controller
Audio	Realtek ALC662-VD / ALC897 5.1 Channel High Definition Audio Codec
I/O ports	<ul style="list-style-type: none"> • Front panel <ul style="list-style-type: none"> – One USB 3.2 Gen2 Type A port – One USB 3.2 Gen2 Type C port – One Microphone jack – One headset combo jack (does not support microphone only device) • Rear panel <ul style="list-style-type: none"> – One USB 3.2 Gen2x2 Type C port – Two USB 3.2 Gen1 Type A ports – Two USB 2.0 ports – One Ethernet jack (RJ45) – One Microphone jack

Component	Description
I/O ports (Cont.)	<ul style="list-style-type: none"> – One line-out jack – One line-in jack
LED display and buttons	<ul style="list-style-type: none"> • Power LED • Power button
Hard disk drive (HDD)	<ul style="list-style-type: none"> • Two HDD bays supporting 3.5-inch or 2.5-inch SATA HDDs • Support 7200 rpm SATA HDD in 1TB/2TB/3TB capacities
Solid state drive (SSD)	<ul style="list-style-type: none"> • Two M.2 slots supporting Solid State Drives (SSD) • Support SSD in 256GB/512GB/1TB capacities
Connectivity	<ul style="list-style-type: none"> • Wired LAN: Onboard 10/100/1000 Ethernet (Killer E2600/RTL8118AS) • WLAN option: Intel Jefferson Peak Wireless LAN+BT (802.11 ac)
Power supply	<ul style="list-style-type: none"> • FR 300W power supply unit (Active PFC) • FR 500W power supply unit (Active PFC)
Security	<ul style="list-style-type: none"> • Firmware Trusted Platform Module (fTPM) • BIOS-based user and supervisor passwords • Kensington lock
System BIOS	<ul style="list-style-type: none"> • AMI BIOS with 32 MB SPI Flash ROM • Supports ACPI revision 6.2 standard • Supports Plug and Play, STR(S3)/STD(S4), hardware monitor, Multi Boot, and DMI protocols

Physical Specifications

Aspect	Description
Chassis dimension (W x H x D)	175mm x 376mm x 350mm (6.9in x 14.8in x 13.8in)
System weight	7.45kg (16.42lb)
Mainboard form factor	DTX compatible
Mainboard dimensions (W x H)	200mm*321mm, 6 Layers

Environmental Requirements

Temperature

Item	Description
Operating	5 to 35 °C (41 to 95 °F)
Non-operating	Packed: -20 to 60 °C (-4 to 140 °F) Unpacked: -10 to 60 °C (14 to 140 °F)

Humidity

Item	Description
Operating	15% to 80% RH non-condensing
Non-operating	10% to 90% RH non-condensing at 40 °C

System Tour

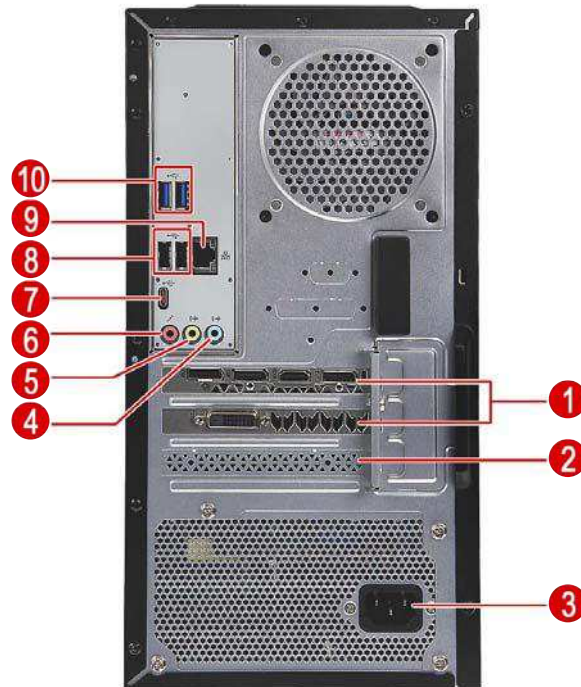
The pictures and tables in this section illustrate the physical outlook of the computer.

