

How to update CTOUCH OPS BIOS with the Intel Whiskey Lake-U series CPU?

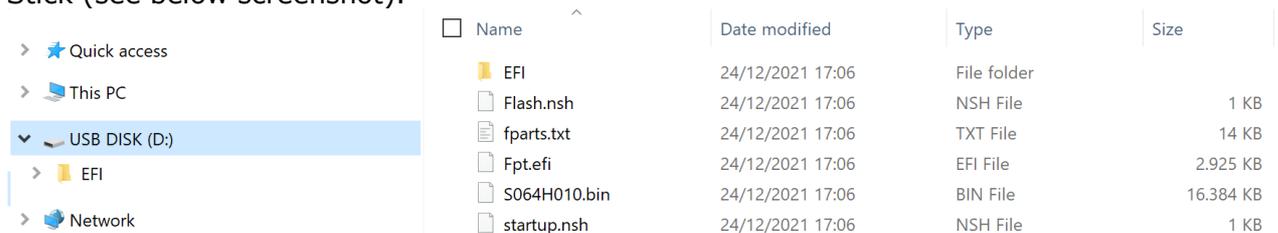
This document describes step by step how to update the BIOS from your CTOUCH OPS with the Intel Whiskey Lake-U series (8th Gen Intel CPU). After the update, your CTOUCH OPS is ready to install Windows 11.

This document is part of a zip file and comes with a BIOS file. The mentioned BIOS file is **only** for the following CTOUCH OPS:

- CTOUCH OPS with Intel i5-8259U CPU
 - Serial numbers starting with:
 - I5C801N

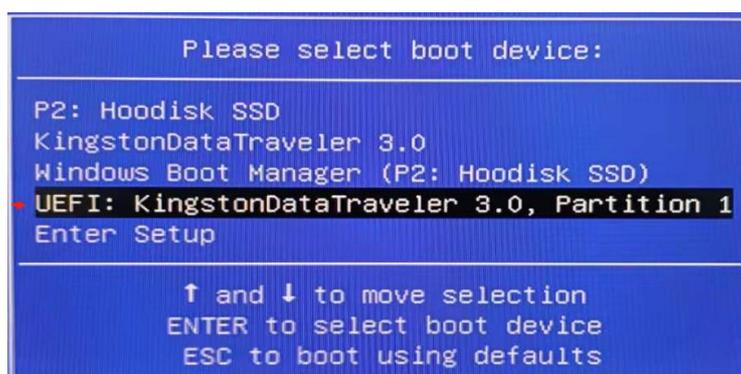
IMPORTANT: By using any other BIOS file or by using the Whiskey Lake-U series BIOS file on a different OPS as described above, you might damage the OPS. Damaging the BIOS of the OPS is not covered by warranty and thus at own risk!

1. Prepare a USB Memory stick (8GB or bigger) by formatting it in FAT32.
2. Extract the compressed CTOUCH OPS W11 BIOS 8th Gen Intel_8259U_20211224.zip file to the USB memory stick. The unzipped files should all be in the root of the USB Memory Stick (see below screenshot).



Name	Date modified	Type	Size
EFI	24/12/2021 17:06	File folder	
Flash.nsh	24/12/2021 17:06	NSH File	1 KB
fparts.txt	24/12/2021 17:06	TXT File	14 KB
Fpt.efi	24/12/2021 17:06	EFI File	2.925 KB
S064H010.bin	24/12/2021 17:06	BIN File	16.384 KB
startup.nsh	24/12/2021 17:06	NSH File	1 KB

3. Connect the prepared USB memory stick to the CTOUCH OPS together with a keyboard.
4. Press power button to start the CTOUCH OPS and press F11 key on the keyboard to enter BIOS boot sequence menu.



5. Select the UEFI USB memory stick to boot.
6. OPS will automatically run the startup.nsh script to update the BIOS (just wait a few seconds before it starts).

```
EFI Shell version 2.70 [5.12]
Current running mode 1.1.2
Device mapping table
fs0      :HardDisk - Alias hd9c65535a2 blk0
          PciRoot(0x0)/Pci(0x17,0x0)/Sata(0x2,0xFFFF,0x0)/HD(2,GPT,4963C8D
055,0xFA000,0x32000)
fs1      :Removable HardDisk - Alias hd6r0b blk1
          PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)/HD(1,MBR,0x005AD460,0xB
blk0     :HardDisk - Alias hd9c65535a2 fs0
          PciRoot(0x0)/Pci(0x17,0x0)/Sata(0x2,0xFFFF,0x0)/HD(2,GPT,4963C8D
055,0xFA000,0x32000)
blk1     :Removable HardDisk - Alias hd6r0b fs1
          PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)/HD(1,MBR,0x005AD460,0xB
blk2     :HardDisk - Alias (null)
          PciRoot(0x0)/Pci(0x17,0x0)/Sata(0x2,0xFFFF,0x0)/HD(1,GPT,B364EB72
12E,0x800,0xF9800)
blk3     :HardDisk - Alias (null)
          PciRoot(0x0)/Pci(0x17,0x0)/Sata(0x2,0xFFFF,0x0)/HD(3,GPT,7EE8A767
A15,0x12C000,0x8000)
blk4     :HardDisk - Alias (null)
          PciRoot(0x0)/Pci(0x17,0x0)/Sata(0x2,0xFFFF,0x0)/HD(4,GPT,A6BBBF66
DB8,0x134000,0x1DBBF000)
blk5     :BlockDevice - Alias (null)
          PciRoot(0x0)/Pci(0x17,0x0)/Sata(0x2,0xFFFF,0x0)
blk6     :Removable BlockDevice - Alias (null)
          PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)

Press ESC in 2 seconds to skip startup.nsh, any other key to continue. _
```

