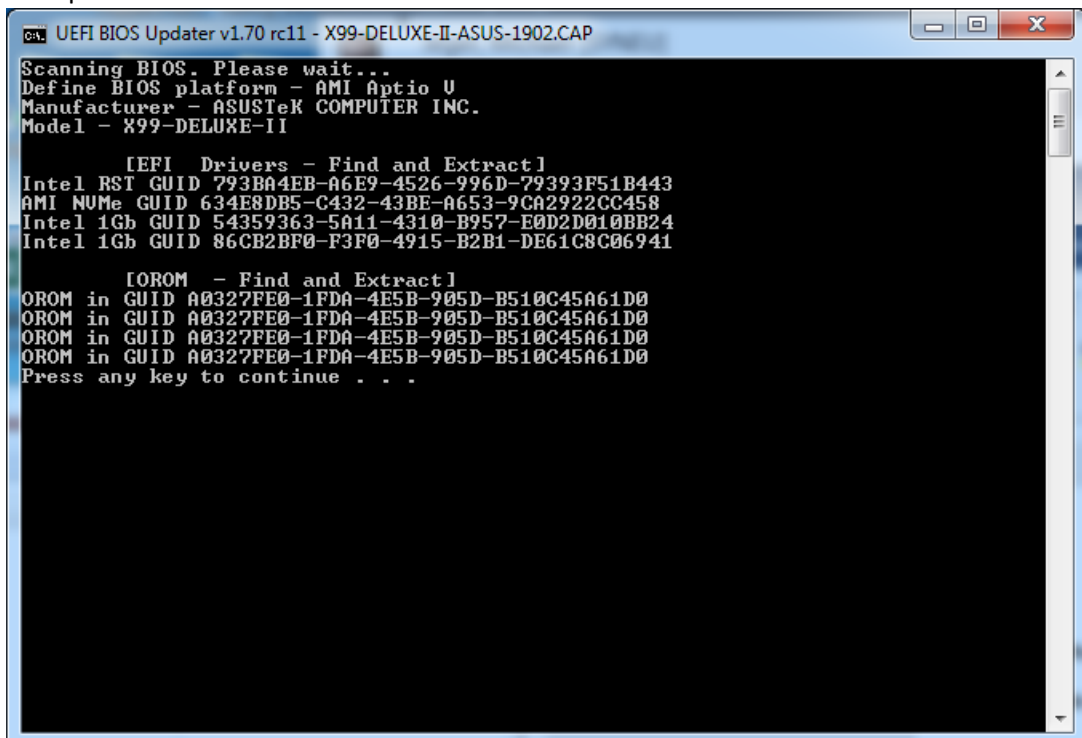


Procedure to update Microcode of X99 Bios

In order to do this, you need a Windows 7 or Windows 10 64 bit OS running

1. Download the latest version of "UEFI Bios update"
 - a. Detailed info on the procedure and download link can be found <https://www.win-raid.com/t154f16-Tool-Guide-News-quot-UEFI-BIOS-Updater-quot-UBU.html>
 - b. For my update I used version UBU v1.70.rc11
 - c. The latest link to the latest version can be found in that forum entry, in my case it was <https://cloud.mail.ru/public/HLDj/6cT1gUPke>
 - d. The downloaded archive contains all you need in terms of tools
2. The downloaded archive contains 2 items in a folder
 - a. UBU_v1_70_rc12.rar: extract contents, I recommend to a desktop directory called "UBU"
 - b. Mmt.rar: contains 3 different versions of MMtool.exe, in order to get this to work you need to use the PATCHED version of MMtool.exe version 5.2.0.24. Using non patched version can cause problems when putting the new microcode into bios. Extract "MMTool.exe" into the same "UBU" Directory on your desktop.
 - c. Now all the tools are ready to be used
3. Download the bios you wish to update the Microcode for
 - a. For my board, this was X99-A-II-ASUS-1902.CAP
 - b. Again put the file into the UBU directory
4. Open a cmd window, navigate to the UBU folder on the desktop and start UBU with ".\UBU"
5. After the start, UBU recognizes the Bios you have put into the dir, this is the output you get, then press enter

