



Intel® NUC 11 Performance NUC11PAQi70QA

Intel® NUC 11 Performance NUC11PAQi50WA

Intel® NUC 11 Performance NUC11PAQi30WA

[User Guide](#)

January 2021



You may not use or facilitate the use of this document in connection with any infringement or other legal analysis concerning Intel products described herein. You agree to grant Intel a non-exclusive, royalty-free license to any patent claim thereafter drafted which includes subject matter disclosed herein.

No license (express or implied, by estoppel or otherwise) to any intellectual property rights is granted by this document.

All information provided here is subject to change without notice. Contact your Intel representative to obtain the latest Intel product specifications and roadmaps.

The products described may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

Copies of documents which have an order number and are referenced in this document may be obtained by calling 1-800-548-4725 or by visiting: <http://www.intel.com/design/literature.htm>.

Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure.

Intel and the Intel logo are trademarks of Intel Corporation or its subsidiaries in the U.S. and/or other countries.

*Other names and brands may be claimed as the property of others.

Copyright © 2021, Intel Corporation. All rights reserved.

Contents

1.0	Introduction	5
1.1	Before You Begin	5
1.2	Installation Precautions.....	5
1.3	Observe Safety and Regulatory Requirements.....	6
2.0	Open the Chassis	7
3.0	Upgrade System Memory	8
3.1	Upgrade to Different Memory	8
3.2	Install Additional Memory	9
4.0	Changing the M.2 SSD	10
5.0	Install a 2.5" SSD or Hard Drive	12
6.0	Close the Chassis	13
7.0	Use the VESA Bracket (Optional)	14
8.0	Connect Power	16
9.0	Set Up Microsoft® Windows® 10	19
10.0	Install the Latest Device Drivers and Software	20
11.0	Operating System Recovery	21

Revision History

Date	Revision	Description
January 2021	1.0	Initial release.

1.0 Introduction

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

- Intel® NUC 11 Performance, a Mini PC with Windows® 10 – NUC11PAQi70QA
- Intel® NUC 11 Performance, a Mini PC with Windows® 10 – NUC11PAQi50WA
- Intel® NUC 11 Performance, a Mini PC with Windows® 10 – NUC11PAQi30WA

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

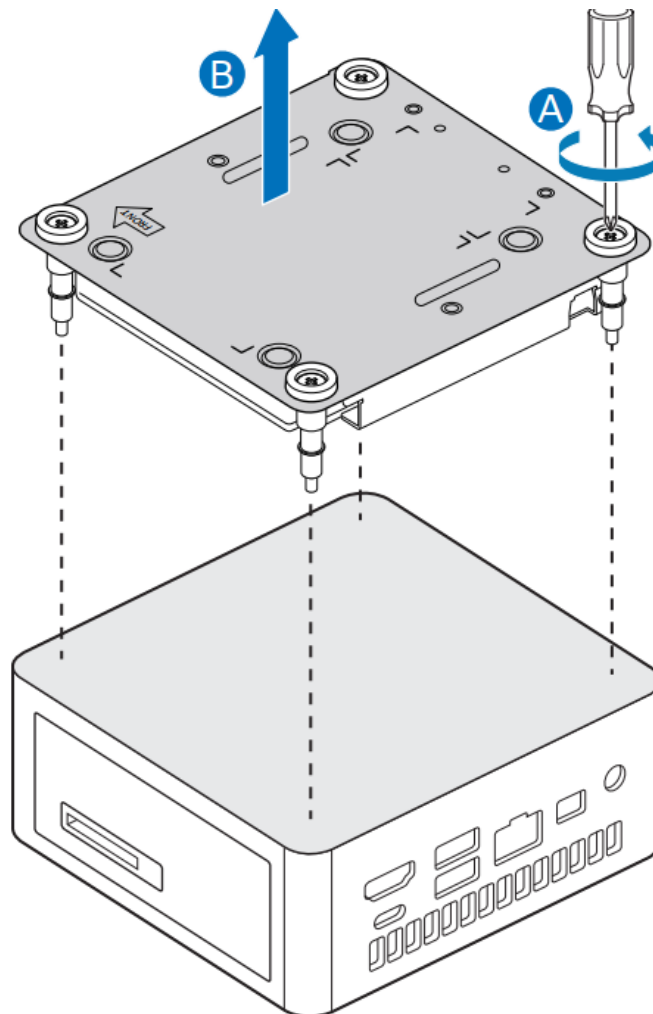
Observe all warnings and cautions that instruct you to refer computer servicing to qualified technical personnel.

