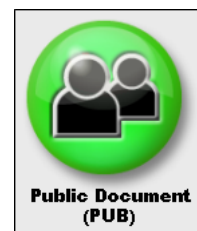Whitepaper

# AMIBIOS8™ Error Messages

Description of error messages that
may be generated by AMIBIOS8

Revision 1.31 – June 10, 2008

**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 expressed 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.

# Revision Information

| Date | Rev | Comments |
|------|-----|----------|
| 2002-04-29 | 0.10 | Initial document draft. |
| 2002-05-01 | 0.20 | Added information and descriptions. Deleted descriptions for strings no longer used by BIOS. |
| 2002-05-02 | 1.00 | Initial public release. |
| 2004-01-15 | 1.10 | Updated error messages as per AMIBIOS8 8.00.11 strings. Fixed header. Changed copyright to 2004. |
| 2004-07-19 | 1.20 | Included the left-over error messages (as reported in bug #2593). Included CPU & MPSTable sections. |
| 2005-06-08 | 1.21 | Reformatted template. |
| 2007-10-30 | 1.30 | Updated core information. Updated to documentation standard. |
| 2008-06-10 | 1.31 | Updated corporate address. |

# Table of Contents

# 1   Introduction

## 1.1   Purpose of this document

This document is designed to describe error messages that an AMIBIOS-based computer system may produce during Power-On Self Test (POST). Each message is listed along with a detailed description of the error.

This information is up to date through AMIBIOS8 Core Release 8.00.15. This list is based on a generic configuration of AMIBIOS. Messages in some versions of AMIBIOS may differ based on system requirements.

## 1.2   Additional information

For more information concerning AMIBIOS, please visit the AMIBIOS website:

http://www.amibios.com/

## 2   Error Message Descriptions

### 2.1   Memory

| Message Displayed | Description |
|---|---|
| Gate20 Error | The BIOS is unable to properly control the motherboard's Gate A20 function, which controls access of memory over 1 MB. This may indicate a problem with the motherboard. |
| Multi-Bit ECC Error | This message will only occur on systems using ECC enabled memory modules. ECC memory has the ability to correct single-bit errors that may occur from faulty memory modules.<br><br>A multiple bit corruption of memory has occurred, and the ECC memory algorithm cannot correct it. This may indicate a defective memory module. |
| Parity Error | Fatal Memory Parity Error. System halts after displaying this message. |
| RAM R/W test failed | This message is displayed by the AMIBIOS8 when the RAM read/write test fails. |
| CMOS Memory Size Wrong | The base memory (memory below 1MB) size that is reported in the CMOS (offset 15h) mismatches with the actual size detected.  This condition may occur when the hole is set at 512K base memory or when CMOS is corrupted. |

## 2.2 Boot

| Message Displayed | Description |
|---|---|
| Boot Failure … | This is a generic message indicating the BIOS could not boot from a particular device. This message is usually followed by other information concerning the device. |
| Invalid Boot Diskette | A diskette was found in the drive, but it is not configured as a bootable diskette. |
| Drive Not Ready | The BIOS was unable to access the drive because it indicated it was not ready for data transfer. This is often reported by drives when no media is present. |
| A: Drive Error | The BIOS attempted to configure the A: drive during POST, but was unable to properly configure the device. This may be due to a bad cable or faulty diskette drive. |
| B: Drive Error | The BIOS attempted to configure the B: drive during POST, but was unable to properly configure the device. This may be due to a bad cable or faulty diskette drive. |
| Insert BOOT diskette in A: | The BIOS attempted to boot from the A: drive, but could not find a proper boot diskette. |
| Reboot and Select proper Boot device or Insert Boot Media in selected Boot device | BIOS could not find a bootable device in the system and/or removable media drive does not contain media. |
| NO ROM BASIC | This message occurs on some systems when no bootable device can be detected. |

