

SSD7000 Series UEFI ROM Update Guide (PC)

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Overview

This guide explains how to update SSD7000 Series NVMe RAID controllers' UEFI ROM using a PC platform.

Prerequisites

This section describes the base hardware and software requirements for SSD7000 Series NVMe RAID Controllers.

Update UEFI ROM

This section describes how to update the UFEI ROM using a PC.

Troubleshooting

Please consult this section if you encounter any difficulties flashing SSD7000 Series NVMe Controller UEFI ROM. It includes descriptions and solutions for commonly reported technical issues.

Appendix

This section describes how to collect trouble shooting information for support cases you have submitted via our Online Support Portal.

Prerequisites

- 1. **NVMe Drives must be removed**. To avoid data loss, please remove all NVMe drives from the SSD7000 Series NVMe Controller.
- 2. **A PCIe 3.0/4.0 slot with x8 or x16 lane.** The SSD7202, SSD7502, SSD7103, SSD7505 or SSD7540 must be installed into a PCIe 3.0/4.0 slot with x8 or x16 lanes.
- 3. The motherboard needs to be booted into UEFI mode. Confirm that the motherboard boots in UEFI mode.
- 4. **USB flash drive: FAT32 format.** Make sure the file system of the USB flash drive is FAT32 format.

Update UEFI ROM

Step 1 Prepare UEFI ROM Package

1. Unzip the SSD7000 Series NVMe Controller UEFI package to the root dir (/) of a USB flash drive (e.g. FAT32), and insert the USB flash drive into the motherboard;

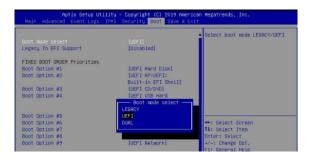
Please download UEFI software on the official website.

| Product | Download Page Link |
|---------|---|
| SSD7103 | https://www.highpoint-tech.com/USA_new/series-ssd7103-overview.htm |
| SSD7202 | https://www.highpoint-tech.com/USA_new/series-ssd7202-overview.htm |
| SSD7505 | https://www.highpoint-tech.com/USA_new/series-ssd7505-overview.htm |
| SSD7502 | https://www.highpoint-tech.com/USA_new/series-ssd7502-overview.html |
| SSD7540 | https://www.highpoint-tech.com/USA_new/series-ssd7540-overview.htm |

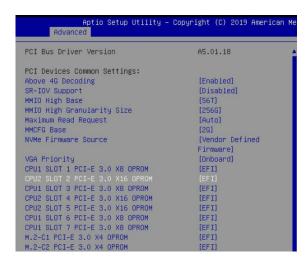
| SSD7103: | SSD7202: |
|---|---|
| efi 7103uefi.rom ArrayCreate.efi go.nsh load.efi README startup.nsh | efi 7202uefi.rom ArrayCreate.efi go.nsh load.efi README |
| SSD7505: | SSD7502: |
| efi 7505uefi.rom ArrayCreate.efi go.nsh load.efi README startup.nsh | efi 7502uefi.rom ArrayCreate.efi go.nsh load.efi README |
| efi 7540uefi.rom ArrayCreate.efi go.nsh load.efi README | |

Step 2 Check System EFI Settings

- 1. Insert the SSD7000 series NVMe controller into the motherboard, power on the system, and enter the BIOS.
- 2. Change the UEFI settings (Example: SuperMicro X11DPi-NT motherboard):
 - a. Set 'Boot mode select' to 'UEFI':



b. Set the Slot where the SSD7000 Series NVMe Controller is located to 'EFI'.



3. Save changes and reboot.

Step 3 Flash the UEFI ROM

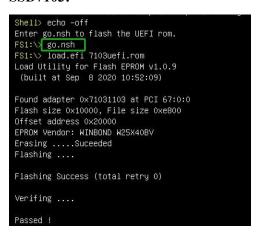
1. Boot from the UEFI USB flash drive and enter the UEFI interface;

```
Boot Override
UEFI: Built-in EFI Shell
UEFI: ASUS SDRW-O8D2S-U A801
UEFI: aigo U350 1100, Partition 4
Launch EFI Shell from filesystem device
```

2. Enter the following command to flash the UEFI ROM to the SSD7000 NVMe Controller: **go.nsh**

When the message 'Passed' appears, the flash was successful.