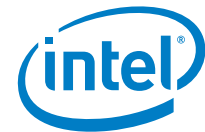
1.3 Observe Safety and Regulatory Requirements

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*

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





3.0 Upgrade System Memory

The Intel® NUC 11 Performance Mini-PCs NUC11PAQi70QA, NUC11PAQi50WA and NUC11PAQi30WA have two 260-pin DDR4 SO-DIMM sockets.

Pre-installed memory

NUC11PAQi70QA	Two 8GB memory module
NUC11PAQi50WA	Two 4GB memory module
NUC11PAQi30WA	Two 4GB memory module

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

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

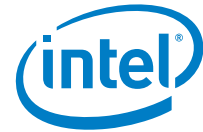
Find compatible memory modules in the Intel Product Compatibility Tool:

- [NUC11PAQi70QA](#)
- [NUC11PAQi50WA](#)
- [NUC11PAQi30WA](#)

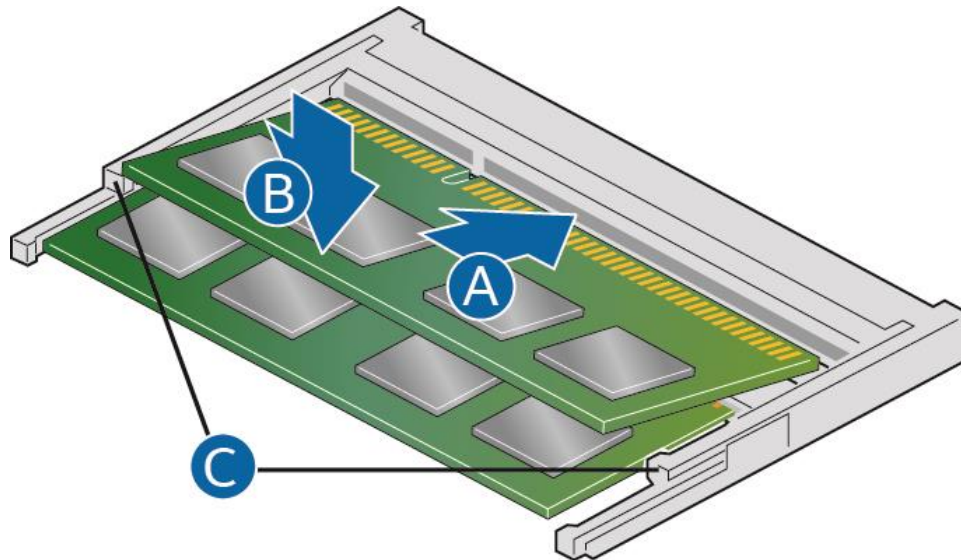
NOTE	If you plan to install only one memory module, install it in the lower memory socket.
-------------	---

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 11 Performance Mini PCs NUC11PAQi70QA, NUC11PAQi50WA and NUC11PAQi30WA support an 80mm or 42mm SSD.

Pre-installed M.2

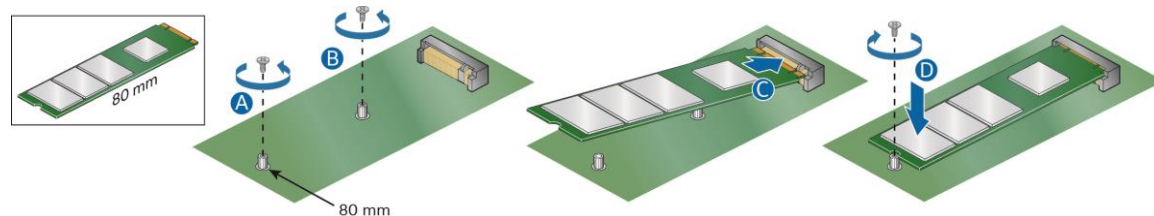
NUC11PAQi70QA	One 500GB Gen 4 NVMe SSD
NUC11PAQi50WA	One 500GB Gen 4 NVMe SSD
NUC11PAQi30WA	One 500GB Gen 4 NVMe SSD

