



Intel® Solid State Drive Firmware Update Tool

User Guide

Software Version 3.0.11 or later

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Document Revision History

Date	Revision	Description
August 2009	001	Initial release
October 2009	002	Deleted the Apple Safari content from Known Issues section. The Intel® SSD Firmware Update Tool now works with this website. Modified various graphics to reflect the new 1.3 firmware release.
November 2009	003	Modified graphics version information. Modified instructions in Run the Intel® SSD Firmware Update Tool section. Modified instructions in Verify New Firmware Update section.
January 2011	004	Updated document to reflect new firmware release.
August 2011	005	Added support for Intel® Solid State Drive 320 Series. Miscellaneous documentation changes.
June 2013	006	Added support for Intel® Solid State Drive DC S3700 Series Added support for Intel® Solid State Drive 335 Series Updated for version 2.0 of the Intel® SSD Firmware Update Tool software.
October 2015	007	Added support for Intel® Solid State Drive Pro 2500 and 535 Series. Added support for Intel® Solid State Drive 750 Series Added support for Intel® Solid State Drive DC S3710, DC S3610, DC S3510, DC S3500 M.2 and DC S3500 HD Series. Tool support for Windows 10
October 2016	008	Updates to known issues
April 2017	009	Modified for release of version 2.2.0
May 2017	010	Modified for release of version 2.2.1 – for systems using Intel® Optane™ Memory as a system accelerator.
February 2018	011	Modified for release of version 3.0.0. Modified Intel® SSD Firmware Update Tool software to be CLI based only instead of GUI.
September 2019	012	Update to Notes in Overview Section
March 2021	013	Removed XP/Vista related content Added instruction on creating the USB Key Update Apple instructions Added Linux Instructions
April 2021	014	Updated format and minor changes for creating USB key.

Glossary of Terms

Term	Description
ATA	Advanced Technology Attachment
FUT	Intel® SSD Firmware Update Tool
ISO	International Organization for Standardization
ISO image	An archive file or disk image of an optical disk that uses the ISO format. Typically, the file has an .ISO extension; however, Apple Mac OS ISO images often use a .CDR extension.
OS	Operating System
RAID	Redundant Array of Independent Disks (formerly Redundant Array of Inexpensive Disks)
SATA	Serial ATA
SSD	Solid State Drive

1.0 Overview

This document describes how to use the Intel® Solid State Drive Firmware Update Tool to update the firmware on Intel® Solid State Drives (Intel® SSDs) in all capacities.

NOTES:

- Before initiating the Intel SSD Firmware update, be sure to read and follow the instructions included in the Firmware update guidelines, and release notes.
- The Firmware update process is done entirely at your own risk. Before attempting to update the firmware, it is your responsibility to back up or make copies of your files. If the Intel SSD firmware update process is interrupted, your Intel SSD may not function properly.
- If you are a Windows user, please take advantage of The Intel® Memory Storage Tool to perform Firmware updates which is the preferred method for most Windows users. For the Intel® SSD 540s Series, Intel® SSD Pro 5400s Series, Intel® SSD E 5400s Series, and the Intel® SSD DC S3100 Series products, updating from the original production Firmware is only available through the [Intel® SSD Firmware Update Tool](#).
- If your system is accelerated with Intel® Optane™ Memory, you will need to temporarily disable system acceleration to run the Intel SSD Firmware Update Tool.
- If you purchased your Intel® SSD from an Original Equipment Manufacturer (OEM), your Firmware version may have different naming. Contact your local OEM representative for latest Firmware revisions.
- The Intel SSD Firmware Update Tool recognizes all Intel SSDs, but if there is no updated firmware available for a specific model, the tool does not provide any functionality.
- The Intel SSD Firmware Update Tool requires that Legacy Boot is enabled in the BIOS.
- For a listing of the latest Firmware on all products, please see the [Firmware listing page](#). While the latest firmware might appear on the Firmware listing page, this tool may not yet be updated to provide the Firmware update. Please check the release notes to confirm the Firmware update is available in this tool. For [Intel SSD Firmware Update Tool](#) usage instructions and known issues, please see the User Guide.
- If you are an Apple or Linux user, you will continue to use the Intel SSD Firmware Update Tool for firmware updates.
- The Firmware included in this package is intended to enable your Intel SSD to deliver the best performance in your PC. Use this update tool or the Intel SSD Intel® Memory Storage Tool to get the latest production firmware.
- If you need any assistance with the firmware update or experience issues, please contact [Intel Customer Support](#).
- This download contains both Intel proprietary software and an open source Linux operating environment. The Intel proprietary software is licensed under the Intel® Software License Agreement only. The components of the open source Linux operating environment provided in this download are licensed under the GNU L/GPL and other licenses as applicable. These licenses are included in the "licenses" folder in the download image. You can see the [source code for this open source operating environment](#).

For Microsoft Windows and Linux operating systems, follow the firmware update instructions in Section 2.0, “[Windows 7/8/10 Instructions](#)”.

For Apple Mac OS systems, follow the instructions in Section 3.0, “Apple Mac Instructions.”