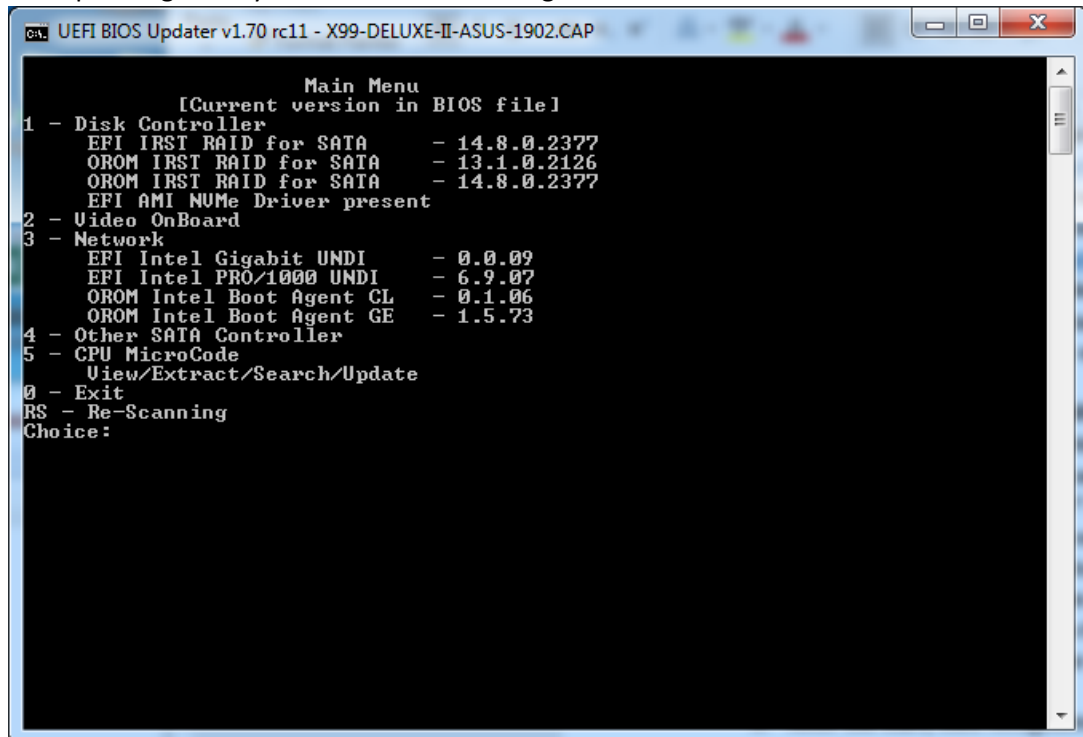


```
UEFI BIOS Updater v1.70 rc11 - X99-DELUXE-II-ASUS-1902.CAP
Scanning BIOS. Please wait...
Define BIOS platform - AMI Aptio U
Manufacturer - ASUSTeK COMPUTER INC.
Model - X99-DELUXE-II

[UEFI Drivers - Find and Extract]
Intel RST GUID 793BA4EB-A6E9-4526-996D-79393F51B443
AMI NVM GUID 634E8DB5-C432-43BE-A653-9CA2922CC458
