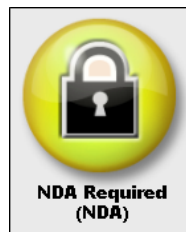


AMIBIOS8 ROM Utility User Guide

AFUDOS

Document Revision 1.0.1 - Aug 28, 2009

NDA REQUIRED



Copyright (c) 2008 American Megatrends, Inc.

All Rights Reserved.

American Megatrends, Inc.

5555 Oakbrook Parkway

Suite 200

Norcross, GA 30093

This publication contains proprietary information which is protected by copyright. No part of this publication may be reproduced, transcribed, stored in a retrieval system, translated into any language or computer language, or transmitted in any form whatsoever without the prior written consent of the publisher, American Megatrends, Inc.

American Megatrends, Inc. retains the right to update, change, modify this publication at any time, without notice.

For Additional Information

Call American Megatrends BIOS Sales Department at 1-800-828-9264 for additional information.

Limitations of Liability

In no event shall American Megatrends be held liable for any loss, expenses, or damages of any kind whatsoever, whether direct, indirect, incidental, or consequential, arising from the design or use of this product or the support materials provided with the product.

Limited Warranty

No warranties are made, either express or implied, with regard to the contents of this work, its merchantability, or fitness for a particular use. American Megatrends assumes no responsibility for errors and omissions or for the uses made of the material contained herein or reader decisions based on such use.

Trademark and Copyright Acknowledgments

All product names used in this publication are for identification purposes only and are trademarks of their respective Companies.

Disclaimer

This manual describes the operation of the AMIBIOS8 ROM Utilities. Although efforts have been made to insure the accuracy of the information contained here, American Megatrends expressly disclaims liability for any error in this information, and for damages, whether direct, indirect, special, exemplary, consequential or otherwise, that may result from such error, including but not limited to the loss of profits resulting from the use or misuse of the manual or information contained therein (even if American Megatrends has been advised of the possibility of such damages). Any questions or comments regarding this document or its contents should be addressed to American Megatrends at the address shown on the cover.

American Megatrends provides this publication "as is" without warranty of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability or fitness for a specific purpose.

Some states do not allow disclaimer of express or implied warranties or the limitation or exclusion of liability for indirect, special, exemplary, incidental or consequential damages in certain transactions; therefore, this statement may not apply to you. Also, you may have other rights which vary from jurisdiction to jurisdiction.

This publication could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. American Megatrends may make improvements and/or revisions in the product(s) and/or the program(s) described in this publication at any time. Requests for technical information about American Megatrends products should be made to your American Megatrends authorized reseller or marketing representative.

Revision Information

Date	Rev	Description of Changes
09/5/13	1.0.0	Initial Document.
09/8/28	1.0.1	Add /ME and /MEUF usage description.

Overview

AFUDOS is an updating system BIOS utility with command line interface. It has no tedious and annoying parameters, just update your system BIOS. Hey!! Do not forget that target board MUST be **AMIBIOS** system.

Features

This utility offers the following features:

- Small executable file size
- Quickly update
- Clear updating information and status
- Fully compatible with previous version (See [Appendix B AFUDOS v3.xx Commands](#))

Requirements

Supported Operating System

This utility is supported by the following operating systems:

- MS-DOS environment

BIOS Requirements

System BIOS should have the followings:

- AMIBIOS CORE version 8.xx.xx.
- **SMIFlash** eModule with “8.00.00_SMIFlash-1.00.07” label or later.
- Token: **SDSMGR_IN_RUNTIME** = ON.
- Token: **SMI_INTERFACE_FOR_SDSMGR_FUNC** = ON.

Getting Started

Installation

Copies the **AFUDOS.EXE** executable file to any storage location accessible by the host system and then run **AFUDOS** in command prompt.

Usage

For previous usage, see [Appendix B AFUDOS v3.xx Commands](#) to know details.

AFUDOS <BIOS ROM File Name> [Option 1] [Option 2].....

Or

AFUDOS <Output BIOS ROM File Name> <Commands>

Or

AFUDOS /M<MAC Address>

Or

AFUDOS /MAI

BIOS ROM File Name

The mandatory field is used to specify path/filename of the BIOS ROM file with extension.

