

Intel® NUC8 Enthusiast, a Mini PC with Windows® 10 – NUC8i7BEHGA

Intel® NUC8 Home, a Mini PC with Windows® 10 – NUC8i5BEHFA

Intel® NUC8 Home, a Mini PC with Windows® 10 – NUC8i3BEHFA

User Guide

Before You Begin



CAUTIONS

The steps in this guide assume you're familiar with computer terminology and with the safety practices and regulatory compliance required for using and modifying computer equipment.

Disconnect the computer from its power source and from any network before performing any of the steps described in this guide.

Failure to disconnect power or networks before you open the computer or perform any procedures can result in personal injury and/or equipment damage. Some circuitry on the board can continue to operate even though the front panel power button is off.

Follow these guidelines before you begin:

- Always follow the steps in each procedure in the correct order.
- Create a log to record information about your computer, such as model, serial numbers, installed options, and configuration information.
- Electrostatic discharge (ESD) can damage components. Perform the procedures described in this chapter only at an ESD workstation using an antistatic wrist strap and a conductive foam pad. If such a station isn't available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.

Installation Precautions

When you install and test the Intel NUC, observe all warnings and cautions in the installation instructions.

To avoid injury, be careful of:

- Sharp pins on connectors
- Sharp pins on circuit boards
- Rough edges and sharp corners on the chassis
- Hot components (such as SSDs, processors, voltage regulators, and heat sinks)
- Damage to wires that could cause a short circuit

Observe Safety and Regulatory Requirements

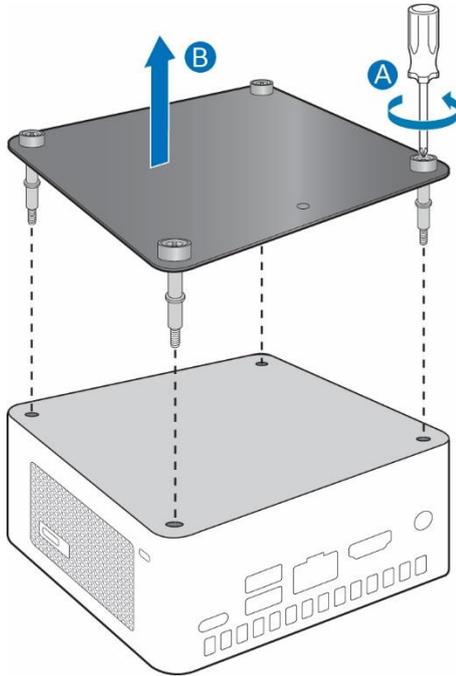
If you don't follow these instructions, you increase your safety risk and the possibility of noncompliance with regional laws and regulations.

This guide tells you how to:

- [Upgrade memory \(RAM\)](#)
- [Change/install an M.2 SSD](#)
- [Change/install a 2.5-inch drive](#)
- [Use a VESA mount bracket](#)
- [Connect power](#)
- [Set up Microsoft® Windows® 10](#)
- [Install the latest device drivers and software](#)
- [Recover the operating system](#)

Open the Chassis

Unscrew the four corner screws on the bottom of the chassis and lift the cover.



Upgrade System Memory

- The Intel NUC Mini PC NUC8i7BEHGA have two 260-pin DDR4 SO-DIMM sockets, pre-installed with one 8GB DDR4 2400 MHz SO-DIMM.
- The Intel NUC Mini PC NUC8i5BEHFA and NUC8i3BEHFA have two 260-pin DDR4 SO-DIMM sockets, pre-installed with one 4GB DDR4 2400 MHz SO-DIMM.

To upgrade memory, be sure to select memory modules that meet these requirements:

- 1.2V low voltage memory
- 2400 MHz SO-DIMMs
- Non-ECC

Find compatible memory modules in the Intel® Product Compatibility Tool.

- [NUC8i7BEHGA](#)
- [NUC8i5BEHFA](#)
- [NUC8i3BEHFA](#)

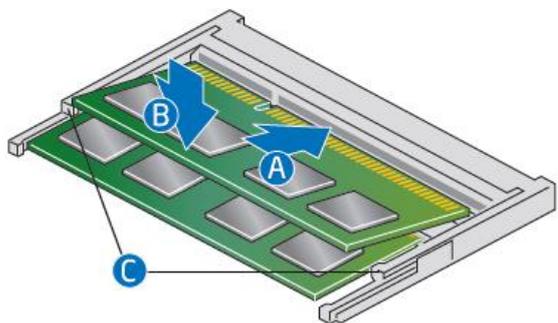
NOTE	If you plan to install only one memory module, install it in the lower memory socket.
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To upgrade or add memory, follow these steps:

1. Observe the precautions in "Before You Begin" on page 2.
2. Turn off all peripheral devices connected to the computer. Turn off the computer and disconnect the power cord.
3. Remove the computer's bottom chassis cover.