Front View



Item	Component
1	Power button LED
2	Power button
3	USB 3.2 Gen2 Type A port
4	USB 3.2 Gen2 Type C port
5	Microphone jack
6	Headset combo jack (does not support microphone only device)
7	Wireless charger LED

Rear View



Item	Component
1	Graphics card
2	Expansion Board slot
3	Power connector
4	Line-in jack
5	Line-out jack
6	Microphone jack
7	USB 3.2 Gen2x2 Type C port
8	USB 2.0 ports
9	LAN connector
10	USB 3.2 Gen2 Type A ports

Hardware Specifications

Processor

Item	Specification
Socket	Socket LGA1200
Package type	14 nm
CPU type	Supports the following Rocket Lake-S processors: <ul style="list-style-type: none">– Intel Core i9 11900 2.5G 16M 3200 Octa Core 65W– Intel Core i9 11900F 2.5G 16M 3200 Octa Core 65W– Intel Core i7 11700 2.5G 16M 3200 Octa Core 65W– Intel Core i7 11700F 2.5G 16M 3200 Octa Core 65W– Intel Core i5 11400 2.6 12M 3200 Hexa Core 65W– Intel Core i5 11400F 2.6 12M 3200 Hexa Core 65W

Chipset

Item	Specification
System chipset	PCH: Intel B560
Hardware monitor	ECIO IT8637

Memory

Item	Specification
Controller	Integrated in the Intel Rocket Lake-S processors
Number of DIMM slot	4
Maximum memory	64GB (using four 16GB modules)
Data rate	3200 MT/s
DIMM type	DDR4 1.2V U-DIMMs
Supported capacities	4GB, 8GB, 16GB
Vendor and models	<ul style="list-style-type: none">• KINGSTON – 4GB MTA4ATF51264AZ-3G2J1 / 8GB ACR32D4U2S8HD-8X• MICRON – 4GB MTA4ATF51264AZ-3G2J1 / 8GB MTA4ATF1G64AZ-3G2E1
Population rule	Please refer to “Reinstalling the Memory Modules” on page 78 for Memory Population Matrix Table.

Hard Disk Drive

Item	Specification
Controller	Integrated in the Intel B560 chipset
Number of HDD bays	2
Form factor	3.5-inch or 2.5-inch
Interface	SATA 3.0
Supported capacities	1TB, 2TB, 3TB
Vendor and models	<ul style="list-style-type: none">• Seagate – 2TB ST2000DM008• Toshiba – 1TB/2TB/3TB Mars• Western Digital – 1TB XL1000C

Solid State Drive (SSD)

Item	Specification
Controller	Integrated in the Intel B560 chipset
Number of SSD bays	2
Form factor	M.2 2242 / 2280
Interface	PCIe V3.0 or V4.0 / SATA 3.0
Supported capacities	256GB, 512GB, 1TB
Vendor and models	<ul style="list-style-type: none">• Hynix – 256GB HFM256GD3JX016N / 512GB HFM512GD3JX016N• Samsung – 256GB MZVL2256HCHQ-00B07 / 512GB MZVL2512HCJQ-00B07 / 1024GB MZVL21T0HCLR-00B07• Western Digital – 512GB SDBPNPZ-512G-1114

Audio

Item	Specification
Controller	Realtek ALC662-VD / ALC897 5.1 Channel High Definition Audio Codec
Connectors	Three audio jacks

Ethernet

Item	Specification
Controller	<ul style="list-style-type: none">• Killer E2600• Dragon LAN RTL8118AS
LAN protocol	10/100/1000 Mbps
LAN connector type	RJ-45

Wireless LAN

Item	Specification
WLAN module	<ul style="list-style-type: none">• Intel 9462 Jefferson Peak WLAN AC + BT• Intel 9560 Jefferson Peak WLAN AC + BT• Intel AX201 Harrison Peak WLAN AX + BT
Form factor	M.2 2230 / 1630
Interface	PCIe V3.0
Protocol	WLAN M.2 2X2 AC/AX + BT 2230

SATA Interface

Item	Specification
SATA Controller	Integrated in the Intel B560 chipset
Connectors	Two SATA 3.0 ports