For Linux OS systems, follow the instructions in Section 4.0.

The firmware update process involves three steps:

- 1. Perform the setup**

Prior to updating the SSD firmware, perform such activities as backing up your data and closing all other applications.

- 2. Download the Intel® SSD Firmware Update Tool to a USB Flash Drive or blank CD (CD-R or CD-RW)**

The tool is a self-contained firmware update package formatted as an ISO image, which must be downloaded and burned on a USB flash drive or blank CD-R.

- 3. Run the Intel® SSD Firmware Update Tool**

When installed into a host system, the CD boots its own custom Linux-based environment and runs the necessary firmware update software to modify your Intel SSD.

1.1 System Requirements

To use the Intel® SSD Firmware Update Tool, you need the following items:

- Supported Intel SSD
- Host system with an available USB port or a Read/Writable (R/W) CD-ROM drive
- ISO image burning software usually provided with the R/W CD-ROM drive, or freely available online
- Blank USB Flash Drive or blank CD (CD-R or CD-RW)
- A charged battery, if the update occurs on a mobile system

For systems accelerated with Intel® Optane™ Memory, system acceleration must be disabled temporarily to run the firmware update. System acceleration can be re-enabled after the firmware update has completed.

1.2 Known Compatibility Issues

1.2.1 Run Compatibility Issue with Secure Boot Enabled

The Intel® SSD Firmware Update Tool has a known run compatibility issues with, but not limited to:

- HP Envy Touchsmart Ultrabook
- Dell Inspiron Ultrabook 15z
- Intel® NUC Kit NUC7i3DNHE

The following are examples for disabling the Secure Boot feature. Instructions may vary on other platforms.

To run the Intel® SSD Firmware Update Tool on an HP Envy Touchsmart Ultrabook, you will first need to disable the Secure Boot feature using the following procedure:

1. Enter the **BIOS** by pressing the **F10** key while powering up the system
2. Go to **System Configuration**
3. Select **Boot Options**
Legacy Support is disabled by default
4. Enable Legacy Support.
5. Answer **YES** to the question.
Changing this setting may make the system unable to boot.
6. To modify the Legacy boot order, set **USB Diskette on key/USB** as **First Boot** using the **F6** Key
7. Press **F10** to save and exit the BIOS.

After you are finished with FUT you can reset BIOS to the Default values

To run the Intel® SSD Firmware Update Tool on a Dell Inspiron Ultrabook 15z, you will first need to disable the Secure Boot feature using the following procedure:

1. Enter the BIOS by pressing the **F2** key while powering up the system.
2. Go to the **Boot** menu.
3. Go to the **Secure Boot** option.
4. Select **Disabled**.
5. Exit with Save Changes and reset.
6. Answer **Yes** to *Save configuration and reset* question.
7. After using FUT return to the BIOS.
8. Reset **Secure Boot** to **Enabled**.
9. Save and exit.

To run the Intel® SSD Firmware Update Tool from Intel® NUC Kit NUC7i3DNHE, you will first need to disable the Secure Boot feature using the following procedure:

Steps to disable/enable secure boot:

1. Access BIOS (F2)
2. Click on Advance drop down> select boot
3. Move to Secure Boot tab
4. Add or remove check on Secure boot

1.2.2 Boot Compatibility Issues

The Intel® SSD Firmware Update Tool has a known boot compatibility issues with, but not limited to:

- AMD Turion X2 system
- Samsung NC20 VTA NANO U2250

There is no fix in the tool or known workaround at this time for these boot compatibility issues. We are continuously investigating solutions to these and other issues that relate to the tool's bootable Linux environment.

2.0 Windows 7/8/10 Instructions

2.1 Setting Up

Complete the following steps before starting the firmware update process on the PC containing the SSD.

1. Back Up the SSD

Perform a complete system backup on your Intel SSD to ensure that no data is lost during the firmware update process. Intel is not responsible for any data loss that might occur during or after a firmware update on an SSD.

Following a successful firmware update, data restoration should not be required.

2. Plug in the Power

For mobile PCs, ensure the computer battery is fully charged. For desktop PCs, ensure the system is plugged into AC power during the update process. Do not remove power at any time during the firmware update process as this could produce incomplete results and may render your Intel SSD unusable.

3. Turn Off Drive Password Protection

Some systems provide the ability to password-protect their drives. If your system has password protection enabled, the Intel SSD may reject any requests from the host to update the firmware. You may need to turn off the drive password protection prior to beginning the firmware update process.

Although it varies from system to system, you can usually find the Drive Password Protection feature located in the BIOS. Consult your system documentation for the BIOS settings and passwords.

If you need help disabling the drive password protection feature, contact Intel Customer Support: <http://www.intel.com/go/ssdsupport>

4. Check the Boot Order

This procedure requires booting from a USB flash or CD-ROM drive before the system drive. To determine the boot order for your system, reboot and enter BIOS Setup. Depending on the BIOS vendor, look for a parameter named **Boot Device Priority** or **Boot Load Order**. Ensure that the system boots the USB flash, or CD-ROM drive before the drive that contains the operating system (OS).