Upgrade to different memory

- a. Remove the pre-installed memory module
 - i. Gently spread the retaining clips at each end of the memory socket, which causes the module to pop out of the socket (C).
 - ii. Holding the module by the edges, lift it away from the socket, and store it in an anti-static package.
- b. Install the new memory module
 - i. Align the small space at the bottom edge of the memory module with the key in the socket.
 - ii. Insert the bottom edge of the module at a 45 degree angle into the socket (A).
 - iii. When the module is inserted, push down on the outer edges of the module until the retaining clips snap into place (B). Make sure the clips are firmly in place (C).



Install an additional memory module

- a. Align the small space at the bottom edge of the memory module with the key on the socket.
- b. Insert the bottom edge of the module at a 45 degree angle into the socket (A).
- c. When the module is inserted, push down on the outer edges of the module until the retaining clips snap into place (B). Make sure the clips are firmly in

place (C).

4. Reinstall and reconnect any parts you removed or disconnected to reach the memory sockets.
5. Replace the computer's cover and reconnect the power cord.

Changing an M.2 SSD or Intel® Optane™ Memory Module

- The Intel NUC Mini PC NUC8i7BEHGA support an 80mm or 42mm m.2 SSD, preinstalled with one 32GB Intel Optane Memory.
- The Intel NUC Mini PC NUC8i5BEHFA and NUC8i3BEHFA support an 80mm or 42mm m.2, preinstalled with one 16GB Intel Optane Memory.

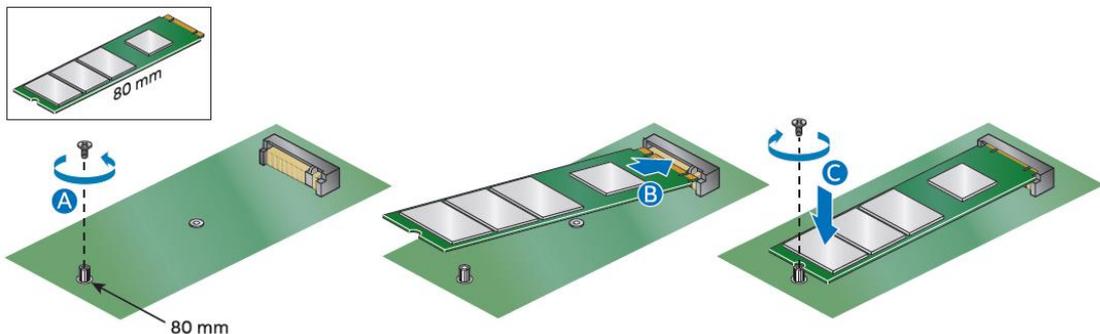
Find compatible M.2 SSDs in the Intel® Product Compatibility Tool.

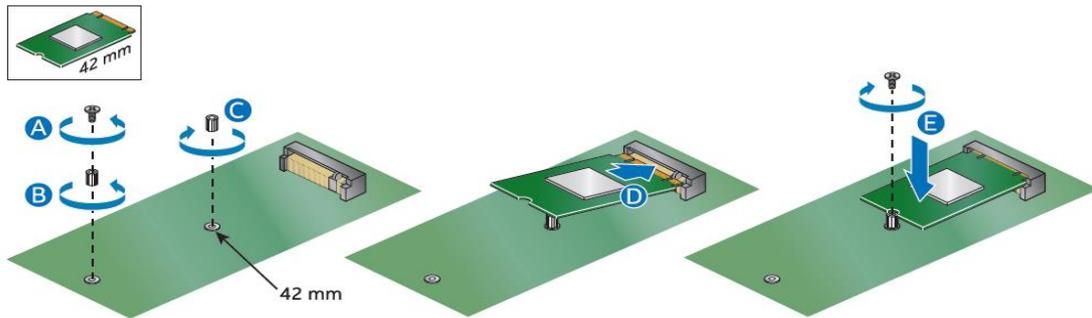
- [NUC8i7BEHGA](#)
- [NUC8i5BEHFA](#)
- [NUC8i3BEHFA](#)

NOTE	Before changing the Intel Optane memory module, it needs to be disabled. Follow Removing Intel Optane Memory on this page first, before taking the module out.
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To Change an M.2 SSD:

1. Remove the small silver screw from the 80mm or 42mm metal standoff on the board (A).
2. Remove the pre-installed SSD/Intel Optane Memory from the connector.
3. Align the space at the bottom of the new M.2 SSD to the key on the connector.
4. Insert the bottom edge of the M.2 SSD into the connector (B).
5. Secure the card to the standoff with the small silver screw (C).





