AMI BIOS Recovery

⚠️ **Warning!** Do not upgrade the BIOS unless your system has a BIOS-related issue. Flashing the wrong BIOS can cause irreparable damage to the system. In no event shall Supermicro be liable for direct, indirect, special, incidental, or consequential damages arising from a BIOS update. If you need to update the BIOS, do not shut down or reset the system while the BIOS is updating to avoid possible boot failure.

How to Recover the AMIBIOS Image (-the Main BIOS Block)

An AMIBIOS flash chip consists of a boot sector block and a main BIOS code block (a main BIOS image). The boot sector block contains critical BIOS codes, including memory detection and recovery codes for you to flash a new BIOS image if the original BIOS image is corrupted. When the system power is on, the boot sector code executes first. Once it is completed, the main BIOS code will continue with system initialization and bootup.

> **Note:** Follow the BIOS Recovery instructions below for BIOS recovery when the main BIOS block crashes. However, when the BIOS Boot sector crashes, you will need to send the motherboard back to Supermicro for RMA repairs.

To Recover the Boot Sector Using a USB Device

This feature allows the user to recover a BIOS image using a USB device without additional utilities used. A user can download the BIOS image into a USB flash device, and name the file "SUPER.ROM" for the recovery process to load the file. A USB flash device such as a USB Flash Drive, a USB CD-ROM or a USB CD-RW device can be used for this purpose.

1. Insert the USB device that contains the new BIOS image (the ROM files) saved in a root directory into your USB drive.

2. While turning the power on, press and hold <Ctrl> and <Home> simultaneously until the USB LED Indicator comes on. This might take a few seconds.

3. Once the USB drive LED is on, release the <Ctrl> and <Home> keys. The AMI BIOS will issue beep codes to indicate that the BIOS ROM file is being updated. When BIOS flashing is completed, the computer will reboot.

> **Note:** Do not interrupt the process of BIOS flashing until it is completed.

To Recover the Boot Sector Using an IDE CD-ROM

This process is almost identical to the process of recovering the Boot Sector using a USB device, except that the BIOS image file is loaded from a CD-ROM. Use a CD-R or CD-RW drive to burn a CD with the BIOS image file in it, and name the file "SUPER.ROM" for the recovery process to load the file.

To Recover the Boot Sector Using a Serial Port

This process, also known as "Serial Flashing," allows the user to use a serial port to load a BIOS image for Boot Sector recovery. This feature is usually used for an embedded system that relies on a serial port for remote access and debugging.

Requirements

In order to use Serial Flashing for Boot Sector Recovery, you will need to meet the following requirements.

- The "Target system," the system that needs BIOS updates, must have a serial port and "Serial Flashing" support embedded in the BIOS image file.

- The "Host system" should also have a serial port and a terminal program that supports XModem Transfer Protocol (Hyper Terminal for the Windows operating systems, minicom for Linux/FreeSBD, etc.).

- A Null_modem serial cable

Procedures

1. Connect a Null_modem serial cable between the target and the host systems that run the terminal program.

2. Make sure that the new BIOS Image file is accessible for the host system.

3. Start the terminal program on the host system to create a new connection. Use the following communication parameters for the new connection:

    - Bits per second: 115200 bits/sec.
    - Data Bits: 8
    - Parity: None
    - Stop Bit: 1
    - Flow Control: None