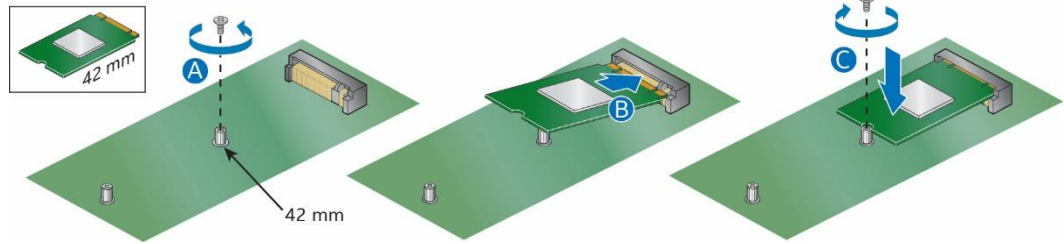
Find compatible M.2 SSDs in the Intel Product Compatibility Tool:

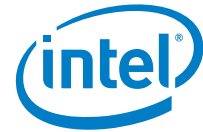
- [NUC11PAQi70QA](#)
- [NUC11PAQi50WA](#)
- [NUC11PAQi30WA](#)

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).







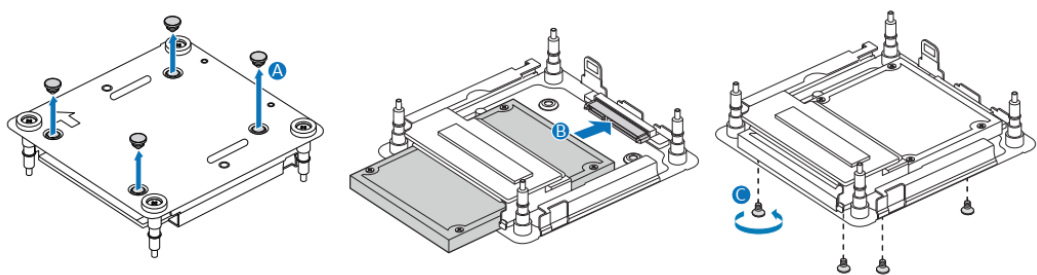
5.0 *Install a 2.5" SSD or Hard Drive or Intel® Optane™ Memory Module*

The Intel® NUC 11 Performance Mini PCs NUC11PAQi70QA, NUC11PAQi50WA, and NUC11PAQi30WA support an additional 2.5" Solid State Drive (SSD) or Hard Disk Drive (HDD).

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

- [NUC11PAQi70QA](#)
- [NUC11PAQi50WA](#)
- [NUC11PAQi30WA](#)

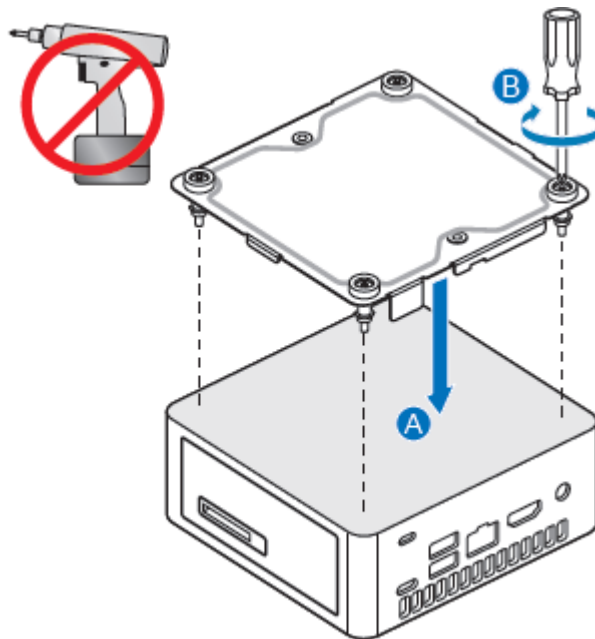
1. Unscrew the four screws holding the current drive in the bay.
2. Remove the pre-installed drive from the drive bay.
3. Slide the new 2.5" drive into the drive bay, ensuring the SATA connectors are fully seated into the connectors of the SATA daughter card (A).
4. Secure the drive into the drive bay with the four screws that were used in step 1. Set the drive bay bracket down inside the chassis (C).