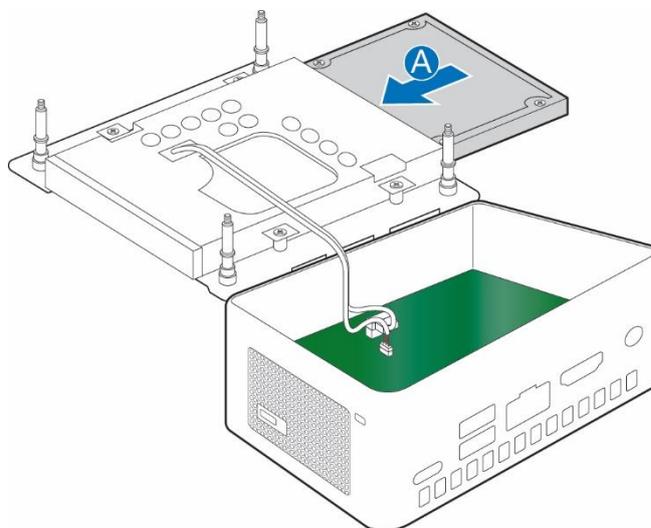
Changing a 2.5" SSD or Hard Drive

- The Intel NUC Mini PC NUC8i7BEHGA support an additional 2.5" Solid State Drive (SSD) or Hard Disk Drive (HDD), pre-installed with one 2TB HDD.
- The Intel NUC Mini PC NUC8i5BEHFA and NUC8i3BEHFA support an additional 2.5" Solid State Drive (SSD) or Hard Disk Drive (HDD), pre-installed with one 1TB HDD.

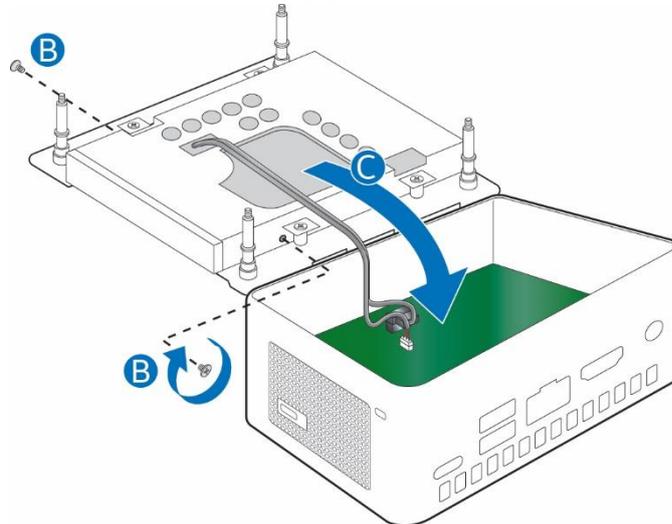
Find compatible 2.5" drives in the Intel Product Compatibility Tool.

- [NUC8i7BEHGA](#)
- [NUC8i5BEHFA](#)
- [NUC8i3BEHFA](#)

1. Unscrew the four screws holding the current drive in the bay.
2. Remove the pre-installed drive from the drive bay.
3. Slide the new 2.5" drive into the drive bay, ensuring the SATA connectors are fully seated into the connectors of the SATA daughter card (A).

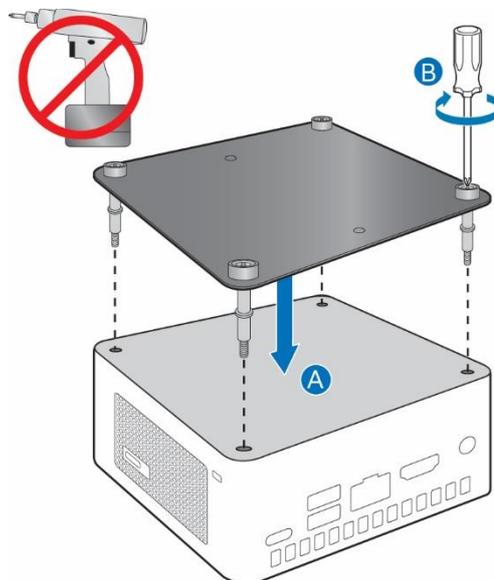


- Secure the drive into the drive bay with the four screws that were used in step 1. Set the drive bay bracket down inside the chassis (C).



