# BIOS error codes

## IBM BIOS

*Indication*                                   *Meaning*

One short beep                                 Normal POST - no error
Two short beeps                                POST error - see screen for error code
No beeps                                       Power missing, loose card or short circuit
Continuous beep                                Power missing, loose card or short circuit
Repeating short beep                           Power missing, loose card or short circuit
One long and one short beep                    System board error
One long and two short beeps                   Video (mono/CGA display adapter)
One long and three short beeps                 Video (EGA display adapter)
Three long beeps                               Keyboard error
One beep, blank/incorrect display              Video display circuitry

## AMI BIOS

*Indication*                                   *Meaning*

One short beep                                 DRAM refresh failure
Two short beeps                                Parity circuit failure
Three short beeps                              Base memory (64k) RAM failure
Four short beeps                               System timer failure
Five short beeps                               CPU failure
Six short beeps                                Keyboard controller error
Seven short beeps                              Virtual mode exception error
Eight short beeps                              Display memory failure
Nine short beeps                               ROM BIOS checksum failure
One long and three short beeps                 Base/extended memory failure
One long and eight short beeps                 Display/retrace test failure

## Award BIOS

*Indication*                                   *Meaning*

One short beep                                 No error during POST
Two short beeps                                Any non-fatal error
One long and two short beeps                   Video error
One long and three short beeps                 Keyboard controller error

**Phoenix BIOS**

| Indication | Meaning |
| --- | --- |
| One, one and three beeps | CMOS read/write failure |
| One, one and four beeps | ROM BIOS checksum failure |
| One, two and one beep | Programmable interval timer failure |
| One, two and two beeps | DMA initialisation failure |
| One, two and three beeps | DMA page register read/write failure |
| One, three and one beep | RAM refresh verification error |
| One, three and three beeps | First 64k RAM chip/data line failure |
| One, three and four beeps | First 64k odd/even logic failure |
| One, four and one beep | Address line failure first 64k RAM |
| One, four and two beeps | Parity failure first 64k RAM |
| One, four and three beeps | Fail-safe timer feature (EISA only) |
| One, four and four beeps | Software NMI port failure (EISA only) |
| Two, one and up to four beeps | First 64k RAM chip/data line failure (bits 0 to 3 respectively) |
| Two, two and up to four beeps | First 64k RAM chip/data line failure (bits 4 to 7 respectively) |
| Two, three and up to four beeps | First 64k RAM chip/data line failure (bits 8 to 11 respectively) |
| Two, four and up to four beeps | First 64k RAM chip/data line failure (bits 12 to 15 respectively) |
| Three, one and one beep | Slave DMA register failure |
| Three, one and two beeps | Master DMA register failure |
| Three, one and three beeps | Master interrupt mask register failure |
| Three, one and four beeps | Slave interrupt register failure |
| Three, two and four beeps | Keyboard controller test failure |
| Three, three and four beeps | Screen initialisation failure |
| Three, four and one beep | Screen retrace test failure |
| Four, two and one beep | Timer tick failure |
| Four, two and two beeps | Shutdown test failure |
| Four, two and three beeps | Gate A20 failure |
| Four, two and four beeps | Unexpected interrupt in protected mode |
| Four, three and one beep | RAM text address failure |
| Four, three and three beeps | Interval timer channel 2 failure |
| Four, three and four beeps | Time of day clock failure |
| Four, four and three beeps | Maths coprocessor failure |