Intel® Optane™ Memory Module installation and integration instructions are available by this [link](#)

6.0 Close the Chassis

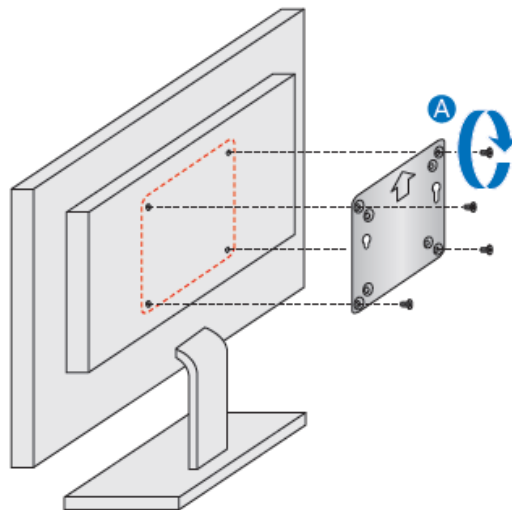
After all components have been installed, close the Intel NUC chassis. Intel recommends this be done by hand with a screwdriver to avoid over-tightening and possibly damaging the screws.



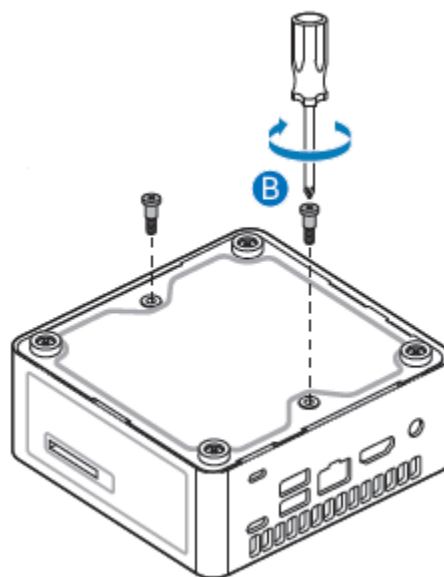
7.0 Use the VESA Bracket (Optional)

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

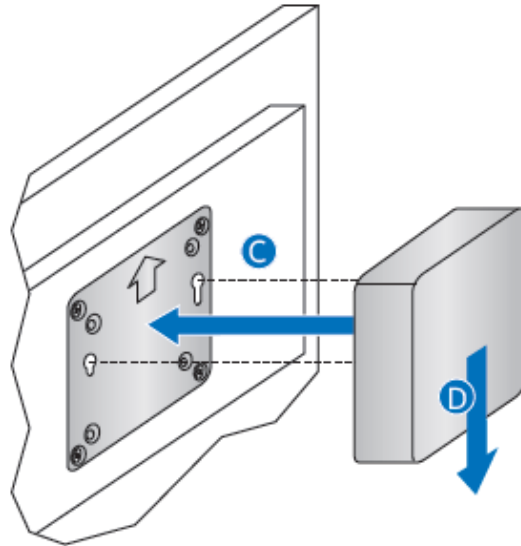
1. Using the four small black screws that were included in the box, attach the VESA bracket to the back of the monitor or TV.



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



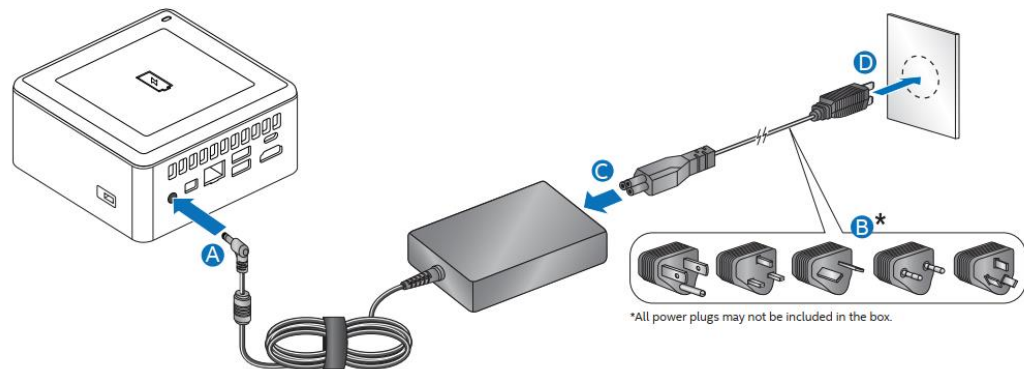
3. Slide the Intel NUC onto the VESA mount bracket.



