



Intel® NUC 12 Pro Mini PC NUC12WSHi3  
Intel® NUC 12 Pro Mini PC NUC12WSHi5  
Intel® NUC 12 Pro Mini PC NUC12WSHi7

[User Guide](#)

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*August 2022*



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## Revision History

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Date	Revision	Description
August 2022	1.0	Initial release.

## 1.0 Introduction

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This User Guide provides step-by-step installation instructions for these products:

- Intel® NUC 12 Pro Mini PC NUC12WSHi3
- Intel® NUC 12 Pro Mini PC NUC12WSHi5
- Intel® NUC 12 Pro Mini PC NUC12WSHi7

### 1.1 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, telecommunications links, or networks before you open the computer or perform any procedures can result in personal injury 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.

### 1.2 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 all warnings and cautions that instruct you to refer computer servicing to qualified technical personnel.

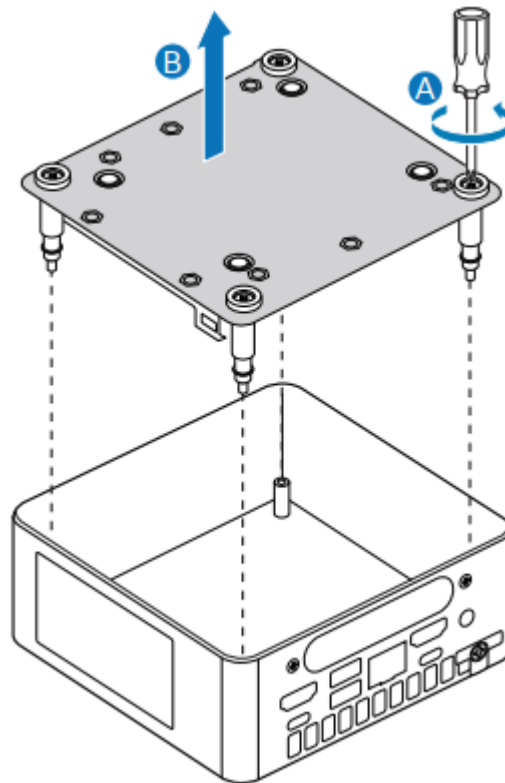
### **1.3 Observe Safety and Regulatory Requirements**

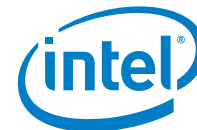
If you don't follow these instructions, you increase your safety risk and the possibility of noncompliance with regional laws and regulations.

## 2.0 *Open the Chassis*

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





## 3.0 Upgrade System Memory

The Intel® NUC 12 Pro Mini PC NUC12WSK has two 260-pin DDR4 SO-DIMM sockets.

### Pre-installed memory

Intel® NUC 12 Pro Mini PC NUC12WSHi3	2x 4GB DDR4-3200 SODIMMs
Intel® NUC 12 Pro Mini PC NUC12WSHi5	2x 4GB DDR4-3200 SODIMMs
Intel® NUC 12 Pro Mini PC NUC12WSHi7	2x 8GB DDR4-3200 SODIMMs

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

- 1.2V low voltage memory
- 2133/2400/3200 MHz SO-DIMMs
- Non-ECC

Find compatible memory modules in the Intel Product Compatibility Tool:

- [Intel® NUC 12 Pro Mini PC NUC12WSHi3](#)
- [Intel® NUC 12 Pro Mini PC NUC12WSHi5](#)
- [Intel® NUC 12 Pro Mini PC NUC12WSHi7](#)

