

Boot Beeps

[Click here: If my computer beeps and fails to boot, what do the beeps mean? - Knowledge Base](#)

Below are some beep error codes for most common computer BIOS systems.

The information below is from the [BIOS Central AMI BIOS Beep Codes page](#).

Beeps	Meaning
1 short	DRAM refresh failure
2 short	Parity circuit failure in the first 64KB of RAM: Likely a bad RAM IC, or possibly one of the hardware tests has failed
3 short	Memory failure in the first 64KB of RAM: Likely a bad RAM IC
4 short	System timer failure: Bad clock IC or bad RAM in the first bank of memory
5 short	Processor failure: The CPU has failed.
6 short	Keyboard controller Gate A20 error: The keyboard controller has failed. Due to its integration into the system board, you usually must replace the motherboard.
7 short	Virtual mode exception error: CPU has generated an exception error; bad CPU or motherboard
8 short	Display memory Read/Write test failure: Bad video card
9 short	ROM BIOS checksum failure: BIOS is defective
10 short	CMOS shutdown Read/Write error
11 short	Cache Memory error: Specifically, the L2 cache is bad.
1 long, 2 short	Video system failure: Error in video card BIOS, or a horizontal retrace has failed
1 long, 3 short	Conventional/Extended memory failure: RAM is bad
1 long, 8 short	Display/Retrace test failed: Video adapter is defective or missing

AST BIOS

The following information is from the [BIOS Central AST BIOS Beep Codes page](#).

Beeps	Meaning
1 short	CPU register test failure: The CPU has failed.
2 short	Keyboard controller buffer failure: The keyboard controller has failed.
3 short	Keyboard controller reset failure: The keyboard controller has failed or the motherboard circuitry is faulty.
4 short	Keyboard communication failure: Bad keyboard controller or keyboard
5 short	Keyboard input failure: The keyboard controller IC has failed.
6 short	System board chipset failure: The chipset on the motherboard has failed. Replace the motherboard.
9 short	BIOS ROM checksum error: The BIOS ROM has failed. If possible, replace the BIOS on the motherboard.
10 short	System timer test failure: The system clock IC has failed.
11 short	ASIC failure: Motherboard circuitry has failed. Replace the motherboard.
12 short	CMOS RAM shutdown register failure: The real-time clock/CMOS IC failed. Replace the CMOS or motherboard.
1 long	DMA controller 0 failure: The DMA controller IC for channel 0 has failed. If possible, replace the IC.
1 long, 1 short	DMA controller 1 failure: The DMA controller IC for channel 1 has failed. If possible, replace the IC.
1 long, 2 short	Video vertical retrace failure: The video adapter has probably failed. Replace the video adapter.
1 long, 3 short	Video memory test failure: The video adapter's memory has failed. Replace the video adapter.
1 long, 4 short	Video adapter failure: The video adapter has failed. Replace the video adapter.
1 long, 5 short	64KB memory failure: A failure has occurred in the base 64KB of memory. If possible, replace the RAM IC.
1 long, 6 short	Unable to load interrupt vectors: The BIOS was unable to load the interrupt vectors into memory.
1 long, 7 short	Unable to initialize video: This is a video problem. Replace the video adapter first. If the problem persists, replace the motherboard.
1 long, 8 short	Video memory failure: The is a failure in the video memory. Replace the video adapter first. If the problem persists, replace the

motherboard.

Compaq

The following information is from the [BIOS Central Compaq BIOS Beep Codes page](#).

Beeps	Meaning
1 short	No error: The system is booting properly.
1 long, 1 short	BIOS ROM checksum error: The contents of the BIOS ROM do not match the expected contents. If possible, reload the BIOS from the PAQ.
2 short	General error: No specifics available on what this code means
1 long, 2 short	Video error: Check the video adapter and make sure it's seated properly. If possible, replace the video adapter.
7 beeps (1 long, 1 short, 1 long, 1 short, pause, 1 long, 1 short, 1 short)	AGP video: The AGP video card is faulty. Reseat the card or replace it outright. This beep pertains to Compaq Deskpro systems.
Continuous beep	Memory error: Bad RAM; replace and test
1 short, 2 long	Bad RAM: Reseat RAM, then retest; replace RAM if failure continues.