## 2.3 Storage Device

| Message Displayed | Description |
|---|---|
| Primary Master Hard Disk Error | The IDE/ATAPI device configured as Primary Master could not be properly initialized by the BIOS. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| Primary Slave Hard Disk Error | The IDE/ATAPI device configured as Primary Slave could not be properly initialized by the BIOS. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| Secondary Master Hard Disk Error | The IDE/ATAPI device configured as Secondary Master could not be properly initialized by the BIOS. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| Secondary Slave Hard Disk Error | The IDE/ATAPI device configured as Secondary Slave could not be properly initialized by the BIOS. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| 3$^{rd}$ Master Hard Disk Error | The IDE/ATAPI device configured as Master in the 3$^{rd}$ IDE controller could not be properly initialized by the BIOS. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| 3$^{rd}$ Slave Hard Disk Error | The IDE/ATAPI device configured as Slave in the 3$^{rd}$ IDE controller could not be properly initialized by the BIOS. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| 4$^{th}$ Master Hard Disk Error | The IDE/ATAPI device configured as Master in the 4$^{th}$ IDE controller could not be properly initialized by the BIOS. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| 4$^{th}$ Slave Hard Disk Error | The IDE/ATAPI device configured as Slave in the 4$^{th}$ IDE controller could not be properly initialized by the BIOS. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| 5$^{th}$ Master Hard Disk Error | The IDE/ATAPI device configured as Master in the 5$^{th}$ IDE controller could not be properly initialized by the |

| | BIOS. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
|---|---|
| 5$^{th}$ Slave Hard Disk Error | The IDE/ATAPI device configured as Slave in the 5$^{th}$ IDE controller could not be properly initialized by the BIOS. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| 6$^{th}$ Master Hard Disk Error | The IDE/ATAPI device configured as Master in the 6$^{th}$ IDE controller could not be properly initialized by the BIOS. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| 6$^{th}$ Slave Hard Disk Error | The IDE/ATAPI device configured as Slave in the 6$^{th}$ IDE controller could not be properly initialized by the BIOS. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| Primary Master Drive - ATAPI Incompatible | The IDE/ATAPI device configured as Primary Master failed an ATAPI compatibility test. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| Primary Slave Drive - ATAPI Incompatible | The IDE/ATAPI device configured as Primary Slave failed an ATAPI compatibility test. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| Secondary Master Drive - ATAPI Incompatible | The IDE/ATAPI device configured as Secondary Master failed an ATAPI compatibility test. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| Secondary Slave Drive - ATAPI Incompatible | The IDE/ATAPI device configured as Secondary Slave failed an ATAPI compatibility test. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| 3$^{rd}$ Master Drive - ATAPI Incompatible | The IDE/ATAPI device configured as Master in the 3$^{rd}$ IDE controller failed an ATAPI compatibility test. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| 3$^{rd}$ Slave Drive - ATAPI Incompatible | The IDE/ATAPI device configured as Slave in the 3$^{rd}$ IDE controller failed an ATAPI compatibility test. This message is typically displayed when the BIOS is trying |

| | to detect and configure IDE/ATAPI devices in POST. |
|---|---|
| 4<sup>th</sup> Master Drive - ATAPI Incompatible | The IDE/ATAPI device configured as Master in the 4<sup>th</sup> IDE controller failed an ATAPI compatibility test. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| 4<sup>th</sup> Slave Drive - ATAPI Incompatible | The IDE/ATAPI device configured as Slave in the 4<sup>th</sup> IDE controller failed an ATAPI compatibility test. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| 5<sup>th</sup> Master Drive - ATAPI Incompatible | The IDE/ATAPI device configured as Master in the 5<sup>th</sup> IDE controller failed an ATAPI compatibility test. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| 5<sup>th</sup> Slave Drive - ATAPI Incompatible | The IDE/ATAPI device configured as Slave in the 5<sup>th</sup> IDE controller failed an ATAPI compatibility test. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| 6<sup>th</sup> Master Drive - ATAPI Incompatible | The IDE/ATAPI device configured as Master in the 6<sup>th</sup> IDE controller failed an ATAPI compatibility test. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| 6<sup>th</sup> Slave Drive - ATAPI Incompatible | The IDE/ATAPI device configured as Slave in the 6<sup>th</sup> IDE controller failed an ATAPI compatibility test. This message is typically displayed when the BIOS is trying to detect and configure IDE/ATAPI devices in POST. |
| S.M.A.R.T. Capable but Command Failed | The BIOS tried to send a S.M.A.R.T. message to a hard disk, but the command transaction failed.<br><br>This message can be reported by an ATAPI device using the S.M.A.R.T. error reporting standard. S.M.A.R.T. failure messages may indicate the need to replace the hard disk. |
| S.M.A.R.T. Command Failed | The BIOS tried to send a S.M.A.R.T. message to a hard disk, but the command transaction failed.<br><br>This message can be reported by an ATAPI device using the S.M.A.R.T. error reporting standard. S.M.A.R.T. failure messages may indicate the need to replace the hard disk. |
| S.M.A.R.T. Status BAD, Backup and Replace | A S.M.A.R.T. capable hard disk sends this message when it detects an imminent failure. |