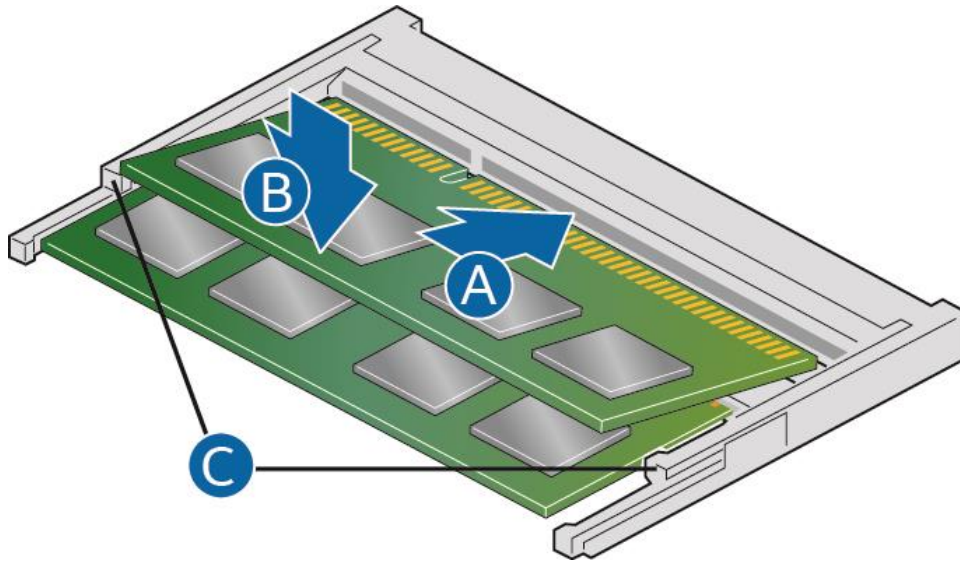
<b>NOTE</b>	If you plan to install only one memory module, install it in the lower memory socket.
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## 3.1 Upgrade to Different Memory

1. Observe the precautions in "Before You Begin" in Section 1.1.
2. Turn off all peripheral devices connected to the computer.
3. Turn off the computer and disconnect the power cord.
4. Remove the computer's bottom chassis cover.
5. Remove the pre-installed memory module
  - a. Gently spread the retaining clips at each end of the memory socket, which causes the module to pop out of the socket (C).
  - b. Holding the module by the edges, lift it away from the socket, and store it in an anti-static package.
6. Install the new memory module
  - a. Align the small space at the bottom edge of the memory module with the key in 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).



## 3.2 Install Additional Memory

1. Observe the precautions in "Before You Begin" in Section 1.1.
2. Turn off all peripheral devices connected to the computer.
3. Turn off the computer and disconnect the power cord.
4. Remove the computer's bottom chassis cover.
5. Install the additional 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).
6. Reinstall and reconnect any parts you removed or disconnected to reach the memory sockets.
7. Replace the computer's cover and reconnect the power cord.

## 4.0 Changing the M.2 SSD

The Intel® NUC 12 Pro Mini PC NUC12WSK supports an 80mm and 42mm SSD.

### Pre-installed M.2

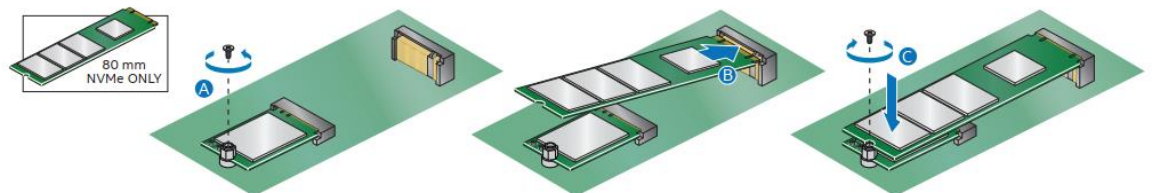
Intel® NUC 12 Pro Mini PC NUC12WSHi3	500GB Gen 4 NVMe SSD
Intel® NUC 12 Pro Mini PC NUC12WSHi5	500GB Gen 4 NVMe SSD
Intel® NUC 12 Pro Mini PC NUC12WSHi7	500GB Gen 4 NVMe SSD

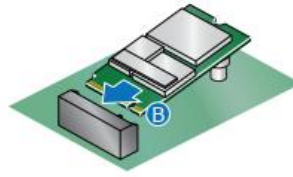
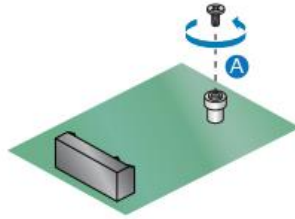
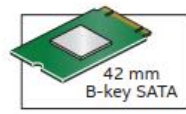
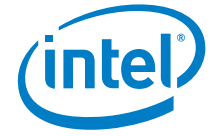
Find compatible M.2 SSDs in the Intel Product Compatibility Tool:

- [Intel® NUC 12 Pro Mini PC NUC12WSHi3](#)
- [Intel® NUC 12 Pro Mini PC NUC12WSHi5](#)
- [Intel® NUC 12 Pro Mini PC NUC12WSHi7](#)

To install a different M.2 SSD:

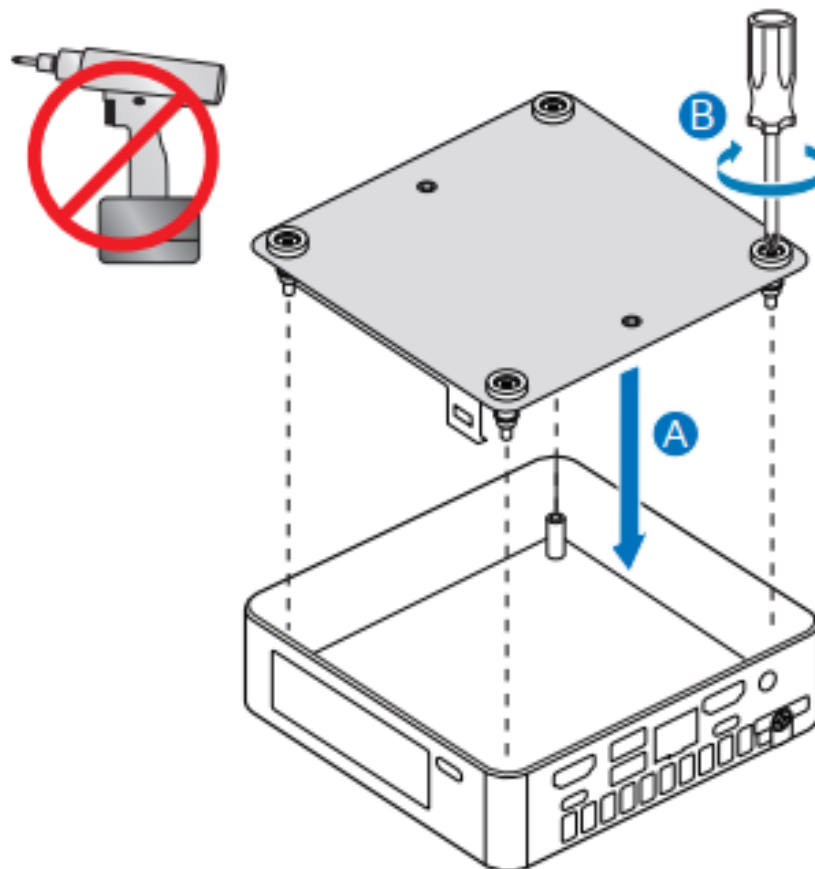
1. Remove the small silver screw from the 80mm or 42mm metal standoff on the board (A).
2. Remove the pre-installed SSD/Intel Optane Memory from the connector.
3. Align the space at the bottom of the new M.2 SSD to the key on the connector.
4. Insert the bottom edge of the M.2 SSD into the connector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





