AMI BIOS Error Codes

AMI BIOS Text Error Messages

Table 10   AMI BIOS Text Error Messages

Message	Explanation
Bad PnP Serial ID Checksum	The Serial ID checksum of a Plug-and-Play card is invalid.
Floppy Disk Controller Resource Conflict	The floppy disk controller has requested a resource that is already in use.
NVRAM Checksum Error, NVRAM Cleared	The extended system configuration data (ESCD) was reinitialized because of an NVRAM checksum error. Clear CMOS and ESCD RAM and reboot.
NVRAM Cleared By Jumper	The Clear CMOS jumper has been moved to the Clear position. CMOS RAM and ESCD have been cleared.
NVRAM Data Invalid, NVRAM Cleared	Invalid data found in the ESCD, which might mean that you have changed devices in the system. When this message is displayed, the BIOS has already rewritten the ESCD with current configuration data.
Parallel Port Resource Conflict	The parallel port requested a resource that is already in use.
PCI Error Log is Full	More than 15 PCI conflict errors have been detected and no additional PCI errors can be logged.
PCI I/O Port Conflict	Two devices requested the same I/O address, resulting in a conflict.
PCI IRQ Conflict	Two devices requested the same IRQ, resulting in a conflict.
PCI Memory Conflict	Two devices requested the same memory resource, resulting in a conflict.
Primary Boot Device Not Found	The designated primary boot device (hard disk drive, floppy disk drive, CD-ROM drive) could not be found.
Primary IDE Controller Resource Conflict	The primary IDE controller has requested a resource that is already in use.
Primary Input Device Not Found	The designated primary input device (keyboard, mouse, or other device if input is redirected) could not be found.
Secondary IDE Controller Resource Conflict	The secondary IDE controller has requested a resource that is already in use.
Serial Port 1 Resource Conflict	Serial Port 1 has requested a resource that is already in use.
Serial Port 2 Resource Conflict	Serial Port 2 has requested a resource that is already in use.
Static Device Resource Conflict	A card that is not Plug-and-Play ISA has requested a resource that is already in use.
System Board Device Resource Conflict	A card that is not Plug-and-Play ISA has requested a resource that is already in use.

(continues)

Table 10   Continued

Message	Explanation
A20 Error	Gate A20 on the keyboard controller is not working.
Address Line Short!	Error in the address decoding circuitry on the motherboard.
CMOS Battery State Low	The battery power is low; replace battery.
CMOS Checksum Invalid	After CMOS RAM values are saved, a checksum value is generated for error checking. The previous value is different from the current value.
Run Setup	CMOS system options not set The values stored in CMOS RAM are either corrupt or nonexistent. Run Setup.
CMOS Display Type Mismatch	The video type in CMOS RAM does not match the type detected by the BIOS. Run Setup.
CMOS Memory Size Mismatch	The amount of memory on the motherboard is different from the amount indicated in CMOS RAM. Run Setup.
CMOS Time and Date Not Set	Run Setup to set the date and time in CMOS RAM.
Diskette Boot Failure	The boot disk in floppy drive A: is corrupt. It cannot be used to boot the system. Use another boot disk and follow the screen instructions.
DMA Error	Error in the DMA controller.
DMA #1 Error	Error in the first DMA controller.
DMA #2 Error	Error in the second DMA controller.
FDD Controller Failure	The BIOS cannot communicate with the floppy disk drive controller. Check all appropriate cables and connections.
HDD Controller Failure	The BIOS cannot communicate with the hard disk drive controller. Check all appropriate cables and connections.
Insert Bootable Media	The BIOS cannot find a bootable medium. Insert a bootable floppy disk or CD-ROM.
INTR #1 Error	Interrupt controller 1 failed POST.
INTR #2 Error	Interrupt controller 2 failed POST.
Invalid Boot Diskette	The BIOS can read the disk in floppy drive A:, but cannot boot the system from it. Use another boot disk.
KB/Interface Error	There is an error in the keyboard connector.
Keyboard Error	There is a timing problem with the keyboard.
Keyboard Stuck Key Detected	A stuck keyboard key was detected.
Off Board Parity Error	Parity error in memory installed in an expansion slot. The format is: OFF BOARD PARITY ERROR ADDR (HEX) = (*XXXX*), where *XXXX* is the hex address where the error occurred.
On Board Parity Error	Parity error in memory installed on the motherboard. The format is: ON BOARD PARITY ERROR ADDR (HEX) = (*XXXX*), where *XXXX* is the hex address where the error occurred.
Parity Error	Parity error in system memory at an unknown address.
System Halted!	An error caused the computer to halt.
Timer Channel 2 Error	There is an error in counter/timer 2.
Uncorrectable ECC Error	An uncorrectable ECC memory error was detected.
Undetermined NMI	An undetermined NMI was detected.
Memory Parity Error at *xxxxx*	Memory failed. If the memory location can be determined, it is displayed as *xxxxx*. If not, the message is Memory Parity Error ????.
I/O Card Parity Error at *xxxxx*	An expansion card failed. If the address can be determined, it is displayed as *xxxxx*. If not, the message is I/O Card Parity Error ????.
DMA Bus Time-out	A device has driven the bus signal for more than 7.8 microseconds.

