DMI Wizard
User's Guide

Preliminary Draft

MAN-DMI
6/6/96

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Revision History

6/6/96 Initial release.

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If You Need Help

Call American Megatrends technical support at 770-246-8645 if you have problems. The hours are 8:00 AM - 7:00 PM EST.

Information Gather the following information before calling technical support:

- a description of the problem,
- a copy of the CONFIG.SYS and AUTOEXEC.BAT files,
- the computer configuration (CPU type, amount of RAM, secondary cache size, hard disk drive capacity, and type of drives).

BBS You can access information about DMI Wizard on the American Megatrends BBS.

Transmissions The American Megatrends BBS automatically handles modems with data transmission rates from 1,200 to 28,800 bps.

Phone Numbers The BBS requires no parity, eight data bits, and one stop bit. The characteristics of the BBS phone numbers are:

Phone Number/Address	Characteristics
Voice	770-246-8645
Fax	770- 246-8772
Internet Address	support@american.megatrends.com
Web Site	http://www.megatrends.com
770-246-8780	28,800 baud rate. Supports v.34.
770-246-8781	28,800 baud rate. Supports v.34.
770-246-8782	Supports HST and v.42.
770-246-8783	Supports HST and v.42.

1 Overview

The American Megatrends DMI Wizard is a DOS utility with a graphical interface that allows you to display and/or modify DMI (Desktop Management Interface) system configuration data in any DMI-aware system BIOS ROM or BIOS .ROM file.

The DMI Wizard can read the system BIOS file stored on the ROM file in the computer or it can read a user-supplied .ROM file.

DMI Wizard can update the system BIOS ROM file (if the system BIOS is installed on a Flash EPROM in the computer) or it can update a user-supplied .ROM file.

The DMI Wizard works with AMIBIOS, and all DMI-enabled versions of system BIOS.

System Requirements

DMI Wizard runs on an:

- an ISA, EISA, PCI, or VL-Bus™ computer with an Intel x86 or compatible CPU,
- at least 4 MB of system memory,
- at least 384 KB of available DOS application memory space,
- 2 MB of hard disk space,
- AMIFlash Version 3.50 or later (if the system BIOS to be updated is on a Flash ROM part),
- a monitor, mouse, and keyboard,
- a DOS mouse driver must be loaded,
- at least one 3□ “ floppy drive, running
- DOS Version 3.3 or later

Features

Mouse Interface Use the mouse in the same manner as you use a mouse with any Windows application.

Keyboard Interface The keyboard interface is similar to keyboard use in Windows applications. Press <Tab> to move between buttons and/or screen areas. Press <Enter> when a button is highlighted to perform the button's function. Press the arrow keys to navigate through lists. As with Windows programs, you cannot choose buttons that have been grayed out.

Security The DMI Wizard provides password protection.

You can password-protect the BIOS ROM file in the computer where DMI Wizard is running. You can also password-protect any BIOS .ROM file to be changed that may be input into DMI Wizard.

Multiple Languages DMI Wizard supports multiple languages, as specified in the Language DMI structure. Even pictographic languages, such as Chinese, can be supported by DMI Wizard.

Edit BIOS DMI Information DMI Wizard allows anyone to edit BIOS DMI information. There are two levels of editing: OEM and user.

When running DMI Wizard in OEM mode, you can edit most DMI structures. When running in User mode, you can only edit DMI information that can be changed by the end user, such as system memory.

DMI

DMI (Desktop Management Interface) is a standard for organizing system configuration information. Using DMI, computer configuration can be made much simpler, quicker, and easier. Computer system configuration information can be read and modified from remote locations, permitting remote configuration and boot up.

DMI and PnP DMI is a new way to manage computers. DMI parallels the Plug and Play initiative. It specifies methods for making computer upgrades much easier. The Desktop Management BIOS Specification follow the system device node model used in the Plug and Play BIOS specification.

DMI uses Plug and Play functions to access DMI information. Plug and Play functions INT 1Ah 50h — 57h have been assumed by the DMI BIOS interface.