| | This message can be reported by an ATAPI device using the S.M.A.R.T. error reporting standard. S.M.A.R.T. failure messages may indicate the need to replace the hard disk. |
|---|---|
| S.M.A.R.T. Capable and Status BAD | A S.M.A.R.T. capable hard disk sends this message when it detects an imminent failure.<br><br>This message can be reported by an ATAPI device using the S.M.A.R.T. error reporting standard. S.M.A.R.T. failure messages may indicate the need to replace the hard disk. |

## 2.4  Virus Related

| Message Displayed | Description |
|---|---|
| BootSector Write !! | The BIOS has detected software attempting to write to a drive's boot sector. This is flagged as possible virus activity. This message will only be displayed if Virus Detection is enabled in AMIBIOS setup. |
| VIRUS: Continue (Y/N)? | If the BIOS detects possible virus activity, it will prompt the user. This message will only be displayed if Virus Detection is enabled in AMIBIOS setup. |

## 2.5  System Configuration

| Message Displayed | Description |
|---|---|
| DMA-1 Error | Error initializing primary DMA controller. This is a fatal error, often indication a problem with system hardware. |
| DMA-2 Error | Error initializing secondary DMA controller. This is a fatal error, often indication a problem with system hardware. |
| DMA Controller Error | POST error while trying to initialize the DMA controller. This is a fatal error, often indication a problem with system hardware. |
| Checking NVRAM..Update Failed | BIOS could not write to the NVRAM block.  This message appears when the FLASH part is write-protected or if there is no FLASH part (System uses a PROM or EPROM). |

| | |
|---|---|
| Microcode Error | BIOS could not find or load the CPU Microcode Update to the CPU.  This message only applies to INTEL CPUs.  The message is most likely to appear when a brand new CPU is installed in a motherboard with an outdated BIOS.  In this case, the BIOS must be updated to include the Microcode Update for the new CPU. |
| NVRAM Checksum Bad, NVRAM Cleared | There was an error in while validating the NVRAM data.  This causes POST to clear the NVRAM data. |
| Resource Conflict | More than one system device is trying to use the same non-shareable resources (Memory or I/O). |
| NVRAM Ignored | The NVRAM data used to store Plug'n'Play (PnP) data was not used for system configuration in POST. |
| NVRAM Bad | The NVRAM data used to store Plug'n'Play (PnP) data was not used for system configuration in POST due to a data error. |
| Static Resource Conflict | Two or more Static Devices are trying to use the same resource space (usually Memory or I/O). |
| PCI I/O conflict | A PCI adapter generated an I/O resource conflict when configured by BIOS POST. |
| PCI ROM conflict | A PCI adapter generated an I/O resource conflict when configured by BIOS POST. |
| PCI IRQ conflict | A PCI adapter generated an I/O resource conflict when configured by BIOS POST. |
| PCI IRQ routing table error | BIOS POST (DIM code) found a PCI device in the system but was unable to figure out how to route an IRQ to the device.  Usually this error is causing by an incomplete description of the PCI Interrupt Routing of the system. |
| Timer Error | Indicates an error while programming the count register of channel 2 of the 8254 timer. This may indicate a problem with system hardware. |
| Refresh timer test failed | BIOS POST found that the refresh timer hardware failed to pass the Refresh Retrace Test. |
| Interrupt Controller-1 error | BIOS POST could not initialize the Master Interrupt Controller. This may indicate a problem with system hardware. |

| | |
|---|---|
| Interrupt Controller-2 error | BIOS POST could not initialize the Slave Interrupt Controller. This may indicate a problem with system hardware. |