Close the Chassis

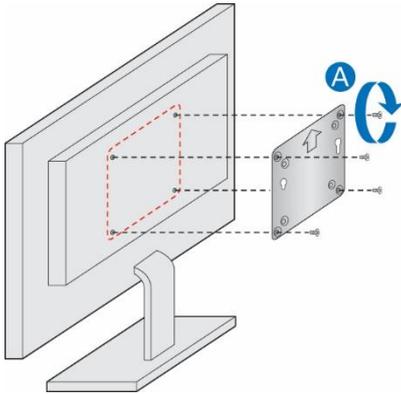
After all components have been installed, close the Intel NUC chassis. Intel recommends this be done by hand with a screwdriver to avoid over-tightening and possibly damaging the screws.



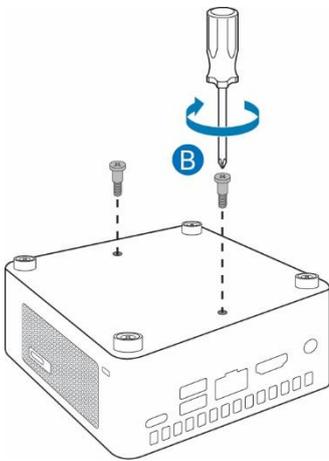
Attach and Use the VESA Bracket (Optional)

Follow these instructions to attach and use the VESA mount bracket:

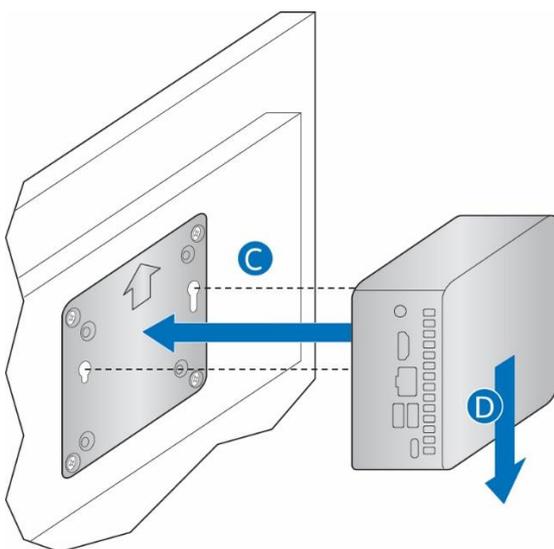
1. Using the four small black screws that were included in the box, attach the VESA bracket to the back of the monitor or TV.



2. Attach the two slightly larger black screws to the bottom chassis cover of the Intel NUC.

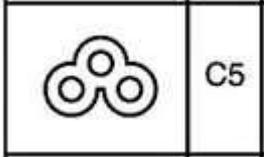


3. Slide the Intel NUC onto the VESA mount bracket.

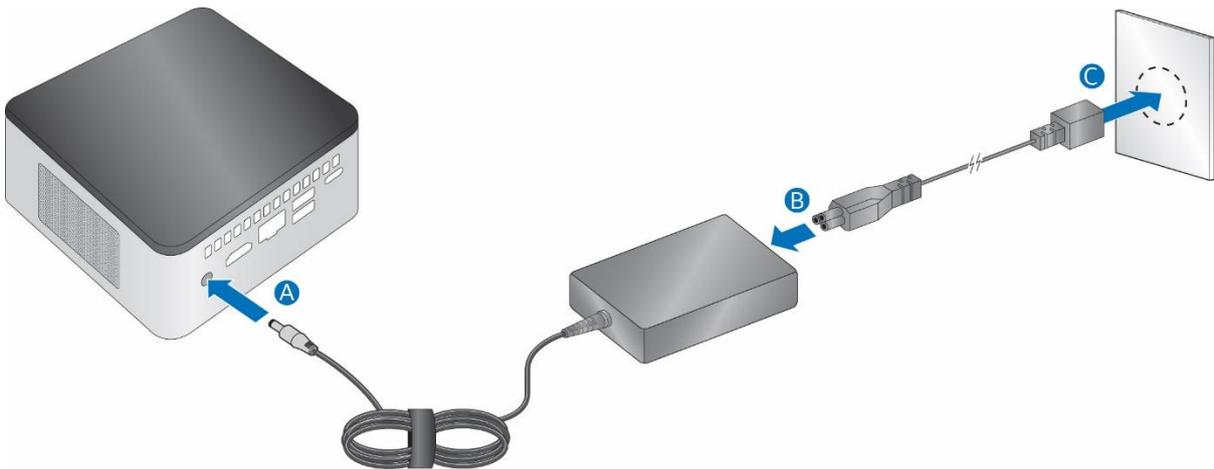


Connect Power

Each Intel NUC model includes either a region-specific AC power cord or no AC power cord (only the power adapter).

