SSD Firmware Update Utility Guide

Micron C400 Firmware Revision 070H

Firmware Update Guide for Windows® 7 and Windows 8 (Update from any previous C400 revision)

Introduction

This document describes the process of updating the firmware on the Micron C400 using Micron's Windows update utility. The utility is a single executable file that contains all the code necessary to perform the upgrade. The creation of a separate bootable device is not necessary.

This program is to be used for updating the Firmware **from Revision 0001, 0002, 0009, 0309, 000F, 010G, or 040H to Revision 070H**.

PLEASE NOTE: This firmware update is for C400 2.5-inch and 1.8-inch SSDs. This firmware update ***may not be applicable*** to any Micron SSD which was purchased as original equipment in a computer system. Any firmware updates for such drives, if necessary, will be made available by the computer manufacturer. This firmware update is **not** applicable to any Micron mSATA SSD or any Micron C300 drive. It cannot be used with any Micron C400 Self-Encrypting Drive (SED).

IF YOUR C400 SSD IS CONFIGURED TO RUN MULTIPLE OPERATING SYSTEMS WITH A BOOT OPTION TO SELECT THE OS, please do not use this Windows update tool. Instead, Micron recommends that you use our bootable media option (.ISO file). Please see the alternate instructions on http://www.micron.com/ssdfirmware.

WARNING: As with all firmware updates, it is strongly recommended that you backup or make copies of all important files before performing this update. This firmware update process is done entirely at your own risk. If performed correctly, there will be no loss of system or user data on the drive. However, if the firmware process is interrupted for any reason, your solid state drive may not function properly. If this update is done on a notebook computer, it is strongly recommended that power be supplied by the AC power adapter.

General Instructions

Complete the following steps before starting the firmware update process:

1. **Backup the Solid State Drive**

   It is highly recommended that full system backup be completed before starting this firmware upgrade procedure. If the upgrade is interrupted (by a power loss or hardware failure of some sort), it is possible that the solid state drive may not function properly.

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2. **Use AC Power**

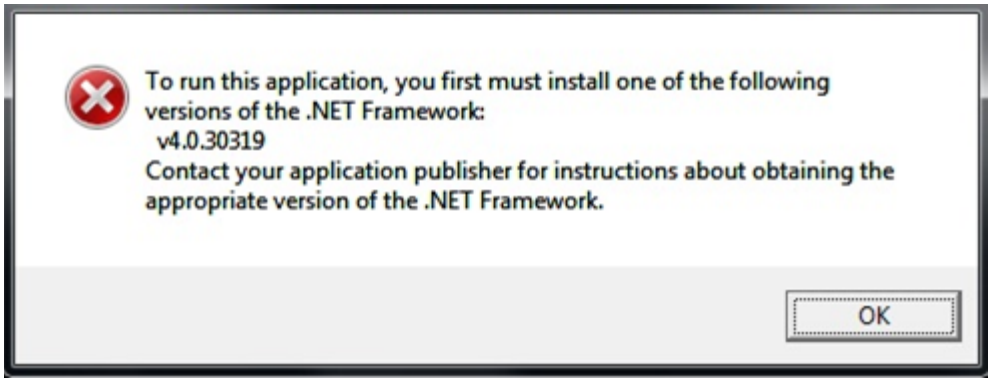
   Ensure your mobile PC or desktop PC is plugged in to AC power during the update process. It is not recommended to use only battery power during the upgrade. Do not remove power at any time during the firmware update process as this could produce incomplete results and may render your solid state drive unusable.

3. **Disable/Remove Drive Passwords**

   Password protection, such as OS drive encryption or BIOS-level passwords can block firmware updates. Drive encryption can be disabled in the OS or software tool you use for encryption. To disable a BIOS password, you may need to edit your computer's BIOS settings. Please see your computer's user manual for details on editing these settings. Enter the BIOS (typically by hitting the "Delete", "F2," or "F12" key during start-up screen) and disable any passwords that you may have set on the SSD.

4. **Update Microsoft .NET Framework**

   In order to be compatible with **both** Windows 7 and Windows 8, this firmware update tool is built under Microsoft .NET Framework 4. Some Windows 7 users may need to update their .NET Framework version in order to enable this tool. If the following error message is noticed when running the firmware updater, please use the **Windows Update** utility to update .NET Framework.