Commands

The mandatory field is used to select an operation mode:

- **/O** Save current ROM image to file
- **/U** Get and display ROM ID from ROM file
- **/Ln** Refer to option: **/Ln**
- **/M <MAC Address>** Refer to option: **/M**
- **/MAI** Display current system and ROM file's MA
- **/HOLE** Update specific ROM hole by given name
- **/HOLEOUT** Save specific ROM holedata by given name
- **/D** Verification test of given ROM file without flashing
- **/EC** Flash EC firmware BIOS (Refer to OFBD spec)
Path: \$BIOS/Corebin/800/ROMUtils/On Flash Block Description Specification.PDF.
Sample Code Module Path:
\$BIOS/Examples/On Flash Block Description
- **/NCB** Flash NCB data by given name
- **/NCBOUT** Output NCB data by given name
- **/C** Destroy CMOS checksum

Options

The optional field used to supply more information for flashing BIOS ROM. Following lists the supported optional parameters and format:

- **/P** Program main bios image
- **/B** Program Boot Block
- **/N** Program NVRAM
- **/C** Destroy CMOS after update BIOS done
- **/E** Program Embedded Controller block if present
- **/K** Program all non-critical blocks
- **/Kn** Program n'th non-critical block only (n=0 – 7)
- **/Q** Quiet mode enable
- **/REBOOT** Reboot after update BIOS done
- **/X** Do not check ROM ID
- **/S** Display current system's BIOS ROM ID
- **/Ln** Load CMOS default (n=0 - 1)
 - L0: Load current CMOS optimal settings

- **/M<MAC Address>** L1: Load current CMOS failsafe settings
- **/R** L2: Load CMOS optimal settings from ROM file
- **/Rn** L3: Load CMOS failsafe settings from ROM file
- **/ECUF** Update BootBlock MAC address if exists
- **/ShutDown** Preserve all SMBIOS structures during NVRAM programming
- **/clevnlog** Preserve specific SMBIOS structure during NVRAM programming
- **/DeDftCfg** Update EC BIOS when newer version is detected.
- **/-Command Name** Shutdown system after programming.
- **/MEUF** Clean Event Log.
- **/ME** Delete all default settings from BIOS.
- **/ME** Delete certain command's default setting. [OEM Uses Only.]
- **/MEUF** Update Intel ME ignition firmware.
- **/ME** Update entire Intel ME region.

Rules

- **Any parameter enclosed by < > is a mandatory field.**
- **Any parameter enclosed by [] is an optional field.**
- <Commands> cannot co-exist with any [Options].
- Main BIOS image is default flashing area if no any option present.
- [/C], [/Q], [/REBOOT], [/X], [/Ln] and [/S] will enable [/P] function automatically.
- If [/B] present alone, there is only the Boot Block area to be updated.
- If [/N] present alone, there is only the NVRAM area to be updated.
- If [/E] present alone, there is only the Embedded Controller block to be updated.
- If [/E] and [/ECUF] co-exist, [/ECUF] will be no function.
- If [/Kn] present alone, there is only non-critical block to be updated.
- When [/Ln] is co-exist with [/C], [/C] will be no function.
- [/M] can be used as a command for backward compatible.

Note : Running AFUDOS under command prompt directly will display help message.

Examples

Examples on how to update BIOS using the command prompt are shown in following:

- **Save current BIOS ROM to file**
AFUDOS <BIOS ROM File Name> /O

- **Get and display ROM ID from BIOS ROM file**
AFUDOS <BIOS ROM File Name> /U
- **Update main BIOS image only**
AFUDOS <BIOS ROM File Name>
Or
AFUDOS <BIOS ROM File Name> /p
- **Update Boot Block only**
AFUDOS <BIOS ROM File Name> /B
- **Update NVRAM only**
AFUDOS <BIOS ROM File Name> /N
- **Update Embedded Controller Block only**
AFUDOS <BIOS ROM File Name> /E
- **Update Embedded Controller Block if newer version is detected**
AFUDOS <BIOS ROM File Name> /ECUF
- **Update 2nd non-critical block only**
AFUDOS <BIOS ROM File Name> /K2
- **Update main BIOS image, Boot Block and NVRAM at once**
AFUDOS <BIOS ROM File Name> /P /B /N
- **Update whole BIOS ROM**
AFUDOS <BIOS ROM File Name> /P /B /N /C /E /K
- **Update whole BIOS ROM and load current CMOS optimal settings**
AFUDOS <BIOS ROM File Name> /P /B /N /C /E /K /L0
- **Update whole BIOS without checking ROM ID**
AFUDOS <BIOS ROM File Name> /P /B /N /C /E /K /X
- **Update whole BIOS with quiet execution**
AFUDOS <BIOS ROM File Name> /P /B /N /C /E /K /Q
- **Update whole BIOS in quiet mode and REBOOT quietly**
AFUDOS <BIOS ROM File Name> /P /B /N /C /E /K /Q /REBOOT
- **Update BootBlock MAC address**
AFUDOS /M<MAC Address>
- **Update whole BIOS and BootBlock MAC address**
AFUDOS <BIOS ROM File Name> /P /B /N /C /E /K /M<MAC Address>
- **Update whole BIOS except existing SMBIOS structures**
AFUDOS <BIOS ROM File Name> /P /B /N /C /E /K /R
- **Update whole BIOS but preserve SMBIOS type 0 and 11**
AFUDOS <BIOS ROM File Name> /P /B /N /C /E /K /R0 /R11
- **Update dedicate ROM Hole Area**
AFUDOS <ROM Hole File Name> /Hole:Name
- **Update dedicate NCB Area**
AFUDOS <NCB File Name> /NCB:Name
- **Output dedicate ROM Hole File**
AFUDOS <Output ROM Hole File Name> /HOLEOUTt:Name
- **Output dedicate NCB File**
AFUDOS <Output NCB File Name> /NCBOUT:Name
- **Cancel Embedded AFU default commands**

- Below sample cancels B & P commands if BIOS has embedded B & P commands in OFBD.

AFUDOS <BIOS ROM File Name> /-B /-P

Notice: if /p & /b are set as default command only and /-B /-P commands are issued then P command will still be issued because if none of command is issued then /p will still issue as AFU default.

- **Cancel ALL Embedded AFU default commands**

AFUDOS <BIOS ROM File Name> /DeDftCfg

Error Code List

Error Number	Description
00h	No error
01h	Unknown command
02h	Can't open ROM ID file
03h	ROM ID file is not a ROM file
04h	Invalid MAC address
05h	Invalid retry count
06h	System doesn't support MAC programming
07h	This program can not run under this operating system
08h	Flash part is not supported
09h	Problem extracting module from ROM file
0Ah	Can not analyze ROM file. ROM file may be corrupted
0Bh	NCB error
0Ch	Invalid option
0Dh	BIOS does not support AFU
0Eh	ROM file size incorrect
0Fh	File ROM ID incorrect
10h	Bootblock error
11h	Loading driver
12h	Unloading driver
13h	Invalid NCB
14h	Closing memory manager
15h	Mapping BIOS data buffer error
16h	Problem allocating memory
17h	Problem freeing memory
18h	Problem allocating BIOS buffer
19h	Problem freeing BIOS buffer

Appendix B : AFUDOS v3.xx Commands

Usage : AFUDOS /i<ROM File Name> [/o<Save ROM File Name>] [/n] [/p[b][n][c][e]]
[/s] [kN] [/c[N]] [/q] [/h] [/t] [/u[ROM File Name]]

Following table lists the description of previous version of AFUDOS commands.

Command	Description
/n	Do not check ROM ID
/pbnce	p – Program main BIOS b – Program boot block n – Program NVRAM c – Destroy system CMOS e – Program embedded controller block
/k	Program all Non-Critical Blocks only
/kN	Program N'th Non-Critical Block only (N = 0 – 7)
/s	Leaves signature in BIOS
/q	Silent execution
/h	Print help
/t	Display current system's ROM ID
/c	Program main BIOS and all Non-Critical Blocks
/cN	Program main BIOS and N'th Non-Critical Block (N = 0 – 7)
/srb	Force REBOOT after programming done
/d	Compare ROM file (Skip flashing)
/o<ROM File Name>	Save current system BIOS ROM into disk
/u<ROM File Name>	Display ROM file's ROM ID