## 5.0 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.

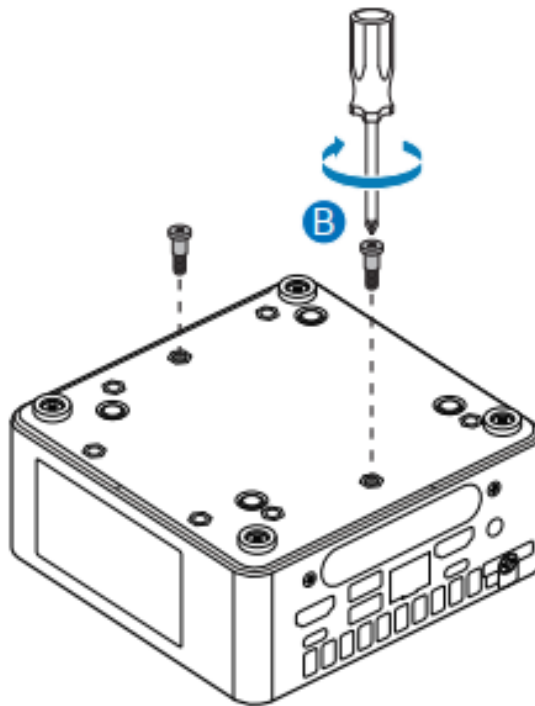


## 6.0 Use the VESA Bracket (Optional)

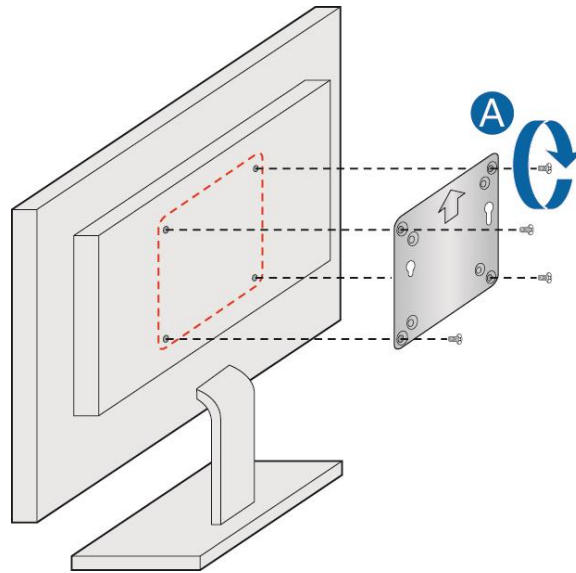
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Follow these instructions to attach and use the VESA mount bracket:

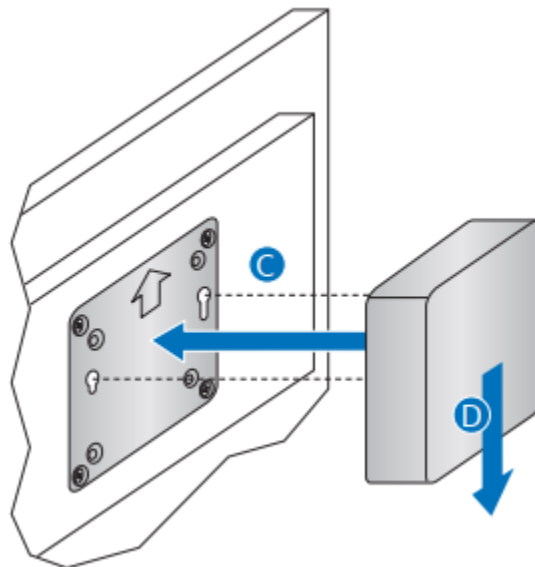
1. Using the four small black screws that were included in the box, attach the VESA bracket to the back of the monitor or TV.



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.





## 7.0 *Connect Power*

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Each Intel NUC model includes a region-specific AC power cord.

<b>Product codes</b>	<b>Power cord type</b>
RNUC12WSHI30WA6 RNUC12WSHI50WA6 RNUC12WSHI70QA6	CN power cord included.



## 8.0 *Set Up Microsoft® Windows 11*

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Microsoft Windows 11 is already installed on the Intel NUC. The first time you start the computer, you are guided through the Windows 11 setup steps, including:

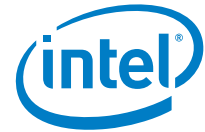
- Selecting your region and language.
- Accepting the Microsoft Windows license terms.
- Personalizing Windows and assign a PC Name.
- "Get Online" dialog to pick a wireless network (this step is optional).
- Choosing Express Settings or Customize.
- Assigning a User Name and Password.

### **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](#)





## 9.0 *Install the Latest Device Drivers and Software*

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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:
  - [Intel® NUC 12 Pro Mini PC NUC12WSHi3](#)
  - [Intel® NUC 12 Pro Mini PC NUC12WSHi5](#)
  - [Intel® NUC 12 Pro Mini PC NUC12WSHi7](#)



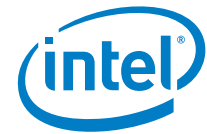
## 10.0 Operating System Recovery

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:

<b>Refresh</b>	<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"><li>• Files and personalization settings won't change.</li><li>• PC settings are changed back to their defaults.</li><li>• Apps from the Windows Store are kept.</li><li>• Apps installed from disks or websites are removed.</li><li>• List of removed apps is saved on the desktop.</li></ul>
<b>Reset</b>	<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"><li>• All personal files and apps are removed.</li><li>• PC settings are changed back to their defaults.</li><li>• Windows is reinstalled.</li></ul>
<b>Restore</b>	<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:

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