MIF DMI specifies a database of system information (the Management Information Format (MIF) database. Each computer can have a number of MIF files that contain information about the motherboard, adapter cards, and other computer components.

Using a utility program that can read MIF files, you can obtain a great deal of information about any DMI-aware computer.

DMI Data Structures The standard DMI data structures are described in the *AMIBIOS 95 Technical Reference*.

DMI Basics

DMI Wizard runs on IBM AT, EISA, or AT-compatible computers. A basic grasp of the architecture of an AT computer can help you understand how to use DMI Wizard. The main parts of every ISA computer are organized into separate DMI modules that contain system configuration information about the following computer parts:

- the BIOS,
- the system,
- the base board,
- the system chassis,
- the processor (CPU),
- the memory controller,
- the memory modules,
- cache,
- the port connectors,
- the system slots,
- onboard devices,
- OEM strings,
- system configuration,
- BIOS language, and
- group associations.

DMI Wizard provides a screen that allows you to modify any of the above DMI structures, as described in Chapter 3.

2 Installing DMI Wizard

Installing DMI Wizard is easy. Just run the DMI Wizard INSTALL program.

Installing

The computer's hard disk drive must have at least 2 MB of free disk space if installing from a floppy diskette. Perform the following steps:

Step	Action
1	Insert the DMI Wizard diskette 1 in drive A: (or B:).
2	At the DOS prompt, type `A: (or B:)INSTALL` and press <Enter>.
3	Select the type of monitor that this computer has (color or monochrome).
4	Follow the instructions on the screen.

3 Using DMI Wizard

Starting DMI Wizard

After you have successfully installed DMI Wizard, type

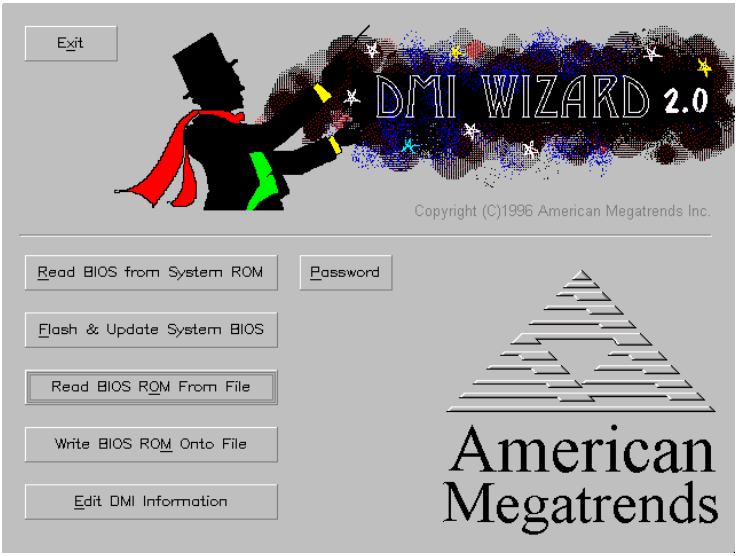
C:/DMIWIZ/DMIWIZ

to run the DMI Wizard.

Parameters The two DOS command line parameters are:

Parameter	Description
OEM	All DMI structures except BIOS structures can be edited and modified. All DMI information is displayed.
User (default)	Only user-specific DMI information, such as type of system memory installed in the computer, can be edited. All DMI information can be displayed.

DMI Wizard Main Screen



Cont'd

DMI Wizard Main Screen, Continued

Main Screen Actions From the DMI Wizard main screen, you can perform the following actions. As with Windows programs, you cannot choose buttons that have been grayed out.