Product codes	Power cord type
BOXNUC8i7BEHGA BOXNUC8i5BEHFA BOXNUC8i3BEHFA	No power cord included. An AC power cord needs to be purchased separately. Power cords are available at many Internet sites for use in multiple countries. The connector on the power adapter is a C5 type connector. 
BOXNUC8i7BEHGA1 BOXNUC8i5BEHFA1 BOXNUC8i3BEHFA1	US power cord included.
BOXNUC8i7BEHGA2 BOXNUC8i5BEHFA2 BOXNUC8i3BEHFA2	EU power cord included.
BOXNUC8i7BEHGA3 BOXNUC8i5BEHFA3 BOXNUC8i3BEHFA3	UK power cord included.
BOXNUC8i7BEHGA4 BOXNUC8i5BEHFA4 BOXNUC8i3BEHFA4	Australia/New Zealand power cord included.

Connect AC power.



Set Up Microsoft® Windows® 10

Microsoft Windows 10 is already installed on the Intel NUC. The first time you start the computer, you are guided through the Windows 10 setup steps, including:

- Selecting your region and language.
- Accepting the Microsoft Windows license terms.
- Personalizing Windows and assign a PC Name.
- "Get Online" dialog to pick a wireless network (this step is optional).
- Choosing Express Settings or Customize.
- Assigning a User Name and Password.

Reinstalling the Operating System

If you upgrade or replace the computer's drive, you may need to install a new version of the operating system. See these resources:

- [Supported Operating Systems](#)
- [Windows Setup Guide](#)

Install the Latest Device Drivers and Software

Here are the options for keeping device drivers current:

- Allow the [Intel® Driver & Support Assistant \(Intel® DSA\)](#) to detect out-of-date drivers
- Manually download drivers, BIOS, and software from Download Center.

- [NUC8i7BEHGA](#)
- [NUC8i5BEHFA](#)
- [NUC8i3BEHFA](#)

The following device drivers and software are available.

- Bluetooth
- Chipset
- CIR (Infrared)
- Graphics
- Intel® ME
- Intel® Rapid Storage Technology
- Intel® Ready Mode Technology
- Intel® Software Guard Extensions (Intel® SGX)
- LAN (wired and wireless)
- Realtek Audio
- Realtek Card Reader
- Serial IO
- Thunderbolt

Operating System Recovery

There's a Windows recovery partition on the Intel NUC. You can use this partition to Refresh, Reset, or Restore Windows. Here is what each of these actions do:

Refresh	<p>If your PC isn't performing as well as it once did, and you don't know why, you can refresh your PC. This action doesn't delete any of your personal files or change your settings. Refresh does the following:</p> <ul style="list-style-type: none"> • Files and personalization settings won't change. • PC settings are changed back to their defaults. • Apps from the Windows Store are kept. • Apps installed from disks or websites are removed. • List of removed apps is saved on the desktop.
Reset	<p>If you want to recycle your PC, give it away, or start over with it, you can reset it completely. This process removes everything. Reset does the following:</p> <ul style="list-style-type: none"> • All personal files and apps are removed. • PC settings are changed back to their defaults. • Windows is reinstalled.
Restore	<p>If a recently installed app or driver is causing problems with your PC, you can restore Windows back to an earlier point in time, called a restore point. System Restore doesn't change your personal files, but it can remove recently installed apps and drivers.</p>

Caution - Before performing a Refresh or Reset:

- Make sure to back up all personal data to external storage.
- Remove SD card from the card slot, if one is inserted.

To access the recovery media:

If Windows starts	<p>From Windows Start, type Recovery and select Recovery Options.</p> <p>See Recovery options in Windows 10 for complete details on how to use the recovery options.</p>
If Windows doesn't start	<p>The recovery process should automatically start. If Recovery doesn't automatically start, you can try to initiate it as follows:</p> <ol style="list-style-type: none"> 1. Press F8 during boot, when you see the prompt "F8 to Activate Windows 8.1/10 Recovery Mode". 2. Follow the recovery steps.