For more information on how to set the CD-ROM drive boot order, consult the system documentation for your PC.

If you still need additional assistance checking the boot order, contact Intel Customer Support: <http://www.intel.com/go/ssdsupport>

5. Close Applications

Before beginning the firmware download process, close all applications except for your Internet browser.

2.2 Option 1: Download the Intel® SSD Firmware Update Tool to USB Flash Drive

The Intel® SSD Firmware Update Tool is packaged as an ISO image. Similar to an archive file or a disk image, an ISO image is specifically designed for optical disks like CDs in a format specified by the International Organization for Standardization (ISO).

This means that you cannot simply copy an ISO image to a blank USB Flash Drive. (It will appear as a data file and will not work correctly.) The ISO image must be decoded with software and installed onto a blank USB Flash Drive to make it bootable with the Intel® SSD Firmware Update Tool.

Note: Along with the steps below, a video of this process can be found at the link below:

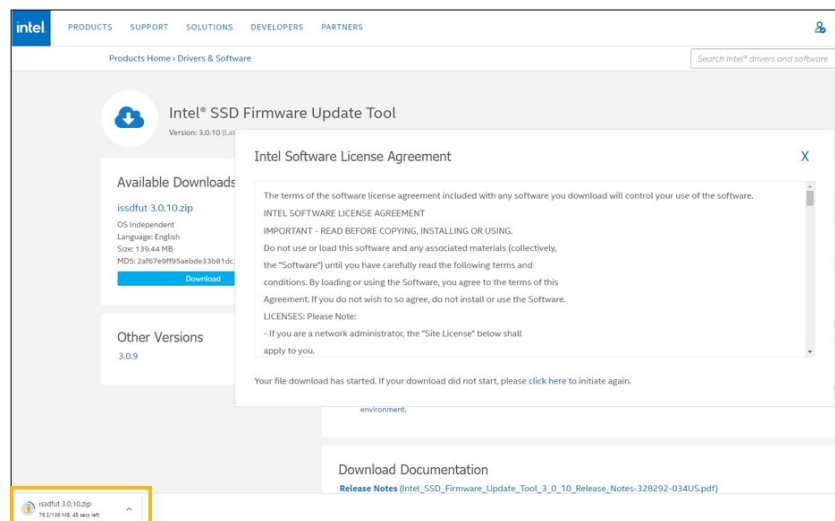
[How to Update Firmware on Intel® SSDs with the Intel® Firmware Update Tool](#)

For the purpose of illustration, we are using Universal USB installer software from pendrivelinux.com, but you may use any installer that you prefer.

1. Go to the Intel download website located at <http://www.intel.com/go/ssdfirmware>.
2. Review the *Read Me* file to better understand the firmware update process. The *Read Me* file contains high-level instructions for using the Intel® SSD Firmware Update Tool.
3. Review the Intel® SSD *Firmware Release Notes* document for a quick summary of the firmware changes for each product.
4. Click **Download** to display the terms of the license agreement. (The *Read Me.txt* file also includes the license agreement information.)
5. After reading the agreement, click **ACCEPT** to start the download.

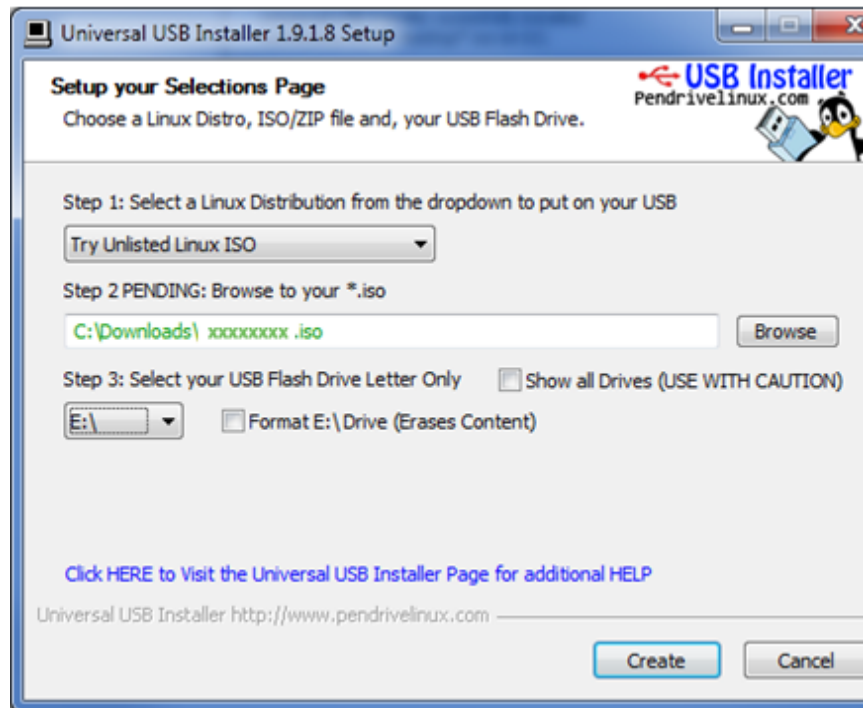
The browser prompts you to select **Open**, **Save** or **Cancel**. See Figure 1.