Download the Firmware Update

1. You will need to be a registered user at micron.com in order to download the firmware update tool. Registration is free. If you are already registered, click the "Login" link in the upper right of the micron.com web site. Otherwise, click "Sign up for Access" to register, and follow the instructions. You may be asked to read and agree to Micron's Software License Agreement (SLA) before downloading the file.
2. Before beginning the firmware download process, close all other programs except for your Internet browser.
3. Find the **Firmware Windows Update Utility** associated with your Micron SSD by clicking on the "Software" tab at this web link: http://www.micron.com/ssdfirmware

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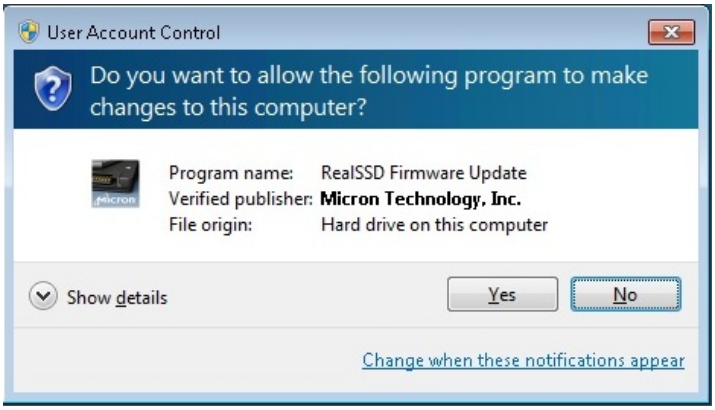
4. Click the link for the "C400 Rev. 070H Update Utility." Select **Save** to download the ZIP file containing the firmware update utility to your system.
5. Double-click the ZIP file to extract the files inside. Save them to your desktop.

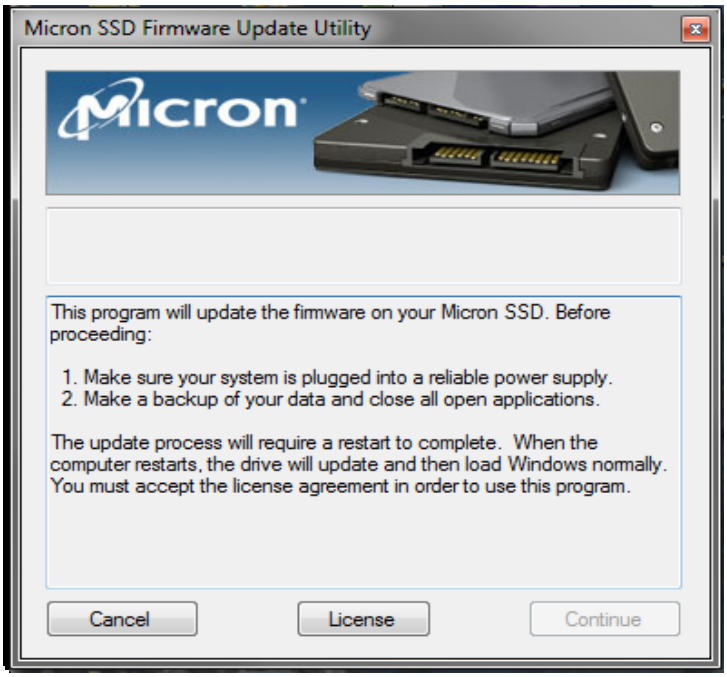
Run the Firmware Update

1. If not already done, copy the update utility file to your desktop.
2. Double-click the icon to launch the update utility.
3. In some operating system versions, a User Account Control box may open:



Ensure that the Verified Publisher is clearly listed as "Micron Technology, Inc." If this is not the case, select "No" to abort this operation. Click "Yes" to proceed if the file is properly signed. Some operating system versions will allow the utility with a proper digital signature from Micron Technology to execute immediately, without this confirmation request.