Intel IGB GUID 54359363-5A11-4310-B957-E0D2D010BB24
Intel IGB GUID 86CB2BF0-F3F0-4915-B2B1-DE61C8C06941

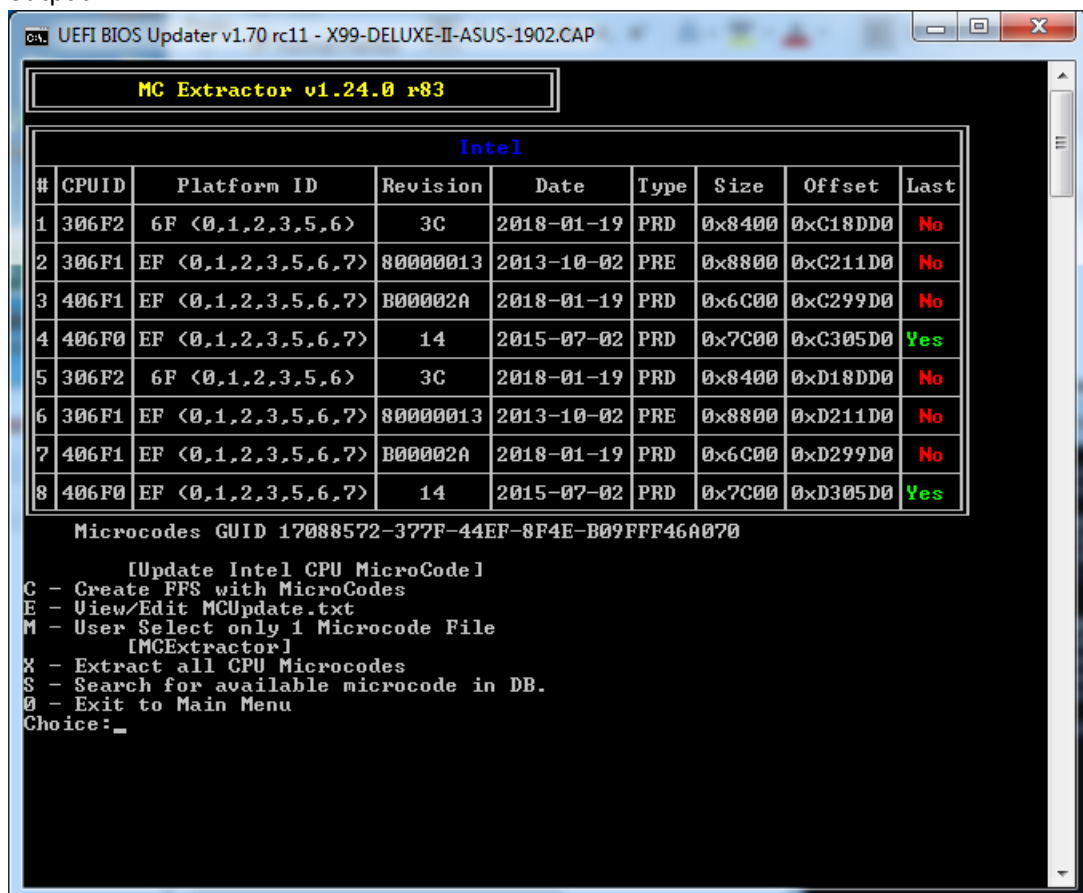
[OROM - Find and Extract]
OROM in GUID A0327FE0-1FDA-4E5B-905D-B510C45A61D0
OROM in GUID A0327FE0-1FDA-4E5B-905D-B510C45A61D0
OROM in GUID A0327FE0-1FDA-4E5B-905D-B510C45A61D0
OROM in GUID A0327FE0-1FDA-4E5B-905D-B510C45A61D0
Press any key to continue . . .
```