Figure 1: Download the ISO Image



6. Go to <http://www.pendrivelinux.com/universal-usb-installer-easy-as-1-2-3/> and download the freeware Universal USB Installer.
7. Install and run the Universal USB Installer (see Figure 2).
8. Select the Try Unlisted Linux ISO.
9. Browse to the location of the FUT ISO and select it.
10. Select the drive letter that corresponds to your blank USB Flash Drive.
11. Click **Create**.

Figure 2: Universal USB Installer



NOTE: Your screen will display the name of the current firmware update image file (xxxxxxx.iso).


2.3 Option 2: Download the Intel® SSD Firmware Update Tool to Blank CD

The Intel® SSD Firmware Update Tool is packaged as an ISO image. Similar to an archive file or a disk image, an ISO image is specifically designed for optical disks like CDs in a format specified by the International Organization for Standardization (ISO).

You cannot simply copy an ISO image to a blank CD. (It will appear as a data file and will not work correctly.) The ISO image must be decoded with software and installed onto a blank CD (CD-R or CD-RW).

1. Go to the Intel download website located at <http://www.intel.com/go/ssdfirmware>.
2. Review the Intel SSD *Firmware Release Notes* document for a quick summary of the firmware changes for each product.
3. Click **Download** to display the terms of the license agreement.
4. After reading the agreement, click **ACCEPT** to start the download.
The browser prompts you to select **Open**, **Save** or **Cancel**.
5. Following are the steps to burn the ISO image to a blank CD-R or CD-RW for your operating system.

Windows 8/10

- a) Insert a blank CD into your drive
- b) Click **Save** to download the file
- c) Specify a folder location when prompted (such as c:\temp)
- d) Press the **Windows key**  on your keyboard to go to the desktop, then click the **File Explorer** icon on the taskbar
- e) Navigate to the file folder you specified in **step b**
- f) Right-click the .ISO file and select **Burn disc image**
- g) Click **Burn**. The ISO image is burned to the CD
- h) Click **Close** when finished

Windows 7

- a) Insert a blank CD into your drive
- b) Click **Save** to download the file
- c) Specify a folder location when prompted (such as c:\temp)
- d) Open the Windows **Start** menu, open the Computer folder, and go the file folder you specified in the previous step
- e) Right-click the .ISO file and select **Open With**
- f) Select **Windows Disk Image Burner**
- g) Click **Burn**. The ISO image is burned to the CD
- h) Click **Close** when finished

2.4 Run the Intel® SSD Firmware Update Tool

After creating the ISO Image bootable USB flash drive or CD, make sure you have completed the setup procedures before running the Intel® SSD Firmware Update Tool:

- Back up the SSD
- Turn off Drive Password Protection
- Designate the USB Flash drive or CD-ROM (as appropriate) to boot first or prior to the OS drive
- Fully charge the battery (for mobile computers)
- Plug in the power cable (for desktop computers)

NOTE: If at any time during the firmware update process the program fails or your system displays a blank screen, power down and reboot your computer. Run the firmware update process again. If the second attempt fails, contact Intel Customer Support: <http://www.intel.com/go/ssdsupport>

1. Tool will boot and present the end-user software license. You will need to press “enter” to continue and read fully. Here is a sample text:

```

=====
Intel SSD Firmware Update Tool 3.0.0
Copyright(c) 2012 - 2018 Intel Corporation
=====

Copyright (C) Intel Corporation 2012 - 2018. All Rights Reserved.
Intel Software License Agreement
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
1. DEFINITIONS.

"Agreement" means this Software License Agreement.

"Open Source Software" means any software that requires as a condition of use, modification, and/or distribution that such Software
or other software incorporated into, derived from, or distributed with such Software:
i) be disclosed or distributed in source code form;
ii) be licensed by the user to third parties for the purpose of making and/or distributing derivative works; or
iii) be redistributable at no charge.

Open Source Software includes, without limitation, Software licensed or distributed under any of the following licenses or distribution
models, or licenses or distribution models substantially similar to any of the following:
a) GNU's General Public License (GPL) or Lesser/Library GPL (LGPL),
b) the Artistic License (e.g., PERL),
c) the Mozilla Public License,
d) the Netscape Public License,
e) the Sun Community Source License (SCSL),
f) the Sun Industry Source License (SISL),
g) the Apache Software License, and
h) the Common Public License (CPL).

Press enter to continue...

```

2. Once you click through and read the license the tool will prompt the user:

```

=====
Intel SSD Firmware Update Tool 3.0.0
Copyright(c) 2012 - 2018 Intel Corporation
=====

Do you accept the License? (Y|N):

```

- a. If the user declines the license agreement the tool will show the shutdown prompt:

```

=====
Intel SSD Firmware Update Tool 3.0.0
Copyright(c) 2012 - 2018 Intel Corporation
=====

Do you accept the License? (Y|N): n
Eject the CD or unplug the USB flash drive containing the Intel(R) SSD Firmware Update Tool, then shutdown your computer.
Be sure to wait 10 seconds before starting your computer again.
Press Enter to shutdown

```

- b. If user says “y” to the license prompt, then the tool will scan for Intel SSDs.