AMI BIOS Beep Codes

Table 11   AMI BIOS Beep Codes

Beeps	Error Message	Description
1	DRAM Refresh Failure	The memory refresh circuitry on the motherboard is faulty.
2	Parity Error	A parity error occurred in system memory.
3	Base 64KB (First Bank) Memory Failure	Memory failure in the first bank of memory.
4	System Timer Failure	Memory failure in the first bank of memory, or timer 1 on the motherboard is not functioning.
5	Processor Error	The processor on the motherboard generated an error.
6	Keyboard Controller Gate A20 Failure	The keyboard controller might be bad. The BIOS cannot switch to protected mode.
7	Virtual Mode Processor Exception Interrupt Error	The processor generated an exception interrupt.
8	Display Memory Read/Write Error	The system video adapter is either missing or its memory is faulty.
9	ROM Checksum Error	ROM checksum value does not match the value encoded in BIOS.
10	CMOS Shutdown Register Read/Write Error	The shutdown register for CMOS RAM failed.
11	Cache Error/L2 Cache Bad	The L2 cache is faulty.
1 long, 3 short	Conventional/extended memory failure	The motherboard memory is faulty.
1 long, 8 short	Display/retrace test failed	The video card is faulty, try reseating or moving to a different slot.

AMI POST Codes

Table 12   AMI BIOS POST Codes

Code	POST Operation In Progress
00h	Give control to ROM in flash and execute boot.
00h	Execute boot.
02h	Disable internal cache. Keyboard controller test.
08h	Disable DMA controller #1, #2. Disable interrupt controller #1, #2. Reset video display.
0Dh	Check for signature of the board manufacturing company.
0Dh	If default jumper is set, go to Load CMOS Default.
0Eh	Check the validity of CMOS; if there is anything wrong or invalid, force to default.
0Fh	Load default CMOS settings.
10h	Clear error register, clear CMOS pending interrupt, check and set clock rate, check and set base memory size 512KB or 640KB.
10h	If base memory size is 640KB, allocate extended BIOS data area (EBDA). Otherwise, calculate the EBDA.

Table 12   Continued

Code	POST Operation In Progress
10h	Set up overlay environment. Update setup Flags with current operating environment. Initialize interrupt vector pointing to the error handlers. Update setup Flags in EBDA. Initialize CMOS pointers in EBDA.
13h	Program all chipset registers.
15h	Initialize system timer.
1Bh	Go to real memory base 64KB test.
20h	16KB base RAM test.
23h	Hook made available prior to initializing the interrupt vector table.
23h	Setup interrupt vectors.
24h	Initialize and load interrupt vectors.
25h	Video rows initialization.
28h	Set monochrome mode.
29h	Set color display—color mode set.
2Ah	Clear parity status, if any.
2Bh	Custom video initialization required internally by some chipsets before video initialization.
2Ch	Test optional video ROM.
2Dh	Initialize registers internal to chipset after video initialization.
2Eh	Check for video ROM.
2Fh	Display memory read/write test.
30h	Test video horizontal and vertical tracing.
31h	Display video memory read/write test.
32h	Test video horizontal and vertical tracing. Beep if no video controller installed. Check for MDA.
34h	Setup video configuration (column x row). Display copyright message.
36h	Initialize messaging services. Clear the screen.
37h	Display the first screen sign-on.
39h	Update screen pointer. Display setup message. Display keyboard sign on. Display mouse sign-on.
40h	Memory test starting segment at 00000h.
43h	Calculate the memory size left to be tested.
4Fh	Disable caching. Check if the system memory size is larger than zero. Test and initialize to zero all DRAM. Remap memory partition if necessary. Test 1MB of memory. Update counter onscreen. Repeat memory test for each MB of memory until done.
52h	ChipsetAdjustMemorySize. Adjust any base of extended memory size because of chipset.
61h	Test DMA master page registers.
62h	Test DMA slave page registers.
65h	Program DMA controllers.
66h	Clear DMA write control registers.
67h	Unmask timer and NMI. Update master mask register.
80h	Run keyboard detection. Run mouse detection.
80h	Read interrupt mask; set up diskette ISR, #2, keyboard, and timer.
81h	8042 interface test; enable keyboard interrupt if keyboard is detected.
82h	Enable interrupt.
83h	Check and set keyboard lock bit.
88h	Floppy unit initialization. Floppy controller and data setup.

