# BIOS FLASH METHODS

# Prerequisites

1. Bootable WinPE Disk-on-Key (DOK).
2. DOS bootable Disk-on-Key.
3. Download the entire BIOS folder to you WinPE Disk-on-Key (DOK).
4. You will need to copy the FPT folder to the root of your DOS bootable DOK. This folder contains a special tool for restoring the MAC address.

# Unlock (SP1)

1. Insert both bootable DOK into USB ports on the system.
2. Boot with the following combination key pressed from system keyboard: Left Arrow + right arrow + Windows Logo key.
3. With all keys pressed, press the Power button (this combination key will unlock the ME and allow the FPT tool to flash it). When you see the message telling you that the system is unlocked, press F9 to get to the Boot menu.

# Identify BIOS Type (Entry, or Full)

1. Boot the system and press F1. The System Information screen will appear.
2. Identify whether the BIOS is an Entry (E), or a Full (F) version. This can be found under BIOS revision on the System Information screen.
3. Press Esc to return to the System Information Screen. Press F9. You are now at the Boot Options menu.
4. From the Boot Options screen, select your WinPE key as the bootable drive and press “Enter” to boot into a WinPE session.

# After you are booted into a WinPE Session

1. Once you are booted into a WinPE session, Click on “GO” for your start options.
2. Select “Programs🡪A43 file management and left click to open it.
3. Now you will see a BOOT (X:) directory and one or more Removable Disk directories.
4. Navigate through the Removable Disk directories until you find the one that contains your BIOS. Remember the drive letter of this directory.

**Identify the MAC Address**

1. Open a command prompt and you will be in the X: System 32 directory.
2. From this directory, identify the MAC address by typing IPCONFIG /all .
3. Write down this address.

# Identify BIOS Size (8MB or 16MB)

1. Navigate to the drive that holds your BIOS directory.
2. Within the BIOS directory, navigate to the MEonly directory and then the FPTW directory.
3. Once you are in the FPTW directory, type fptw /i
4. Under “Flash Devices Found,” you will see the size of your bios expressed in MB.

# Capture the BIOS Configuration Information

1. From the FPTW directory, collect the BIOS configuration information by typing:

BiosConfigUtiltiy /getconfig:”bios.txt.” (This step takes a few minutes.)

1. A text file (bios.txt) will be created that will contain all the BIOS information.

# Validate the BIOS Configuration File

1. Open Notepad by typing “notepad” at the command prompt.
2. Click on “File.” From the dropdown menu select “Open.”
3. View the contents of the original BIOS configuration file and ensure it looks correct. If the file is missing details, it can be edited as any normal text file.
4. Specific values to check are:
   1. Notebook Model
   2. System Board ID
   3. Universal Unique Identifier
   4. Product Number
   5. Serial Number
   6. Notebook Asset Tag
   7. System Board CT
   8. Product Line Family
   9. Manufacturing Programming Mode. MPM should read “lock” as shown below.

\*lock

unlock

1. Save the file.

NOTE: Ensure the file is correct. If it is not, you will have to flash the BIOS again to unlock the Manufacturing Mode and make changes.

# Flash the BIOS

**NOTE: Ensure you ran fptw /i (to determine the BIOS File Size) BEFORE you select the .BIN file to use. Failure to do so could result in locking up the system.**

1. From the FPTW folder type; fptw /f [BIOS bin file name] (i.e. fptw /f 68ICF6.bin). (Takes a few minutes.) The BIOS bin file name can be obtained by typing dir /w at the command prompt and looking in the FPTW directory. You can also verify that the bios.txt file was created by checking for it in the FPTW directory.
2. You will see the BIOS flash progress occur, then the system BIOS will be updated.

# Reboot the System

1. After the bios is updated, switch back to the directory name of your winpe key. This is usually the x: directory.
2. From the WinPE DOK (X:) command prompt, type, ”wpeutil reboot” to restart the system.
3. The system will start and restart several times on its own. Just let it do its thing until about the fifth time. On about the fifth reboot, press F9 to get the Boot Menu and boot to your WinPE key.

# Restore the BIOS Configuration Information

1. Navigate again to the FPTW directory, and restore the BIOS configuration using BiosConfigUtility.exe by typing: BiosConfigUtility.exe /setconfig:"bios.txt" /cspwd:”admin”

(This takes a few minutes)

1. Confirm success in the output. You should see a “pass” for each successful change.

# Commit the System

1. From the FPTW directory, commit the system using one of the following options:
   1. **UMA Systems:** Run one of the following commands (after running the command, do not reboot yet).
      * C:\VONAT.bat (if you wish to set VPRO ON and AT ON)
      * C:\VONNOAT.bat (if you wish to set VPRO ON and AT OFF)
      * C:\VOFFNOAT.bat (if you wish to set VPRO OFF and AT OFF)
      * C:\VOFFAT (if you wish to set VPRO OFF and AT ON)
   2. **Discrete Systems:** Run one of the following commands (after running the command, do not reboot yet)
      * C:\DISAT.bat (if you wish to set VPRO ON and AT ON)
      * C:\DISNOAT.bat (if you wish to set VPRO ON and AT OFF)
      * C:\VOFFNOAT.bat (if you wish to set VPRO OFF and AT OFF)
      * C:\VOFFAT (if you wish to set VPRO OFF and AT ON)
   3. You will see two error messages shown in red on the screen---IGNORE THEM. You are OK.

# Restoring the MAC address

1. From the FTPW directory, install the NIC driver with the command: “install.bat” or “install64.bat”
2. To restore the MAC address use the command: “eeupdatew32 /nic=1 /mac=\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_”

NOTE: The batch file could be either eeupdatew32 or eeupdatew64 depending on your architecture

# (Optional)MAC address dump

1. From the FTPW directory, with the NIC driver installed run the command: “eeupdatew32 /nic=1 /mac\_dump\_file”
2. To restore the MAC address from a dumped text file use the command: “eeupdatew32 /nic=1 /A mac\_addr.txt /calcchksum”

NOTE: The batch file could be either eeupdatew32 or eeupdatew64 depending on your architecture

# Clear the Manufacturing Mode

1. From the FPTW directory, lock the descriptor by typing: “CLSMNF”
2. When you are asked the question in yellow, type “y”
3. The system will reboot automatically.
4. As the system reboots, press F9 to get to the Boot Options menu.
5. From the Boot Options menu, select your DOS bootable DOK.
6. Navigate to the FPT directory.
7. Once in the FPT directory, type mac (mac address you copied down) Use no spaces. For example: mac 101112131414.
8. Your mac address will be restored and you are finished.
9. Shut down the machine and remove the DOK.

## End of Procedure