- i. If the drive does not need a firmware update it will show something like:

```
=====
Intel SSD Firmware Update Tool 3.0.0
Copyright(c) 2012 - 2018 Intel Corporation
=====

-----
Series:          Intel Optane(TM) SSD DC P4800X Series
Model:           INTEL SSDPED1K187GA
Current Firmware: E2010310
-----

--> The selected Intel SSD contains current firmware as of this tool release.

-----
Series:          Intel SSD DC S3500 Series
Model:           INTEL SSDSC2BB800G4
Current Firmware: D2012370
-----

--> The selected Intel SSD contains current firmware as of this tool release.
```

Note: The message displayed above could change depending on why the drive doesn't need an update. It could be because the drive is an invalid SKU or in a disable logical state.

- ii. If the drive does need an update it will show as below:

```
If the drive does need an update it will show:

=====
Intel SSD Firmware Update Tool 3.0.0.101 Alpha 1
Copyright(c) 2012 - 2018 Intel Corporation
=====

-----
Series:          Intel Optane(TM) SSD DC P4800X Series
Model:           INTEL SSDPED1K187GA
Current Firmware: E2010310
-----

--> The selected Intel SSD contains current firmware as of this tool release.

-----
Series:          Intel SSD DC S4500 Series
Model:           INTEL SSDSC2KB240G7
Current Firmware: SCV10105
-----
New Firmware:    SCV10111

This process will update the firmware on your Intel SSD.
Intel strongly suggests you perform the firmware update while the solid state drive is fully powered or attached to an active power source to avoid certain risks to the drives
performance.
As Intel provides no warranty for the data on your drive,
you are advised to backup your data BEFORE updating the drive firmware with this utility.

Proceed with the Firmware Update? (Y|N):
```

3. If the user says “n” (no) to the update it will show:

```

If the user says “n” (no) to the update it will show:

-----
Series:          Intel Optane(TM) SSD DC P4800X Series
Model:          INTEL SSDPED1K187GA
Current Firmware: E2010310
-----

--> The selected Intel SSD contains current firmware as of this tool release.

-----
Series:          Intel SSD DC S4500 Series
Model:          INTEL SSDSC2KB240G7
Current Firmware: SCV10105
-----
New Firmware:    SCV10111

This process will update the firmware on your Intel SSD.
Intel strongly suggests you perform the firmware update while the solid state drive is fully powered or attached to an active power source to avoid certain risks to the drives
performance.
As Intel provides no warranty for the data on your drive,
you are advised to backup your data BEFORE updating the drive firmware with this utility.

Proceed with the Firmware Update? (Y|N): n

--> Canceled.

```

4. If the user says “Y” yes it will show:

```

=====
Intel SSD Firmware Update Tool 3.0.0.101 Alpha 1
Copyright(c) 2012 - 2018 Intel Corporation
=====

-----
Series:          Intel Optane(TM) SSD DC P4800X Series
Model:          INTEL SSDPED1K187GA
Current Firmware: E2010310
-----

--> The selected Intel SSD contains current firmware as of this tool release.

-----
Series:          Intel SSD DC S4500 Series
Model:          INTEL SSDSC2KB240G7
Current Firmware: SCV10105
-----
New Firmware:    SCV10111

This process will update the firmware on your Intel SSD.
Intel strongly suggests you perform the firmware update while the solid state drive is fully powered or attached to an active power source to avoid certain risks to the drives performance.
As Intel provides no warranty for the data on your drive,
you are advised to backup your data BEFORE updating the drive firmware with this utility.

Proceed with the Firmware Update? (Y|N): y
The firmware update process can take 30 seconds to 2 minutes to complete.
Updating firmware...

Firmware update successful.

Note: the last line "Firmware update successful" could be different depending on the status of the firmware update. This will change if the firmware update failed for some reason.

```

Note: The last line “Firmware update successful” could be different depending on the status of the firmware update. This will change if the firmware update failed for some reason.

5. After it will go to the next Intel solid state drive and show either what was displayed i.e. if no update is needed or if there is an update.

6. Once the Tool has gone through all the drives it will show the shutdown prompt:

```
=====
Intel SSD Firmware Update Tool 3.0.0.101 Alpha 1
Copyright(c) 2012 - 2018 Intel Corporation
=====

-----
Series:          Intel Optane(TM) SSD DC P4800X Series
Model:           INTEL SSDPED1K187GA
Current Firmware: E2010310
-----

--> The selected Intel SSD contains current firmware as of this tool release.

-----
Series:          Intel SSD DC S4500 Series
Model:           INTEL SSDSC2KB240G7
Current Firmware: SCV10105
-----
New Firmware:    SCV10111

This process will update the firmware on your Intel SSD.
Intel strongly suggests you perform the firmware update while the solid state drive is fully powered or attached to an active power source to avoid certain risks to the drives performance.
As Intel provides no warranty for the data on your drive,
you are advised to backup your data BEFORE updating the drive firmware with this utility.

Proceed with the Firmware Update? (Y|N): y
The firmware update process can take 30 seconds to 2 minutes to complete.
Updating firmware...

Firmware update successful.
```


3.0 Linux Instructions

3.1 Setting Up

Complete the following steps before starting the firmware update process on the computer containing the SSD.