6. After pressing Enter you will see the following choices



Since we want to update the Microcodes, hit 5 and enter

7. The tool analyses the microcodes in the bios and shows if they are current or not. This is the output



In red are the MicroCodes where newer versions are available. In order to update those, you need to hit C and enter, to create FFS with MicroCodes

8. Once you hit c, the tool downloads the latest MicroCodes and shows the result on the screen

```

Files\Intel\mcode\2011v3\cpu406F1_platEF_ver0B00002E_2018-04-19_PRD_1AAAFEDCE.bin
Checksum correct.
CPUID 406F0 found.
Files\Intel\mcode\2011v3\cpu406F0_platEF_ver00000014_2015-07-02_PRD_F22A3585.bin
Checksum correct.
CPUID 306F2 found.
Files\Intel\mcode\2011v3\cpu306F2_plat6F_ver0000003D_2018-04-20_PRD_A5D0CFB1.bin
Checksum correct.
CPUID 306F1 found.
Files\Intel\mcode\2011v3\cpu306F1_platEF_ver00000014_2014-01-10_PRD_9F835FBB.bin
Checksum correct.
Generate FFS with Microcode

[Preview update]
MC Extractor v1.24.0 r83

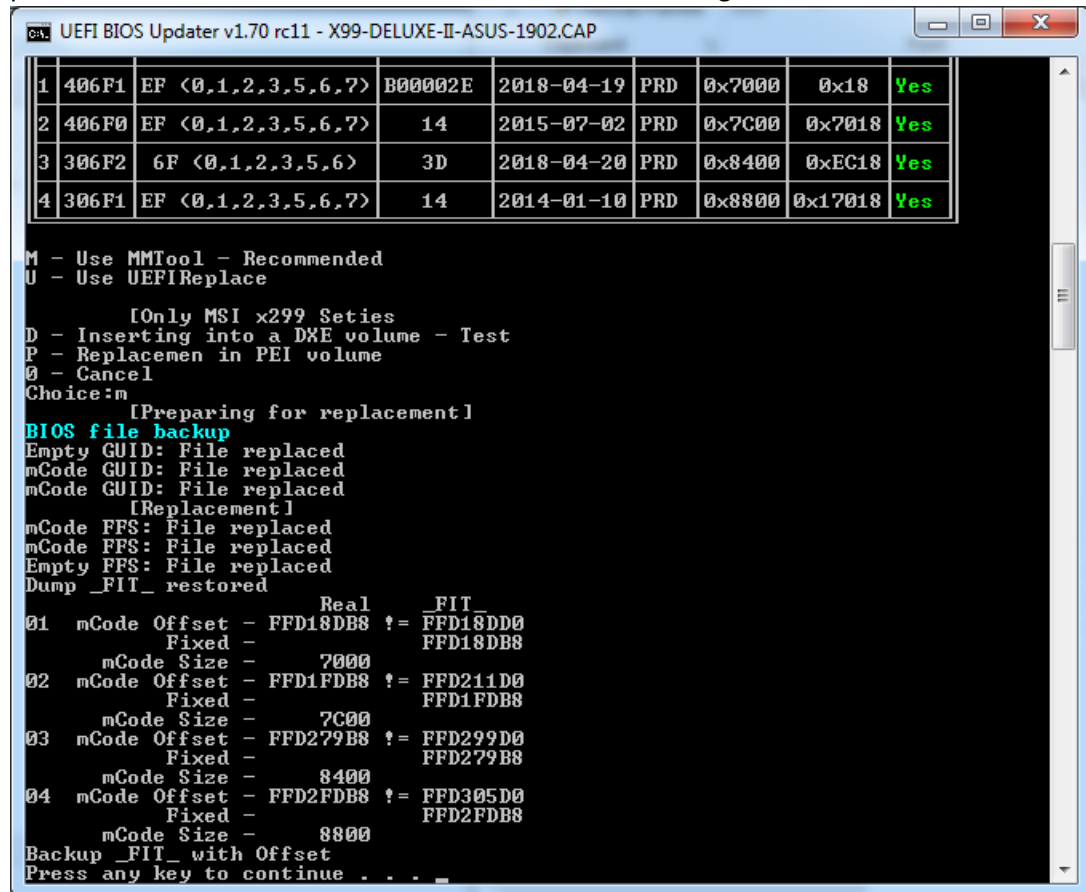
Intel
# CPUID Platform ID Revision Date Type Size Offset Last
1 406F1 EF <0,1,2,3,5,6,7> B000002E 2018-04-19 PRD 0x7000 0x18 Yes
2 406F0 EF <0,1,2,3,5,6,7> 14 2015-07-02 PRD 0x7C00 0x7018 Yes
3 306F2 6F <0,1,2,3,5,6> 3D 2018-04-20 PRD 0x8400 0xEC18 Yes