Code	POST Operation In Progress
8Ch	Set up interface between the BIOS POST and the device initialization management (DIM).
8Fh	Read interrupt mask. Unmask floppy interrupt. Setup floppy controller and data setup.
92h	Set up COM port and LPT port timeout values. Display wait message if setup key is pressed.
96h	Clear to bottom of the screen. Perform chipset initialization required before option ROM scans. Give control to ROM in flash.
97h	Verify and give control to optional ROM.
98h	Perform any chipset initialization required after option ROM scans; give control to ROM in flash.
9Ah	Adds MP entries for buses, I/O APIC, I/O INTRs, and LINTs.
9Dh	Timer data area initialization—set time and date.
A0h	Set up printer base addresses.
A0h	Enable internal cache.
A1h	Set COM base addresses. Keyboard stuck key check.
A2h	Reset floating point unit.
A3h	Log and display POST errors if any. Check to see if computer is in manufacturing mode. If there are POST errors, display setup key and boot key options.
A6h	Call Setup program if setup was requested.
A7h	Load and wait for the valid password; unmask INT-OA redirection.
ABh	Custom floating point unit initialization.
ACh	Initialize internal floating point unit.
ADh	Update CMOS with floating point unit presence.
ADh	A fatal error results in a continuous echo of 'DEAD' to port 80h—echo 'DE' (wait 1 sec.), echo 'AD' (wait 1 sec.).
AEh	Set typematic rate.
AFh	Read keyboard ID.
B0h	Process POST errors.
B1h	Test cache memory.
B3h	Set up display mode (40 × 25, 80 × 25).
B4h	Jump to PreOS (pre-operating system) module.
BBh	Perform work before registers and circular keyboard buffer are cleared. Reinitialize message services. Initialize APM. Perform post-SMI initialization. Circumvents EMM386's attempts to utilize the lower 32KB area base.
BBh	Fix CMOS read and CMOS write so that every call does not set NMI off. Shadow product information in the compatibility segment. Give a beep for boot. Handle chipset specific manipulation before boot. Check keyboard for data before MP manipulation.
D0h	Initialize DS, ES, GS, and FS. Check if keyboard system- bit is set. Check whether a hard or soft reset has occurred.
D1h	Power on initialization. Initialize special chipsets in power on/hard reset. Check cache size and type, write reserved cache size information to CMOS, determine processor speed (optional).
D2h	Disable NMI reporting.
D3h	Reset video adapter.
D4h	If the microprocessor is in protected mode, load GDT 4GB segment—ChipsetPreInit(). Disable L1 and L2 cache; perform any initialization required before the main chipset configuration is done.
D5h	System validity check. Calculate checksum.
D6h	Provides capability to do any special chipset initialization required before keyboard controller testing can begin.

Table 12   Continued

Code	POST Operation In Progress
D7h	Flush the keyboard input buffer.
D8h	Issue keyboard BAT command.
D9h	Retrieve 8042 KBC output buffer.
DAh	If keyboard initialization failed, display error message and halt.
DBh	Provides capability to do any special chipset initialization after KBC test.
DDh	Initialize keyboard controller command byte.
DEh	A fatal error results in a continuous echo of 'DEAD' to port 80h, echo 'DE' (wait 1 sec.), and echo 'AD' (wait 1 sec).
DFh	Disable master/slave DMA controllers.
E0h	Initialize master/slave programmable interrupt controllers.
E1h	ChipsetInit. Preset any defaults needed to chipset registers.
E1h	Start the refresh timer(s) running.
E1h	Size all L2/L3 cache (if present/required).
E1h	Detect EDO memory module.
E1h	Size memory partition boundaries.
E1h	Disable all memory holes.
E1h	The 512–640KB must be DRAM mapped.
E1h	Gate A20 must be set and left set for POST.
E2h	Initialize timer channel 2 for speaker.
E3h	Initialize timer channel 0 for system timer.
E4h	Clear pending parity errors; disable and clear parity, reactivate parity.
E5h	Enter flat mode.
E6h	Test the first 2MB of system memory.
E7h	Get minimum memory partition size and test memory.
E8h	Remap SIMMs if failure detected and remapping supported.
E8h	Display error message and halt if remapping not supported.
E9h	After memory test, clear pending parity errors. Disable and clear parity, set bits to reactivate parity.
EAh	Set up stack for POST. Enable enhanced POST. Shadow FE00h block.
EBh	Look for the location of dispatcher in the packing list.
EBh	Call decompression dispatcher Init function.
ECh	Make F000h DRAM R/W enabled. Force use of EDI.
EDh	Actively dispatch BIOS.
F0h	Initialize I/O cards in slots.
F1h	Enable extended NMI sources.
F2h	Test extended NMI sources.
F3h	Display EISA error message, if any. Get keyboard controller vendor; program the keyboard controller.
F4h	Enable extended NMI sources.
F5h	Initialize mouse.

Note

Some port 80 codes are listed more than once because they test multiple functions. For example, code OEBh tests both for the location of dispatcher in the packing list and for calling the decompression dispatcher Init function.