1. **Back Up the SSD**

Perform a complete system backup on your Intel SSD to ensure that no data is lost during the firmware update process. Intel is not responsible for any data loss that might occur during or after a firmware update on an SSD.

Following a successful firmware update, data restoration should not be required.

2. **Plug In the Power**

For mobile computers, ensure the computer battery is fully charged. For desktop computers, ensure the system is plugged into AC power during the update process. Do not remove power at any time during the firmware update process as this could produce incomplete results and may render your Intel SSD unusable.

3. **Close Applications**

Before beginning the firmware download process, close all applications except for your Internet browser.

3.2 Downloading the Intel® SSD Firmware Update Tool to a USB Flash Drive

The Intel® SSD Firmware Update Tool is packaged as an ISO image. Similar to an archive file or a disk image, an ISO image is specifically designed for optical disks like CDs in a format specified by the International Organization for Standardization (ISO).

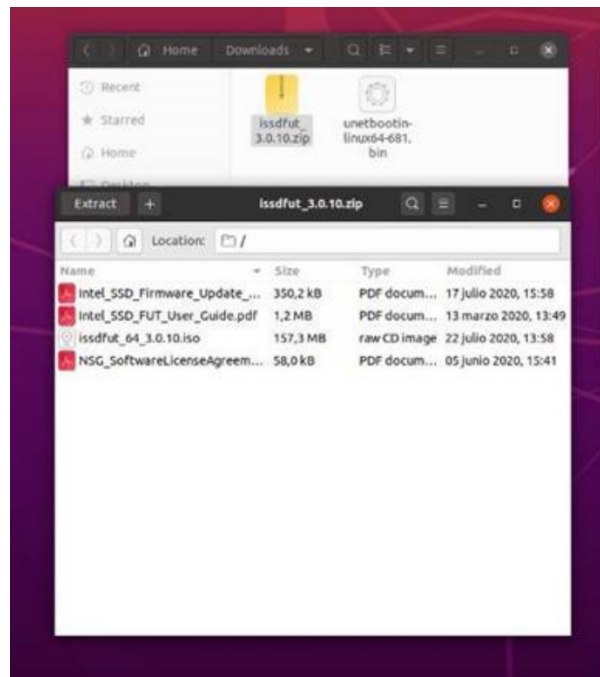
You cannot simply copy an ISO image to a USB drive. (It will appear as a data file and will not work correctly.) The ISO image must be decoded with software and installed onto a USB drive

Note: For the purpose of illustration, we are using Unetbootin installer software from unetbootin.github.io, but you may use any installer that you prefer.

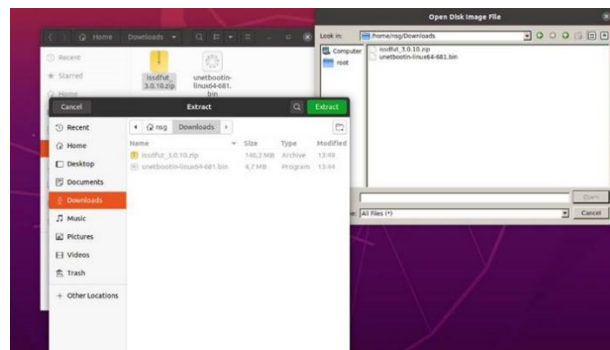
1. Go to the Intel download website located at <http://www.intel.com/go/ssdfirmware>.
 - a. Review the *Read Me.txt* file to better understand the firmware update process. The *Read Me* file contains high-level instructions for using the Intel® SSD Firmware Update Tool.
 - b. Review the *Release Notes* document for a quick summary of the firmware changes for each product.
 - c. Click **Download** to display the terms of the license agreement. (The *Read Me.txt* file also includes the license agreement information.) After reading the agreement, click **ACCEPT** (at the bottom of the page) to download the firmware update package.

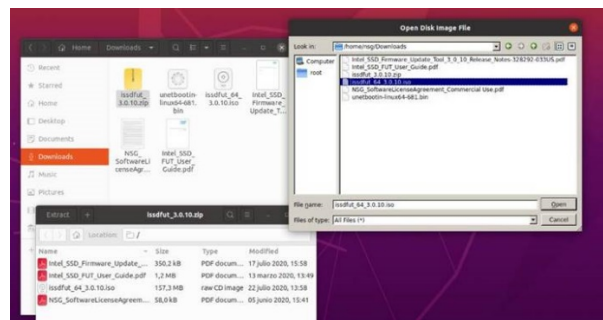
2. Go to <https://unetbootin.github.io/> to download the Unetbootin*. This utility will be used to create a bootable USB Flash drive with the Intel SSD FUT ISO
3. Install process for Unetbootin:
 - a. `sudo add-apt-repository ppa:gezakovacs/ppa`
 - b. `sudo apt-get update`
 - c. `sudo apt-get install unetbootin`