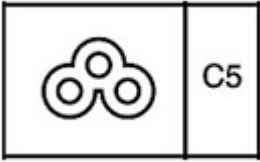
8.0 Connect Power

Country-specific power cords are included in the Intel NUC Kit box.

1. Connect AC power.

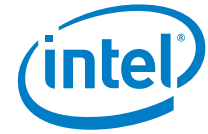


Each Intel NUC model includes either a region-specific AC power cord or no AC power cord (only the power adapter).

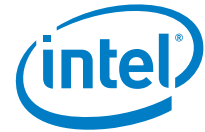
Product codes	Power cord type
RNUC11PAQi70QA0 RNUC11PAQi50WA0 RNUC11PAQi30WA0 RNUC11PAQi70000 RNUC11PAHi70000 RNUC11PAQi50000 RNUC11PAHi50000 RNUC11PAKi50000 RNUC11PAHi30000 RNUC11PAKi30000	No power cord included. An AC power cord needs to be purchased separately. Power cords are available at many Internet sites for use in multiple countries. The connector on the power adapter is a C5 type connector. 
RNUC11PAQi70QA1 RNUC11PAQi50WA1	US power cord included.



RNUC11PAQi30WA1 RNUC11PAQi70001 RNUC11PAHi70001 RNUC11PAKi70001 RNUC11PAQi50001 RNUC11PAHi50001 RNUC11PAKi50001 RNUC11PAHi30001 RNUC11PAKi30001	
RNUC11PAQi70QA2 RNUC11PAQi50WA2 RNUC11PAQi30WA2 RNUC11PAQi70002 RNUC11PAHi70002 RNUC11PAKi70002 RNUC11PAQi50002 RNUC11PAHi50002 RNUC11PAKi50002 RNUC11PAHi30002 RNUC11PAKi30002	EU power cord included.
RNUC11PAQi70QA3 RNUC11PAQi50WA3 RNUC11PAQi30WA3 RNUC11PAHi70003 RNUC11PAHi50003 RNUC11PAKi50003 RNUC11PAHi30003 RNUC11PAKi30006	UK power cord included.
RNUC11PAQi70QA4 RNUC11PAQi50WA4 RNUC11PAQi30WA4 RNUC11PAHi70004 RNUC11PAHi50004 RNUC11PAKi50004 RNUC11PAHi30004 RNUC11PAKi30004	Australia/New Zealand power cord included.
RNUC11PAHi70005 RNUC11PAHi50005 RNUC11PAHi30005	India power cord included.



RNUC11PAQi70QA6 RNUC11PAQi50WA6 RNUC11PAQi30WA6 RNUC11PAHi70006 RNUC11PAHi50006 RNUC11PAKi50006 RNUC11PAHi30006 RNUC11PAKi30006	China power cord included.
--	----------------------------



9.0 *Set Up Microsoft® Windows® 10*

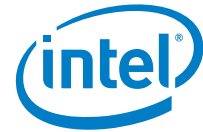
Microsoft Windows 10 is already installed on the Intel NUC. The first time you start the computer, you are guided through the Windows 10 setup steps, including:

- 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](#)



10.0 *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:
 - [NUC11PAQi70QA](#)
 - [NUC11PAQi50WA](#)
 - [NUC11PAQi30WA](#)

The following device drivers and software are available.

- Intel® Chipset Device Software
- Intel® HD Graphics
- Intel® Management Engine
- Intel® Gigabit Ethernet
- Intel® Wireless
- Intel® Bluetooth
- Intel® USB 3.0 (needed for Windows 7* only)
- Intel® Serial IO
- Realtek* High Definition Audio
- ITE Tech* Consumer Infrared
- Intel® Rapid Storage Technology
- Intel® Software Guard Extensions



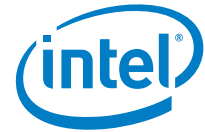
11.0 Operating System Recovery

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:

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	From Windows Start, type Recovery and select Recovery Options . See Recovery options in Windows 10 for complete details on how to use the recovery options.
If Windows doesn't start	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">1. Press F8 during boot, when you see the prompt "F8 to Activate Windows 8.1/10 Recovery Mode".2. Follow the recovery steps.