4. You must accept the License Agreement to proceed. When you see the following window, click on the "License" button.



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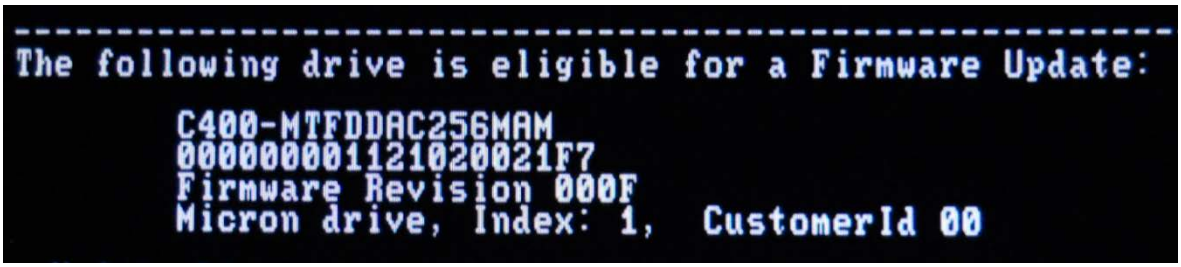
5. Scroll through and read the Software License Agreement (SLA). If you agree to the terms of the SLA and wish to proceed, then click the "Accept" button to continue.
6. The utility is ready to start the update process. **Before clicking "Continue,"** ensure that all other work is saved and that open applications are closed. Clicking "Continue" will start the process by closing Windows and restarting your computer.
7. Your computer will restart and boot into the update tool. You will see the following on your screen:



8. After the update tool has fully loaded, you will see the following:



It is acceptable to update from any firmware revision (0001, 0002, 0009, 0309, 000F, 010G, or 040H), so you may see any of these revisions in the above display (immediately below your drive's serial number). If your C400 drive is not listed in the screen display as above, see the "Troubleshooting Tips" section below.

9. The utility will immediately update your drive, indicated by the following:



10. The process will then step through the process of finalizing firmware and resetting the drive to initialize. This reset has no effect on user data and prepares the drive for a restart. On most systems, this process takes 30 to 60 seconds. Some systems may require a longer time to complete.

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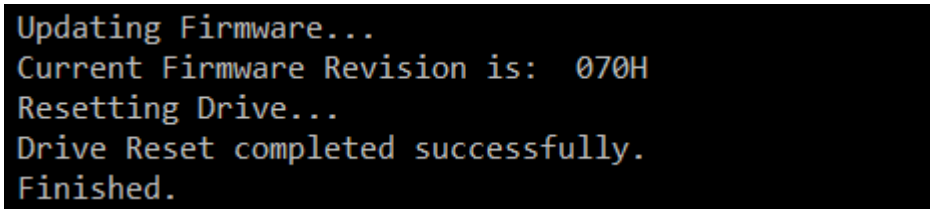
11. The process completes in a few steps, which display on the screen. Upon completion, the following message will display:



12. After several seconds, the system will **automatically** reboot again, restarting Windows.
13. When Windows successfully restarts, the firmware update process is complete.

Troubleshooting Tips

- Verify that you have disabled any drive passwords in BIOS. Passwords may be re-enabled after the firmware update is complete. Most computer security protocols prohibit firmware updates.
- This firmware update tool may not properly operate in PCs, notebooks or tablets with UEFI-based BIOS. Micron will make an update tool available separately, which will support firmware updates under the Unified Extensible Firmware Interface (UEFI).
- Although efforts have been made to test the compatibility of this software with various system and chipset configurations, it is not possible to test every available system. Therefore, certain systems (especially older systems) may experience compatibility problems.
- If your C400 drive is not recognized in Step 8 of the "Run the Firmware Update" section above, it may be necessary to run this update in IDE mode instead of AHCI mode, on some older systems. When it is necessary to change the system to IDE or AHCI mode, it may be necessary to reboot the system and make adjustments to the BIOS. In this case, it may be a better option to Micron's external media update option, such as a bootable CD-ROM. Instructions for running the firmware update from bootable media are available on the SSD Support page at http://www.micron.com/ssdfirmware
- Some systems prevent firmware updates when in RAID mode. In this case, changing to AHCI or IDE mode may help to complete the update process. Any RAID configurations should be preserved after the update, when the system is put back into RAID mode. However, please check with your system's user manual before proceeding.
- Peripheral RAID cards and USB-to-SATA bridge chips will not pass the necessary commands to perform firmware updates. You may need to move the target drive onto a SATA host bus adapter, SATA connector on the motherboard or an eSATA port, which will facilitate these commands. An eSATA connection may also require and additional external power supply.
- If there are multiple update-eligible Micron SSDs on the computer, the update must switch to DOS manual mode, and will ask the user to respond with "yes" or "no" for each drive. This may require a manual power cycle when the update process is complete for all eligible SSDs.