Figure 3: After downloading both packages will be located under downloads

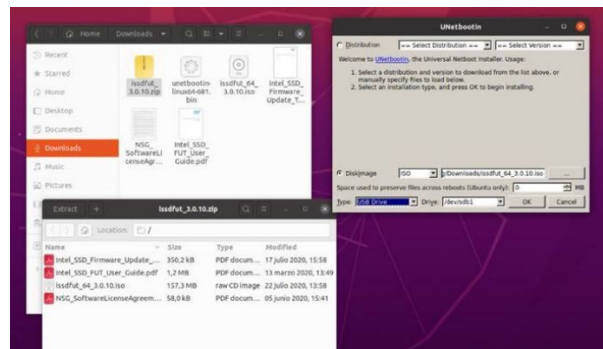


4. Extract the ZIP files to the preferred location

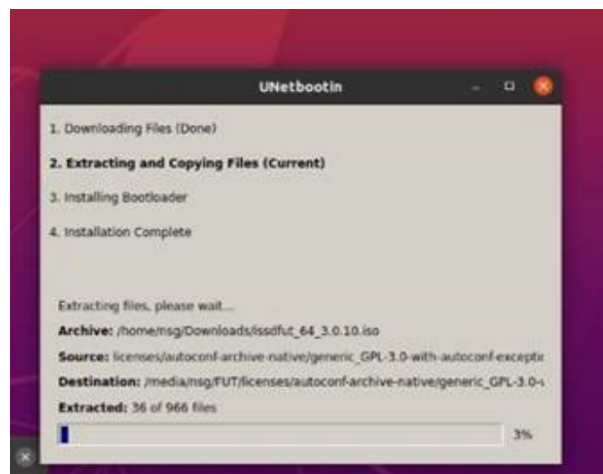




5. Open the Unetbootin software. Make sure to have a blank USB flash drive attached to a USB port to install the ISO on
 - a. Select the Disk Image option and upload the Intel SSD FUT .ISO Image
 - b. Under Type, select USB drive
 - c. Under Drive, select the Blank USB drive



- d. Press OK to start burning the image



6. Restart the system and boot from the USB drive to load the Intel SSD Firmware Update Tool.



3.3 Starting the Firmware Update Process

After creating the ISO image USB drive, refer to Section 2.4, “Run the Intel® SSD Firmware Update Tool” and follow the steps to update the firmware if one is available.

Note: To boot into the connected USB drive, hold down the proper key as defined by your system manufacturer during boot to change the Boot Order.

4.0 Apple Mac Instructions

4.1 Setting Up

Complete the following steps before starting the firmware update process on the computer containing the SSD.

1. **Back Up the SSD**

Perform a complete system backup on your Intel SSD to ensure that no data is lost during the firmware update process. Intel is not responsible for any data loss that might occur during or after a firmware update on an SSD.

Following a successful firmware update, data restoration should not be required.

2. **Plug In the Power**

For mobile computers, ensure the computer battery is fully charged. For desktop computers, ensure the system is plugged into AC power during the update process. Do not remove power at any time during the firmware update process as this could produce incomplete results and may render your Intel SSD unusable.

3. **Close Applications**

Before beginning the firmware download process, close all applications except for your Internet browser.

4.2 Downloading Intel® SSD Firmware Update Tool to a USB Flash Drive

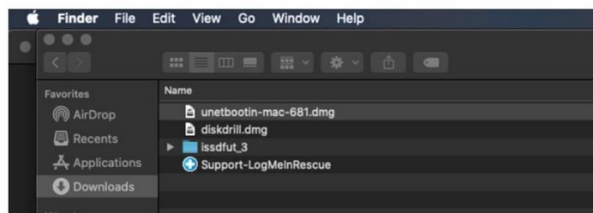
The Intel® SSD Firmware Update Tool is packaged as an ISO image. Similar to an archive file or a disk image, an ISO image is specifically designed for optical disks like CDs in a format specified by the International Organization for Standardization (ISO).

You cannot simply copy an ISO image to a USB drive. (It will appear as a data file and will not work correctly.) The ISO image must be decoded with software and installed onto a USB drive

For the purpose of illustration, we are using the Unetbootin USB installer software from unetbootin.github.io, but you may use any installer that you prefer.

