



Whitepaper

AMIBIOS8™ Error Messages

Description of error messages that
may be generated by AMIBIOS8

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1 May 2002	0.2	Added information and descriptions. Deleted descriptions for strings no longer used by BIOS.	B. Richardson, Juan Diaz
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15 Jan 2004	1.1	Updated error messages as per AMIBIOS8 8.00.11 strings. Fixed header. Changed copyright to 2004.	N.V. Sivagar B. Richardson
19 Jul 2004	1.2	Included the left-over error messages (as reported in bug #2593). Included CPU & MPSTable sections	N.V. Sivagar
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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 based on AMIBIOS8 Core Release 8.00.11. 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	<p>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.</p> <p>A multiple bit corruption of memory has occurred, and the ECC memory algorithm cannot correct it. This may indicate a defective memory module.</p>
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 th Master Drive - ATAPI Incompatible	The IDE/ATAPI device configured as Master in the 4 th 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 th Slave Drive - ATAPI Incompatible	The IDE/ATAPI device configured as Slave in the 4 th 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 th Master Drive - ATAPI Incompatible	The IDE/ATAPI device configured as Master in the 5 th 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 th Slave Drive - ATAPI Incompatible	The IDE/ATAPI device configured as Slave in the 5 th 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 th Master Drive - ATAPI Incompatible	The IDE/ATAPI device configured as Master in the 6 th 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 th Slave Drive - ATAPI Incompatible	The IDE/ATAPI device configured as Slave in the 6 th 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	<p>The BIOS tried to send a S.M.A.R.T. message to a hard disk, but the command transaction failed.</p> <p>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.</p>
S.M.A.R.T. Command Failed	<p>The BIOS tried to send a S.M.A.R.T. message to a hard disk, but the command transaction failed.</p> <p>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.</p>
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	<p>A S.M.A.R.T. capable hard disk sends this message when it detects an imminent failure.</p> <p>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.</p>

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.
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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.