4 306F1 EF <0,1,2,3,5,6,7> 14 2014-01-10 PRD 0x8800 0x17018 Yes

M - Use MMTTool - Recommended
U - Use UEFIREplace

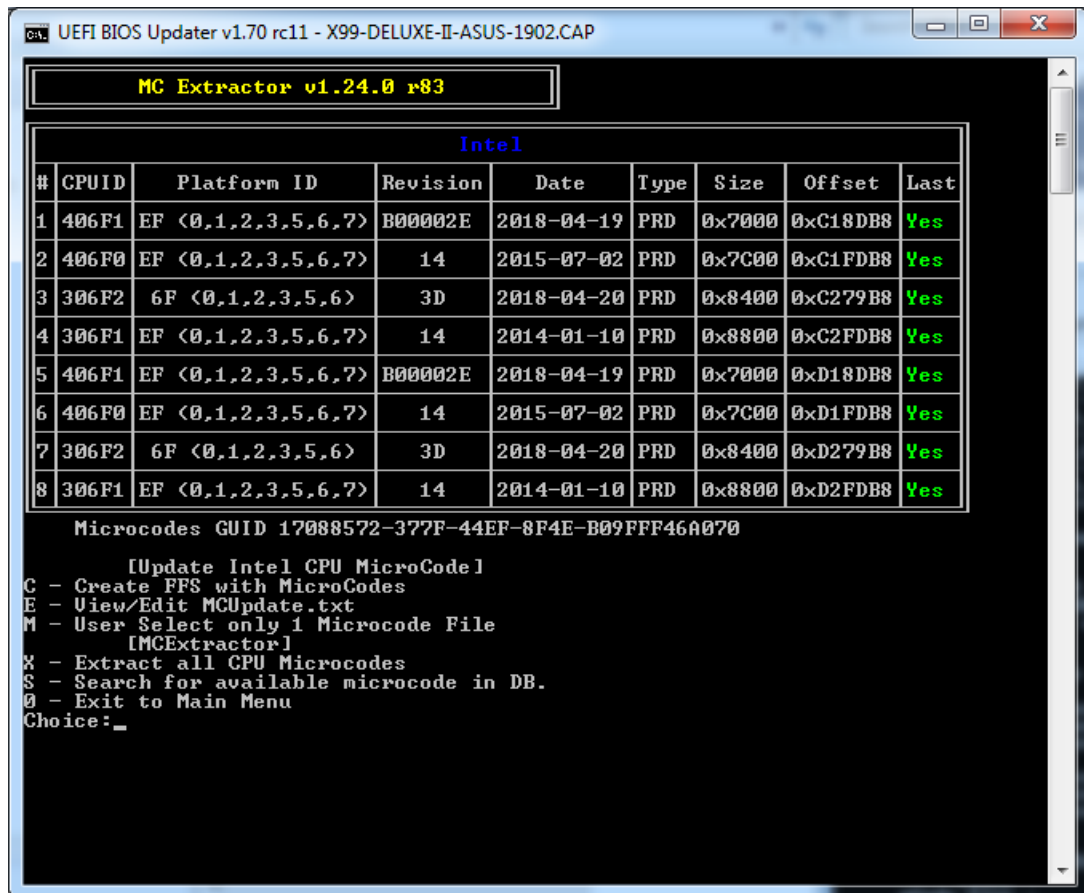
[Only MSI x299 Seties
D - Inserting into a DXE volume - Test
P - Replacemen in PEI volume
0 - Cancel
Choice:
  
```

9. The next step is very important, you need to hit M now to use the MMTTool that was also put in the «UBU» folder. Otherwise the update might fail. So hit M and then enter. MMTTool is now doing its magic and puts back the MicroCode into the Bios. This seems to be the

procedure for X99 boards that is recommended and working.



- Now press enter, this will bring you back to the menu where you get confirmation that the MicroCodes are now on the latest versions.



- Now you can exit by hitting 0 and enter
- Hit 0 and enter again
- Hit 1 to save the bios file to the correct file name for flashing
- Now you are complete, you can hit enter to exit
- You will now find the flashed bios file in the UBU-directory on your desktop

Now you can flash back the new bios file by USB port.

Hope this guide is useful.

You will find more detailed and other information here:

<https://www.win-raid.com/t154f16-Tool-Guide-News-quot-UEFI-BIOS-Updater-quot-UBU.html>

Thanks, Michael