SSD7103:



SSD7202:

```
Shell> echo -off
Enter go.nsh to flash the UEFI rom.
FS1:\> go.nsh
FS1:\> load.efi 7202uefi.rom
Load Utility for Flash EPROM v1.0.9
(built at Sep 8 2020 10:52:09)

Found adapter 0x72021103 at PCI 28:0:0
Flash size 0x10000, File size 0xe800
Offset address 0x20000
EPROM Vendor: WINBOND W25X40BV
Erasing ....Suceeded
Flashing ....

Flashing Success (total retry 0)

Verifing ....
Passed !
```

SSD7502:

```
Shell> echo -off
Enter go.nsh to flash the UEFI rom.
FS1:\> go.nsh
FS1:\> load.efi 7502uefi.rom
Load Utility for Flash EPROM v1.0.9
(built at Sep 8 2020 10:52:09)

Found adapter 0x75051103 at PCI 69:0:0
Flash size 0x10000, File size 0xe800
Offset address 0x20000
EPROM Vendor: WINBOND W25X40BV
Erasing ....Suceeded
Flashing ....

Flashing Success (total retry 0)

Verifing ....
Passed !
```

SSD7505:

```
Shell> echo -off
Enter go.nsh to flash the UEFI rom.
FS1:\>\sqrt{go.nsh}
FS1:\>\sqrt{go.nsh}
FS1:\>\sqrt{go.nsh}
Load Utility for Flash EPROM v1.0.9
(built at Sep 8 2020 10:52:09)

Found adapter 0x75051103 at PCI 69:0:0
Flash size 0x10000, File size 0xe800
Offset address 0x20000
EPROM Vendor: WINBOND W25X40BV
Erasing ....Suceeded
Flashing ....
Flashing Success (total retry 0)

Verifing ....
Passed !
```

SSD7540:

```
Shell> echo -off
Enter go.nsh to flash the UEFI rom.
FS1:\> go.nsh
FS1:\> load.efi 7540uefi.rom
Load Utility for Flash EPROM v1.0.9
(built at Sep 8 2020 10:52:09)

Found adapter 0x75401103 at PCI 75:0:0
Flash size 0x10000, File size 0xe800
Offset address 0x20000
EPROM Vendor: WINBOND W25X40BV
Erasing ....Suceeded
Flashing ....

Flashing Success (total retry 0)

Verifing ....
Passed !
```

3. Reboot to complete the update process.

Troubleshooting

Problem 1: No supporting host adapter is found

When using the 'go.nsh' command, the procedure does not start and the message 'No supporting host adapter is found' is displayed:

```
Shell> echo –off
Enter go.nsh to flash the UEFI rom.
FS1:\> go.nsh
FS1:\> load.efi 7103uefi.rom
Load Utility for Flash EPROM v1.0.9
(built at Sep 8 2020 10:52:09)

No supporting host adapter is found.
FS1:\> _
```

Solution:

Shutdown the system and move the SSD7000 controller to another PCIe slot, and repeat the flash procedure. If the problem still occurs, please refer to the appendix for collection.

Appendix

Collecting SSD7000 Series UEFI information

- 1. Unzip the SSD7000 Series NVMe Controller UEFI package to the root dir (/) of a USB flash drive, and insert the USB flash drive into the PC.
- 2. Make sure the SSD7000 Series NVMe Controller is installed into a PCIe 3.0/4.0 slot with x8 or x16 lanes;
- 3. Boot from the UEFI USB flash drive and enter the UEFI interface;
- 4. At the command prompt, type the following command and press Enter:

drivers



The following information will be displayed:



5. Save the driver information that is displayed on screen using the following command:

drivers > drivers.txt



It will save drivers' log to the USB drive, as the file "drivers.txt".

6. At the command prompt, type the following command and press Enter:

pci



The following information will be displayed:

7. Save the on-screen pci information using the following command:

pci > pci.txt



This will save the pci's log to the USB boot drive, as the file "pci.txt".

8. You can now check the contents of the drivers.txt and pci.txt that were saved to the USB flash drive. The items highlighted in red below file indicate that the SSD7000 Series NVMe Controller was recognized, and the driver loaded normally:

SSD7103:

drivers.txt:

pci.txt:

SSD7202:

drivers.txt:

```
112 000000000 ? N N 0 0 0 PAN Network Service Driver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(9FB1A1F3-3871-4324-839A-745(E8015FFF) FV (SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(05C40B8-7AB-4ED-8-EC1F-F9962AB34589) 114 000000000 ? N N 0 0 0 UPF Network Service Driver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(05C40B8-7AB-4ED-8-EC1F-F9962AB34589) 115 000000000 ? N N 0 0 0 UPF6 Network Service Driver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(05C6953AB-906D-4A65-A7CA-BD40E5D6AF2B) 117 00000000 ? N N 0 0 0 DNCF6 Protocol Driver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(95E3669-349E-4775-AS51-F2A41B60809E) FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(95E3669-349E-4775-AS51-F2A41B60809E) 118 00000000 ? N N 0 0 0 MTFTP6 Network Service Driver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(95E3669-349E-4775-AS51-F2A41B60809E) 118 00000000 ? N N 0 0 0 SCSI Diver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(961578FE-8667-A453-68C705C02B1F) 1D 00000000 ? N N 0 0 0 SCSI Diver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(961578FE-8667-A453-68C705C02B1F) 1D 00000000 ? N N 0 0 0 SCSI Diver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(961578FE-8667-A453-68C705C02B1F) 1D 000000000 ? N N 0 0 0 SCSI Diver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(961578FE-8667-A453-68C705C02B1F) 1D 000000000 ? N N 0 0 SCSI Diver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(961570CC4-D0F7-AF21-A3FE-9E6A8FTCOCE8B) 120 00000000 ? N N 0 0 SCSI Diver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(961570CC4-D0F7-AF21-A3FE-9E6A8FTCOCE8B) 120 0000000 ? N N 0 0 SCSI Diver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(961570CC4-D0F7-AF21-A3FE-9E6A8FTCOCE8B) 120 0000000 ? N N 0 0 SCSI Diver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(961570CC4-D0F7-AF21-A3FE-9E6A8FTCOCE8B) 120 0000000 ? N N 0 0 SCSI Diver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(961570CC4-D0F7-AF21-A3FE-9E6A8FTCOCE8B) 120 0000000 ? N N 0 0 SCSI Diver FV(SC60F367-AS95-419A-859E-2AAFFECA6FES)/FvF11e(961570CC4-D0F7-AF21-A3FE-9E6A8F
```