## 2.6   CMOS

| Message Displayed | Description |
|---|---|
| CMOS Date/Time Not Set | The CMOS Date and/or Time are invalid. This error can be resolved by readjusting the system time in AMIBIOS Setup. |
| CMOS Battery Low | CMOS Battery is low.  This message usually indicates that the CMOS battery needs to be replaced.  It could also appear when the user intentionally discharges the CMOS battery. |
| CMOS Settings Wrong | CMOS settings are invalid. This error can be resolved by using AMIBIOS Setup. |
| CMOS Checksum Bad | CMOS contents failed the Checksum check.  Indicates that the CMOS data has been changed by a program other than the BIOS or that the CMOS is not retaining its data due to malfunction. This error can typically be resolved by using AMIBIOS Setup. |

## 2.7 Miscellaneous

| Message Displayed | Description |
|---|---|
| KBC BAT Test failed | Keyboard controller BAT test failed.  This may indicate a problem with keyboard controller initialization. |
| Keyboard Error | Keyboard is not present or the hardware is not responding when the keyboard controller is initialized. |
| PS2 Keyboard not found | PS2 Keyboard support is enabled in the BIOS setup but the device is not detected. |
| PS2 Mouse not found | PS2 Mouse support is enabled in the BIOS setup but the device is not detected. |
| Keyboard/Interface Error | Keyboard Controller failure. This may indicate a problem with system hardware. |
| Unlock Keyboard | PS2 keyboard is locked. User needs to unlock the keyboard to continue the BIOS POST. |
| System Halted | The system has been halted. A reset or power cycle is required to reboot the machine. This message appears after a fatal error has been detected. |
| <INS> Pressed | Indicates that <INS> key is pressed during the BIOS POST.  The POST will load and use default CMOS settings. |
| Password check failed | The password entered does not match the password set in the setup.  This condition may occur for both Supervisor and User password verification. |
| Unknown BIOS error. Error code = 004Ah | This message is displayed when ADM module is not present in the AMIBIOS8 ROM. |
| Unknown BIOS error. Error code = 004Bh | This message is displayed when language module is not present in the AMIBIOS8 ROM. |
| Floppy Controller Failure | Error in initializing legacy Floppy Controller. |

## 2.8 USB eModule Error Messages

| Message Displayed | Description |
|---|---|
| Warning! Unsupported USB device found and disabled! | This message is displayed when a non-bootable USB device is enumerated and disabled by the BIOS. |
| Warning! Port 60h/64h emulation is not supported by this USB Host Controller! | This message is displayed to indicate that port 60h/64h emulation mode cannot be enabled for this USB host controller. This condition occurs if USB KBC emulation option is set for non-SMI mode. |
| Warning! EHCI controller disabled. It requires 64bit data support in the BIOS. | This message is displayed to indicate that EHCI controller is disabled because of incorrect data structure. This condition occur if the USB host controller needs 64-bit data structure while the USB is ported with 32-bit data structure. |

## 2.9 SMBIOS eModule Error Messages

| Message Displayed | Description |
|---|---|
| Not enough space in Runtime area!!. SMBIOS data will not be available. | This message is displayed when the size of the SMBIOS data exceeds the available SMBIOS runtime storage size. |

## 2.10 CPU eModule Error Messages

| Message Displayed | Description |
|---|---|
| Warning! This system board does not support the power requirements of the installed processor. The processor will be run at a reduced frequency, which will impact system performance. | This message is displayed when the power requirements of the board do not match the power requirement of the CPU. |

## 2.11 MPS Table (Multi-processor) eModule Error Messages

| Message Displayed | Description |
|---|---|
| Insufficient Runtime space for MPS data! System may operate in PIC or Non-MPS mode. | This message is displayed when there is not enough space in the 0F000h runtime area for creating MPS table. |