4. Power on your system, and click the <Connect> button in the Hyper Terminal. The terminal screen will display the following messages.
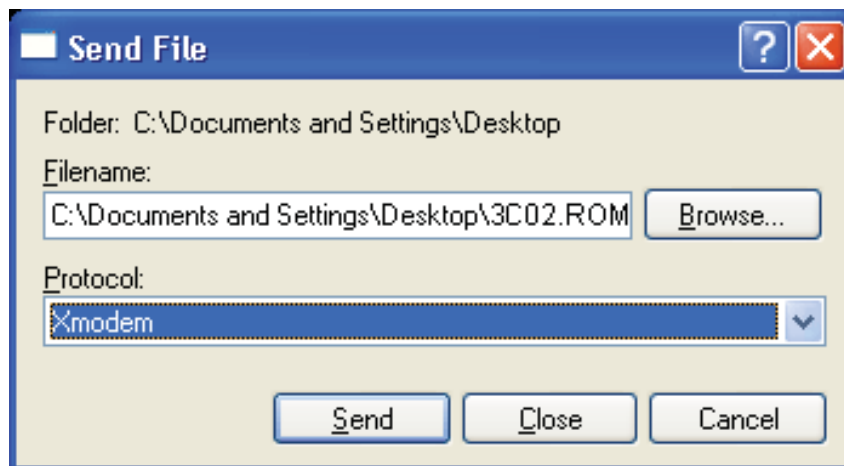
```
Press <SpaceBar> to update BIOS.
Confirm update BIOS? (y/n) y
Begin remote BIOS flash? (y/n) y
Starting remote flash.
Upload new BIOS file using Xmodem protocol.
```

5. Follow the instructions given on the screen to update the BIOS. These instructions are listed below.

    a. At the prompt, press the <SpaceBar> to update the BIOS.

    b. When prompted to confirm BIOS updating, press <y> to confirm BIOS updates.

    c. Press <y> again to begin BIOS flashing remotely.
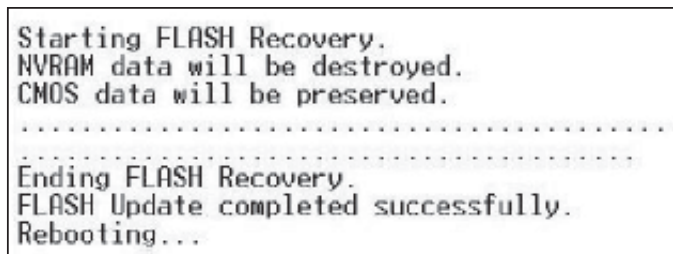
       Note: Be sure to complete Steps a~c above quickly because you have a second or less to do so.

6. Once you've completed the instructions given, a screen will display to indicate that remote flashing is starting and the new BIOS file is being uploaded.

7. To use the Hyper Terminal to transfer the XModem protocol by using the "Send File" dialog under the "Transfer" menu, follow the instructions below to complete XModem transfers.

    a. Select the "Transfer" menu and enter <Send>.
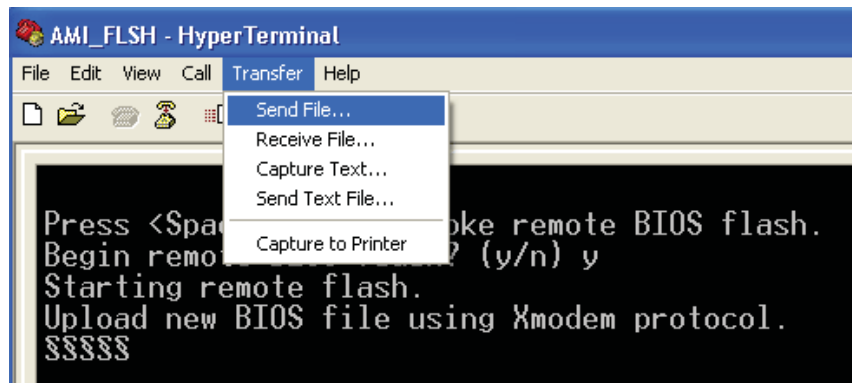
    b. Specify the location of the ROM file, and select the proper protocol (XModem).

    c. Press <Send> to start ROM File extraction. (See the picture below.)

d. Once the ROM file extraction is completed, the message, "New BIOS re-
ceived OK" will display.

```
Starting FLASH Recovery.
NVRAM data will be destroyed.
CMOS data will be preserved.
.............................................
.............................................
Ending FLASH Recovery.
FLASH Update completed successfully.
Rebooting...
```

8. Once remote BIOS flashing is completed, the system will reboot.

Note: AMIBIOS Serial Flashing will work with all terminal communication
programs that support VT-100 and XModem protocols, including protocols
designed for the GNU/LINUX & BSD operating systems such as minicom.
It is recommended that the terminal program be configured to support the
'CR/LF' style of line termination.