7. BIOS update will be step by step executed (will take less than 2 minutes).
IMPORTANT: Do not disconnect the power and/or remove USB memory stick during the update as that will damage the CTOUCH OPS and is not covered under warranty!

```
blk2     :HardDisk - Alias (null)
          PciRoot(0x0)/Pci(0x14,0x0)/USB(0x1,0x0)/HD(1,MBR,0x00ECE1EA,0x800,0x1CD6800)
blk3     :HardDisk - Alias (null)
          PciRoot(0x0)/Pci(0x17,0x0)/Sata(0x1,0xFFFF,0x0)/HD(2,GPT,2E3DFAB3-0821-4576-9084-404964D1
DC19,0x32800,0x8000)
blk4     :HardDisk - Alias (null)
          PciRoot(0x0)/Pci(0x17,0x0)/Sata(0x1,0xFFFF,0x0)/HD(3,GPT,06C7BED8-510C-4FF3-AFF0-9C2A36FA
61D9,0x3A800,0xED472D8)
blk5     :BlockDevice - Alias (null)
          PciRoot(0x0)/Pci(0x17,0x0)/Sata(0x1,0xFFFF,0x0)/HD(4,GPT,9A3F19C1-F8DD-4D08-BD0E-DC25993D
DB5E,0xED82000,0xF9800)
blk6     :Removable BlockDevice - Alias (null)
          PciRoot(0x0)/Pci(0x14,0x0)/USB(0x1,0x0)

Press ESC in 1 seconds to skip startup.nsh, any other key to continue.
startup.nsh> fs0:
startup.nsh> fs1:
startup.nsh> AfuEfix64.efi HW64P000.bin /p /b /n /x /r1 /r2 /r3
-----+-----
|               AMI Firmware Update Utility v5.09.04.1503               |
|               Copyright (C)2017 American Megatrends Inc. All Rights Reserved.               |
|-----+-----|
Reading flash ..... done
- ME Data Size checking . ok
- FFS checksums ..... ok
- Check RomLayout ..... Ok.
- Warning: System doesn't have Type-1 structure to preserve
- Warning: System doesn't have Type-2 structure to preserve
- Warning: System doesn't have Type-3 structure to preserve
Erasing Boot Block ..... 0x00598000 (6%)
```

8. The BIOS update is ready when all steps are stated as 'done' en the script ends in

fs1:\>_

```
0B5E,0xED82000,0xF9800)
blk5 :BlockDevice - Alias (null)
      PCIRoot(0x0)/PCI(0x17,0x0)/Sata(0x1,0xFFFF,0x0)
blk6 :Removable BlockDevice - Alias (null)
      PCIRoot(0x0)/PCI(0x14,0x0)/USB(0x1,0x0)

Press ESC in 1 seconds to skip startup.nsh, any other key to continue.
startup.nsh> fs0:
startup.nsh> fs1:
startup.nsh> AfuEfiX64.efi HW64P000.bin /p /b /n /x /r1 /r2 /r3
-----|-----
|          AMI Firmware Update Utility v5.09.04.1503          |
|          Copyright (C)2017 American Megatrends Inc. All Rights Reserved.          |
|-----|-----|
Reading flash ..... done
- ME Data Size checking . ok
- FFS checksums ..... ok
- Check RomLayout ..... Ok.
- Warning: System doesn't have Type-1 structure to preserve
- Warning: System doesn't have Type-2 structure to preserve
- Warning: System doesn't have Type-3 structure to preserve
Erasing Boot Block ..... done
Updating Boot Block ..... done
Verifying Boot Block ..... done
Erasing Main Block ..... done
Updating Main Block ..... done
Verifying Main Block ..... done
Erasing NVRAM Block ..... done
Updating NVRAM Block ..... done
Verifying NVRAM Block ..... done
fs1:\> _
```

9. Press Ctrl+Alt+Delete to reboot the CTOUCH OPS.

Note: If you want to check the BIOS version after the update, press 'DELETE' key on the keyboard while booting. When you enter the BIOS, check the [Build Date and Time]. This should be: 11/26/2021 12:10:24

```
American Megatrends
5.13
UEFI 2.7; PI 1.6
S064H010 x64
11/26/2021 12:10:24
Administrator
```

10. Congrats, you are done!