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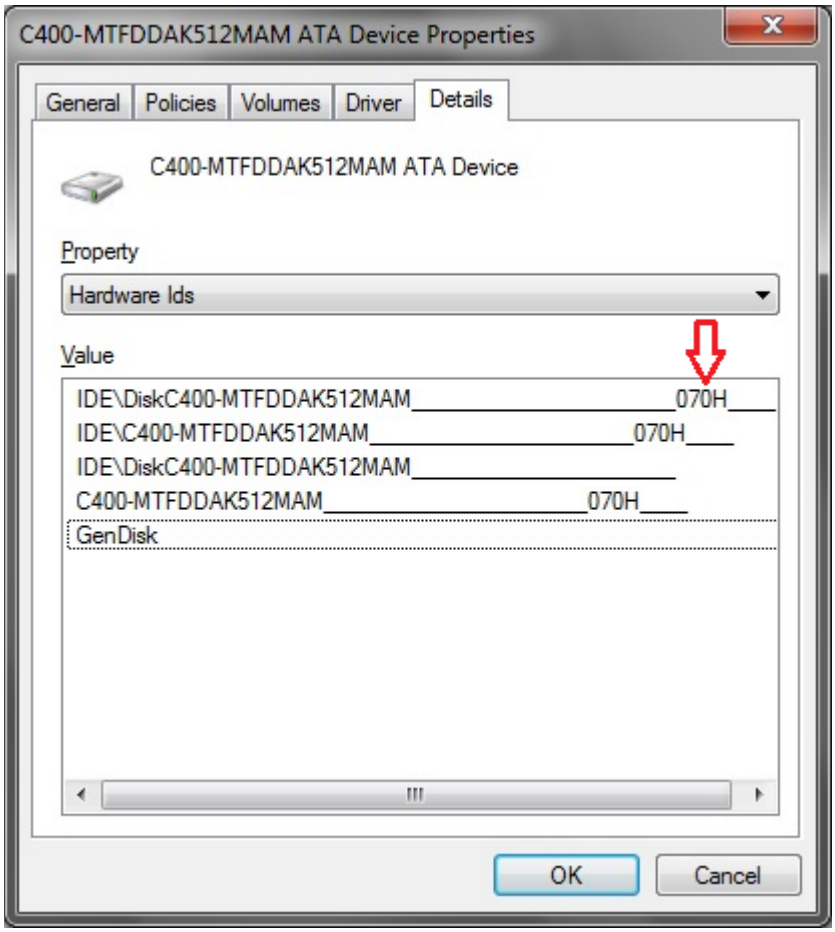
Validating the Current Firmware Revision

Windows 7 allows the user to check the current firmware revision of the drive by following these steps:

- Click the Windows "Start" button, and select "Computer."
- On the disk icon which represents your drive, right-click and select "Properties."
- In the window that pops up, select the "Hardware" tab.
- In the All Disk Drives list, highlight your C400 drive, and click the "Properties" button.
- In the next window that opens, select the "Details" page.
- Under the Property pull-down menu, select "Hardware Ids," and you will see the following display:



- The current firmware revision is indicated by the red arrow above. If the firmware revision says "070H," no further action is necessary.

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Firmware Release Notes

Firmware for the C400 and C400v is being updated from version 040H to 070H.

The C400 is updateable to this new firmware starting from previous versions in a single step. All firmware improvements from previous versions are included in this update. Please see previous PCNs for details.

This update will be mandatory cut-in for new product built in Micron factories and is an OPTIONAL update for any drive in the field. For end users, it is recommended if the user is experiencing or wishes to prevent an issue related to the following items.

Version 070H includes the following change:

- Resolved a power-up timing issue that could result in a drive hang, resulting in an inability to communicate with the host computer. The hang condition would typically occur during power-up or resume from Sleep or Hibernate. Most often, a new power cycle will clear the condition and allow normal operations to continue.

The failure mode has only been observed in factory test, and only on mSATA form factor SSDs. However, this fix is being implemented for all form factors, as a precautionary measure. The updated firmware may be implemented in the field, as desired, to prevent occurrence of this boot-time failure. To date, no known field returns have been shown to be related to this issue. A failure of this type would typically be recoverable by a system reset.

A Note on Firmware Naming

- The first digit is reserved and will remain “0.”
- The second digit indicates the firmware **minor** revision.
- The third digit is for specialty applications:
  - “0” for standard 2.5-inch and 1.8-inch SSDs,
  - “T” for “Trusted Drive,” i.e., SED, as defined by the Trusted Computing Group (TCG), or
  - “M” for mSATA SSD
- The final digit in the 4-digit firmware name indicates the **major** firmware revision level.

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Revision History

Rev. A…… 4 April 2013

- Initial release

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