pci.txt:

SSD7502:

drivers.txt:

pci.txt:

```
00 40 00 00 ==> Mass Storage Controller - Non-volatile memory subsystem
Vendor 18B1 Device 5016 Prog Interface 2
00 43 00 00 ==> Bridge Device - PCI/PCI bridge
Vendor 1000 Device (010 Prog Interface 0
00 44 14 00 ==> Bridge Device - PCI/PCI bridge
Vendor 1000 Device (010 Prog Interface 0
00 44 15 00 ==> Bridge Device - PCI/PCI bridge
Vendor 1000 Device (010 Prog Interface 0
00 45 00 00 ==> Mass Storage Controller - RAID controller
Vendor 1103 Device 7505 Prog Interface 0
00 50 02 00 ==> Bridge Device - PCI/PCI bridge
Vendor 1000 Device 2019 Prog Interface 0
00 50 02 00 ==> Bridge Device - PCI/PCI bridge
Vendor 8086 Device 2032 Prog Interface 0
00 50 05 00 ==> Base System Peripherals - Other system peripheral
Vendor 8086 Device 2034 Prog Interface 0
01 50 50 02 ==> Base System Peripherals - Other system peripheral
Vendor 8086 Device 2035 Prog Interface 0
02 50 05 04 ==> Base System Peripherals - Other system peripheral
Vendor 8086 Device 2035 Prog Interface 0
03 50 05 04 ==> Base System Peripherals - PIC
Vendor 8086 Device 2035 Prog Interface 0
04 50 05 04 ==> Base System Peripherals - PIC
Vendor 8086 Device 2035 Prog Interface 0
05 00 05 04 ==> Base System Peripherals - PIC
Vendor 8086 Device 2035 Prog Interface 0
```

SSD7505:

drivers.txt:

```
110 000000000 ? N N 0 0 0 DNS Network Service Driver  
111 000000000 ? N N 0 0 0 DHCP Protocol Driver  
112 00000000 ? N N 0 0 0 DHCP Protocol Driver  
113 00000000 ? N N 0 0 0 TPA Network Service Driver  
114 00000000 ? N N 0 0 DPA Network Service Driver  
115 00000000 ? N N 0 0 UDP Network Service Driver  
116 0000000 ? N N 0 0 UDP Network Service Driver  
117 00000000 ? N N 0 0 UDP Network Service Driver  
118 0000000 ? N N 0 0 UDP Network Service Driver  
119 0000000 ? N N 0 0 UDP Network Service Driver  
110 0000000 ? N N 0 0 UDP Network Service Driver  
110 0000000 ? N N 0 0 UDP Network Service Driver  
110 0000000 ? N N 0 0 UDP Network Service Driver  
110 0000000 ? N N 0 0 UDP Network Service Driver  
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110 0000000 ? N N 0 0 UDP Network Service Driver  
110 0000000 ? N N 0 0 UDP Network Service Driver  
110 0000000 ? N N 0 0 UDP Network Service Driver  
110 0000000 ? N N 0 0 UDP Network Service Driver  
111 00000000 ? N N 0 0 UDP Network Service Driver  
112 0000000 ? N N 0 0 UDP Network Service Driver  
113 0000000 ? N N 0 0 UDP Network Service Driver  
114 0000000 ? N N 0 0 UDP Network Service Driver  
115 00000000 ? N N 0 0 UDP Network Service Driver  
115 0000000 ? N N 0 0 UDP Network Service Driver  
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115 0000000 ? N N 0 0 UDP Network Service Driver  
115 0000000 ? N N 0 0 UDP Network Service Driver  
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115 0000000 ? N N 0 0 UDP Network Service Driver  
115 0000000 ? N N 0 0 UDP Network Service Driver  
115 0000000 ? N N 0 0 UDP Network Service Driver
```

pci.txt:

SSD7540:

drivers:

pci.txt:

If you fail to update SSD7000 Series NVMe Controller UEFI ROM, please submit a support ticket using our <u>Online Support Portal</u>, include a description of the problem in as much detail as possible, and upload the **driver.txt** & **pci.txt** information.