Button	Description
Read BIOS From System ROM	Load the system BIOS from the computer where DMI Wizard is now running.
Password	Type a 1-6 character password to secure the BIOS file.
Flash & Update System BIOS	Update the system BIOS in the computer where DMI Wizard is now running.
Read BIOS ROM From File	Load the BIOS ROM file to be modified from disk.
Write BIOS ROM To File	Update the BIOS ROM file that you loaded from disk. You do not have to use the same filename. You can create a new ROM file.
Edit DMI Information	Choose this button if the DMI file is already loaded.
Exit	Quit DMI Wizard.

Loading a BIOS File

DMI Wizard can display any DMI-compliant system BIOS.

DMI Wizard can display, edit, and change any DMI-compliant AMIBIOS. You can load a BIOS file in two ways:

- Read BIOS and Edit DMI Information, and
- Read DMI Information and Display.

Read BIOS and Edit DMI You can only do this if you are reading an AMIBIOS that supports AMIFlash Version 3.50 or later.

Read DMI Information and Display DMI Wizard can read any DMI-compliant BIOS file and can display the DMI information. However, the DMI information cannot be modified in the system BIOS is not an AMIBIOS.

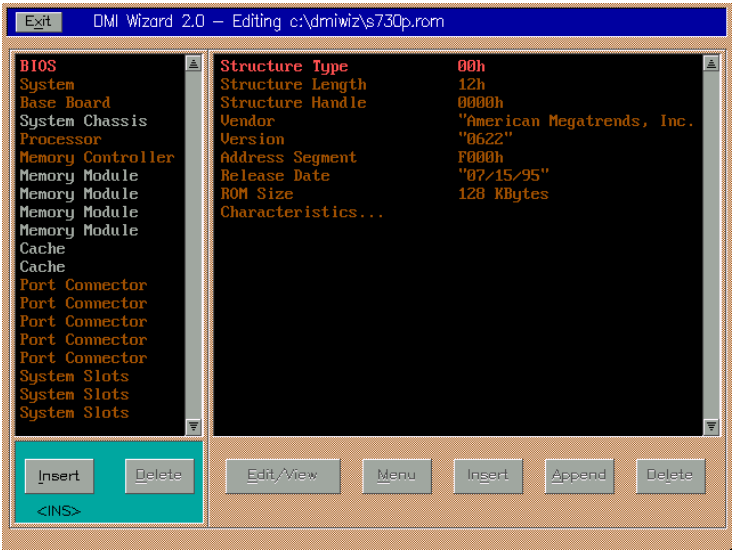
Editing an AMIBIOS ROM File

Select *Read BIOS from System ROM* to load the BIOS file from the system BIOS in the computer that you are running DMI Wizard on.

Select *Read BIOS ROM From File* and enter a BIOS .ROM filename to edit a different BIOS file.

Modifying DMI Information

The following screen appears when you load a BIOS file:



The DMI Modules are listed on the left. Choose a DMI module. The contents of the selected DMI Structure are displayed on the right. DMI information that can be modified is displayed in white. Information displayed in red cannot be modified.

Modify DMI Information Buttons The buttons on this screen are shown below. As with Windows programs, you cannot choose buttons that have been grayed out.

Button	Description
Insert (left side)	Inserts a new DMI module.
Delete (left side)	Deletes the selected DMI module.
Edit/View	Edits the displayed DMI structure field.
Menu	Displays a list of valid options for the selected DMI structure field.
Insert	Inserts a new option in a DMI structure field.
Append	Adds additional information

Button	Description
Delete	Deletes an option in a DMI structure field.

Cont’d

Modifying DMI Information, Continued

Inserting a DMI Module Click on the Insert button in the lower left corner of the above screen to insert a new DMI structure module. Type in the module name when prompted.

Deleting a DMI Module Click on the Delete button in the lower left corner of the above screen to delete a DMI structure module. You will be prompted to confirm the deletion.

Editing DMI Structures Select a DMI module by scrolling through the modules on the left. The contents of each DMI module appear on the right. Click on the line to be edited.

A list of valid options appears. Select the new option. Click on the Menu button to select the setting for this option. Click on the OK button when complete.

Flashing the ROM

Either the OEM or the user can update the BIOS ROM file by selecting *Flash & Update System BIOS* from the DMI Wizard main screen.