1. Go to the Intel download website located at <http://www.intel.com/go/ssdfirmware> to download the ISO for the Intel SSD Firmware Update Tool
 - a. Review the *Read Me.txt* file to better understand the firmware update process. The *Read Me* file contains high-level instructions for using the Intel® SSD Firmware Update Tool.
 - b. Review the *Release Notes* document for a quick summary of the firmware changes for each product.
 - c. Click **Download** to display the terms of the license agreement. (The *Read Me.txt* file also includes the license agreement information.) After reading the agreement, click **ACCEPT** (at the bottom of the page) to download the firmware package
2. Go to <https://unetbootin.github.io/> to download the Unetbootin*. This utility will be used to create a bootable USB Flash drive with the Intel SSD FUT ISO

Figure 4: View in the Downloads folder



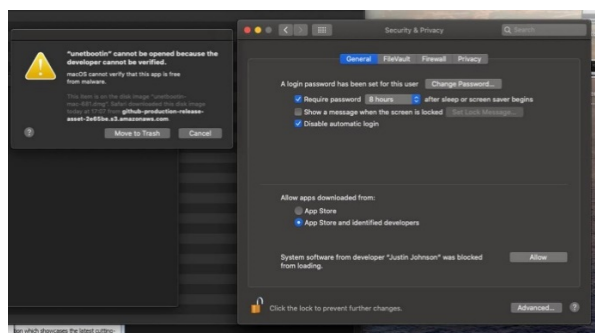
3. Install the Unetbootin application

Note: Permission will need to be granted for the application to run, otherwise the following prompt will appear:

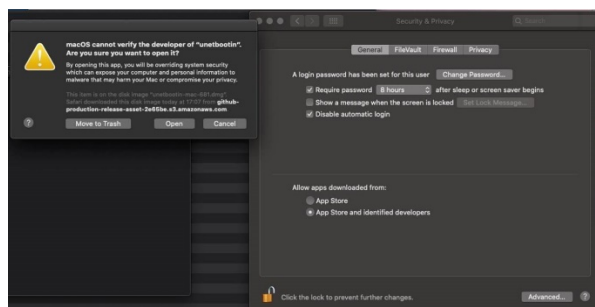
Figure 5: Prompt for Permission Access



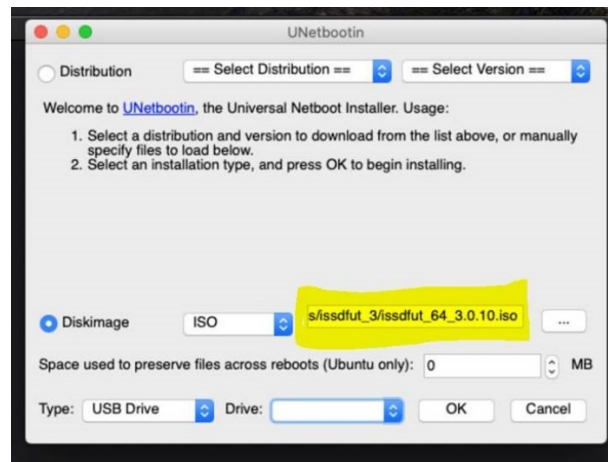
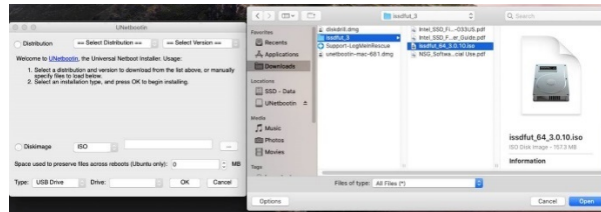
- a. Open the Security & Privacy tab to select (App Store and identified developers), then Allow.



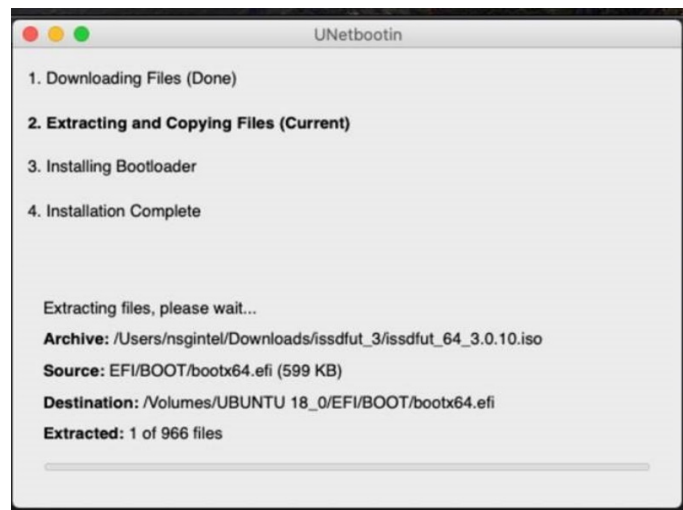
- b. After providing access, restart UNetbootin. The same message as seen in [Figure 4](#) appears, but now there is an additional tab to open the software. Click Open.



4. Within the tool, do the following to create the bootable USB drive. Make sure a blank USB drive is currently connected to the system
 - a. Select the Disk Image option and upload the Intel SSD FUT .ISO Image previously downloaded.



- b. Under Type, select USB Drive
- c. Under Drive, select the Blank USB drive
- d. Press OK to start burning the image



- e. Once the process is complete, the system will require to be restarted.

4.3 Starting the Firmware Update Process

After creating the ISO image USB drive, refer to Section 2.4, “Run the Intel® SSD Firmware Update Tool” and follow the steps to update the firmware if one is available.

Note: To boot into the connected USB drive, hold down the “**Option**” key to force your system to boot from the USB drive.