PCIe Interface

Item	Specification
Controller	<ul style="list-style-type: none">Integrated in the Intel Rocket Lake-S processors (PCIe x16 / M.2 SSD)Integrated in the Intel B560 chipset (M.2)
Connectors	<ul style="list-style-type: none">One PCI Express x16 slot (PCIe V4.0)One M.2 2230 WLAN+BT slot (PCIe V3.0)One M.2 2242 / M.2 2280 SSD slot (PCIe V3.0 / V4.0)One M.2 2242 / M.2 2280 SSD slot (PCIe V3.0 / V4.0)

Keyboard and Input Devices

Item	Specification
Controller	ECIO IT8732
Connectors	Seven USB ports (two in front and five on rear)

Power Supply Unit

Item	Specification
Type	<ul style="list-style-type: none">FR 300W power supply unit (Active PFC)FR 500W power supply unit (Active PFC)
Input	100-240V
Output (max.)	300W, 500W
Vendor and models	<ul style="list-style-type: none">Chicony Power D17-300P2A 300W Active PFC 100-127V/220V-240VChicony Power D19-500P1A 500W Active PFC 100-127V/220V-240VLITE-ON PA-2301-3AB-ROHS 300W Active PFC 100-127V/200-240VLITE-ON PA-4501-1AC 500W Active PFC 100-127V/200-240V

Clearing CMOS

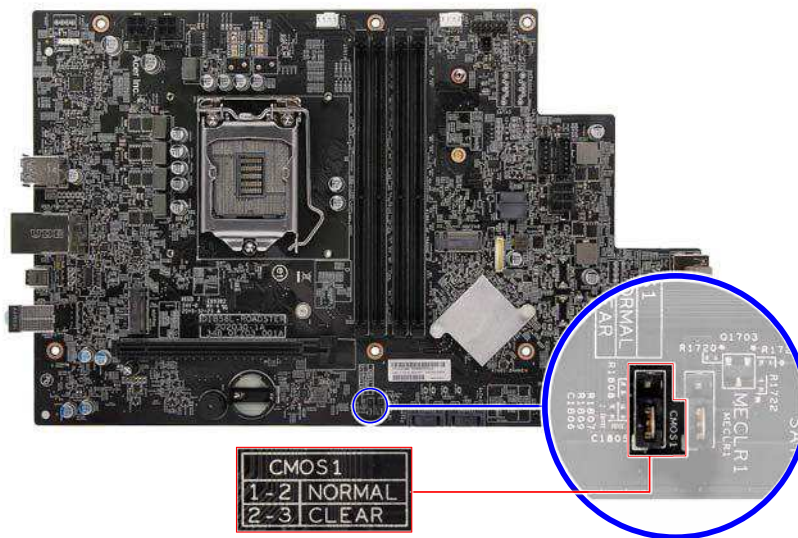
You may need to clear the Setup configuration values (CMOS) if the configuration has been corrupted, or if incorrect settings made in the Setup Utility caused error messages to be unreadable. This procedure will clear the BIOS supervisor password as well.


Use the CMOS1 jumper to clear the CMOS data.

- 1-2 position: Normal operation (default)
- 2-3 position: Clear CMOS data

To clear the CMOS data:

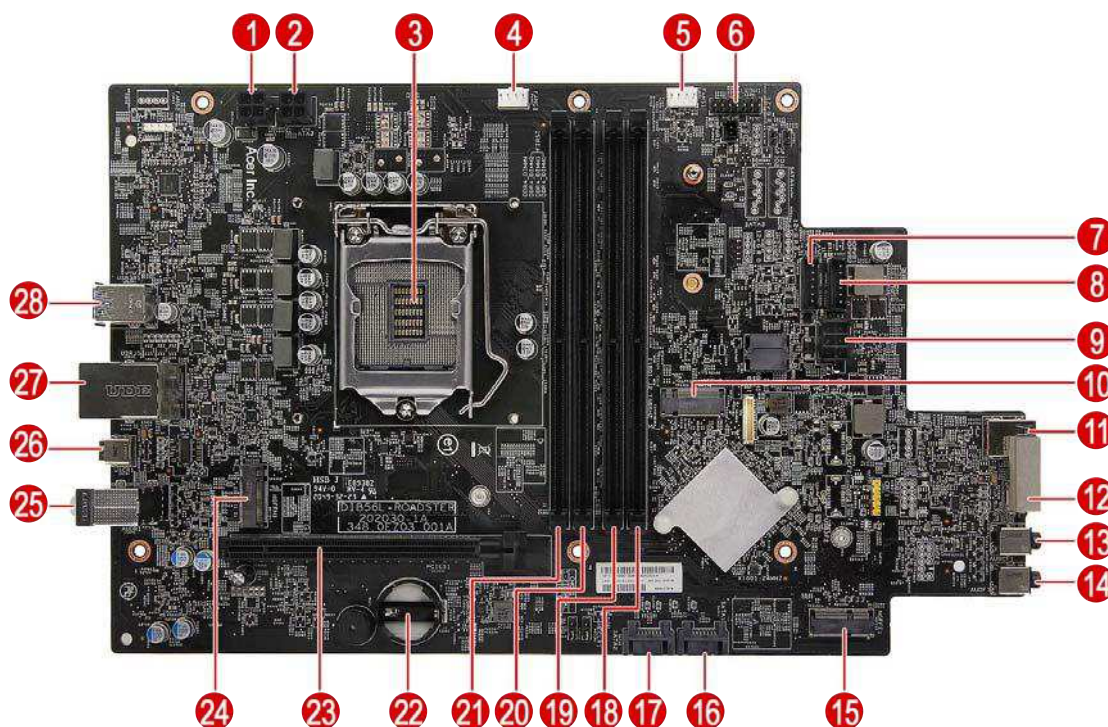
1. Turn off the power to the computer and all peripherals.
2. Unplug the power cord from the computer.
3. Unplug the network cable and all connected peripheral devices from the computer.
4. Place the computer on a flat, steady surface.
5. Remove the side panel.
6. If necessary, remove any expansion cards, assemblies or cables that prevent access to the CMOS clear jumper.
7. Locate the CLR_CMOS jumper on the mainboard.



8. Remove the jumper block and set it over the 2-3 pins for 20 to 30 seconds.
9. Return the jumper block to its default 1-2 position.
10. Reinstall any expansion card, peripheral, and system cables that have previously been removed.
11. Reinstall the side panel.
12. Connect the AC power cord to the system.
13. Press the power button  to turn on the computer.
14. During POST, press **Delete** to access the Setup Utility.
15. Press **F9** to load the system default values.
16. Press **F10** to save the changes you made and close the Setup Utility.

Mainboard Layout

This section shows the major mainboard components.



No.	Code	Component	No.	Code	Component
1	ATX2	4-Pin ATX power connector	15	NGFFE1	M.2(2230) E-key WLAN slot
2	ATX3	4-Pin ATX power connector	16	SATA1	SATA connector
3	CPU1	CPU	17	SATA2	SATA connector
4	FANC1	CPU fan header	18	DIMM1	DDR4 240-pin UDIMM slots
5	FANS1	System fan header	19	DIMM3	DDR4 240-pin UDIMM slots
6	LEDH1	Power button/LED cable header	20	DIMM2	DDR4 240-pin UDIMM slots
7	HDPWR2	6-Pin SATA power connector	21	DIMM4	DDR4 240-pin UDIMM slots
8	HDPWR1	6-Pin SATA power connector	22	BT1	Battery slot
9	ATX1	6-Pin ATX power connector	23	PCIES1	PCI Express Gen3 x16 Slot
10	NGFFM2	M.2(2280) M-key SSD2 slot	24	NGFFM1	M.2(2280) M-key SSD1 slot
11	USB3F1	Front panel USB3.2 Gen2 Type A connector	25	AUDR1	Rear panel audio jack
12	USCF1	Front panel USB3.2 Gen2 Type C connector	26	USCR1	Rear panel USB 3.2 Gen2x2 Type C connector
13	AUDCF1	Front panel audio combo jack	27	U2RJ1	USB2.0*2 + LAN connector
14	AUDF1	Front panel audio jack	28	USB3R1	Rear panel USB 3.2 Gen1 Type A connector