DMI Wizard automatically invokes the AMIFlash utility when you select *Flash & Update System BIOS.* The AMIFlash utility is provided with DMI Wizard.

4 Debugging DMI BIOS

Sometimes it is difficult to debug DMI BIOS files. DMIDUMP, a DOS-based debugging utility that displays Plug and Play calls about DMI. Use DMIDUMP to analyze any problem that you find in DMI Wizard V2.0. DMIDUMP prints raw DMI data and the DMI definitions.

DMIDUMP can be executed to redirect all display information to a text file so the information can be analyzed.

DMIDUMP Output DMIDUMP displays the following:

- The supported DMI Version number. This tells you if the BIOS supports the correct DMI Version.
- The total number of DMI structures.
- The maximum size of the DMI structure.
- A detailed description of each individual DMI structure.

Using DMIDUMP The DMIDUMP DOS command line parameters are:

Parameter	Description
/?	Display DMIDUMP Help information.
/D	Displays the raw DMI data with the DMI structure.
/T#	Displays the DMI Structure Type, in the following format: T0 Type 0 T1 Type 1 T2 Type 2 and so on.
/H#	Displays the DMI Structure Handle Type, in the following format: T0 Structure Handle 0 T1 Structure Handle 1 T2 Structure Handle 2 and so on.

A Error Messages

DMI Wizard Loading Error Messages

DMI Wizard may generate the following error messages when it is loading. DMI Wizard prints a recommended action after each error message is displayed.

Message	Recommended Action
Invalid Display Type *[Monochrome]* detected!	DMI Wizard is a GUI-based DOS utility that uses sophisticated graphics. The computer must have a VGA monochrome or VGA color graphics display monitor.
One installed component *[component name]* missing!!	One of the install files is missing in the running directory. Install DMI Wizard again.
This program needs 384KB of free memory!!	There is less than 384 KB of free memory in the DOS applications area. DMI Wizard uses 128 KB for compressing and uncompressing code modules. Remove all statements that add TSRs and drivers in AUTOEXEC.BAT and CONFIG.SYS. Add the following to CONFIG.SYS: DOS=HIGH DEVICE=[path]HIMEM.SYS Reboot the computer and run DMI Wizard again.

DMI Wizard Runtime Error Messages

DMI Wizard may generate the following error messages when it is running.

Message	Recommended Action
Read From System ROM Failed!!	The BIOS does not support the AMIFlash utility version 3.50 or later. This message is displayed when a non-AMIBIOS is read. This message may also appear if an AMIBIOS that does not support AMIFlash version 3.50 is being read. The system BIOS cannot be read and the DMI module cannot be edited. You can display DMI information by choosing *View Runtime BIOS DMI Information.*
Not a DMI-Compliant BIOS!!	The BIOS does not support the Plug and Play calls that read the DMI information. This message appears if the input BIOS is not a PnP BIOS or PnP Functions 50h and 51h are not supported.
Unable to open file: *[Filename]*	The name of the file that you specified to be opened is either incorrect or you specified an incorrect DOS drive and path.
This will overwrite old editing. Proceed?	A DMI module is already loaded for editing and you are trying to load another DMI module. If you elect to proceed, the new file is opened and the previously-loaded DMI module is destroyed.
This will overwrite existing ROM File. Proceed?	A file with the same name as the BIOS ROM file that you wish to save already exists. If you elect to proceed, the old BIOS ROM file is overwritten.
This will reboot the machine. Proceed?	This message appears when you flash the BIOS. If you elect to proceed, the current BIOS ROM is overwritten with the new BIOS file. You must be absolutely certain that the new BIOS file is error-free and contains the correct DMI information. The computer will not boot if the new BIOS file is bad.
A critical error happened!!	An event occurred that prevents DMI Wizard from running, such as a drive

Message	Recommended Action
	is not ready or not present. The critical error is displayed in a Dialog Box.

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