Phoenix

The following information applies to Phoenix BIOS Q3.07 or 4.x. This information is from the [Phoenix BIOS beep codes section](#) of the [ComputerHope.com Computer POST/beep codes page](#).

Dashes indicate pauses between beeps.

Beeps Meaning

1-1-1-3 Verify real mode.

1-1-2-1 Get CPU type.

- 1-1-2-3 Initialize system hardware.
- 1-1-3-1 Initialize chipset registers with initial POST values.
- 1-1-3-2 Set in POST flag.
- 1-1-3-3 Initialize CPU registers.
- 1-1-4-1 Initialize cache to initial POST values.
- 1-1-4-3 Initialize I/O.
- 1-2-1-1 Initialize Power Management.
- 1-2-1-2 Load alternate registers with initial POST values.
- 1-2-1-3 Jump to UserPatch0.
- 1-2-2-1 Initialize keyboard controller.
- 1-2-2-3 BIOS ROM checksum
- 1-2-3-1 8254 timer initialization
- 1-2-3-3 8237 DMA controller initialization
- 1-2-4-1 Reset Programmable Interrupt Controller.
- 1-3-1-1 Test DRAM refresh.
- 1-3-1-3 Test 8742 Keyboard Controller.
- 1-3-2-1 Set ES segment to register to 4 GB.
- 1-3-3-1 28 Autosize DRAM.
- 1-3-3-3 Clear 512KB base RAM.
- 1-3-4-1 Test 512 base address lines.
- 1-3-4-3 Test 512KB base memory.
- 1-4-1-3 Test CPU bus-clock frequency.
- 1-4-2-4 Reinitialize the chipset.
- 1-4-3-1 Shadow system BIOS ROM.
- 1-4-3-2 Reinitialize the cache.
- 1-4-3-3 Autosize cache.
- 1-4-4-1 Configure advanced chipset registers.
- 1-4-4-2 Load alternate registers with CMOS values.
- 2-1-1-1 Set Initial CPU speed.
- 2-1-1-3 Initialize interrupt vectors.

- 2-1-2-1 Initialize BIOS interrupts.
- 2-1-2-3 Check ROM copyright notice.
- 2-1-2-4 Initialize manager for PCI Options ROMs.
- 2-1-3-1 Check video configuration against CMOS.
- 2-1-3-2 Initialize PCI bus and devices.
- 2-1-3-3 Initialize all video adapters in system.
- 2-1-4-1 Shadow video BIOS ROM.
- 2-1-4-3 Display copyright notice.
- 2-2-1-1 Display CPU type and speed.
- 2-2-1-3 Test keyboard.
- 2-2-2-1 Set key click if enabled.
- 2-2-2-3 56 Enable keyboard.
- 2-2-3-1 Test for unexpected interrupts.
- 2-2-3-3 Display message "Press F2 to enter SETUP".
- 2-2-4-1 Test RAM between 512 and 640KB.
- 2-3-1-1 Test [expanded memory](#).
- 2-3-1-3 Test [extended memory](#) address lines.
- 2-3-2-1 Jump to UserPatch1.
- 2-3-2-3 Configure advanced cache registers.
- 2-3-3-1 Enable external and CPU caches.
- 2-3-3-3 Display external cache size.
- 2-3-4-1 Display shadow message.
- 2-3-4-3 Display non-disposable segments.
- 2-4-1-1 Display error messages.
- 2-4-1-3 Check for configuration errors.
- 2-4-2-1 Test real-time clock.
- 2-4-2-3 Check for keyboard errors.
- 2-4-4-1 Set up hardware interrupts vectors.
- 2-4-4-3 Test coprocessor if present.
- 3-1-1-1 Disable onboard I/O ports.

- 3-1-1-3 Detect and install external RS232 ports.
- 3-1-2-1 Detect and install external parallel ports.
- 3-1-2-3 Re-initialize onboard I/O ports.
- 3-1-3-1 Initialize BIOS Data Area.
- 3-1-3-3 Initialize Extended BIOS Data Area.
- 3-1-4-1 Initialize floppy controller.
- 3-2-1-1 Initialize hard-disk controller.
- 3-2-1-2 Initialize local-bus hard-disk controller.
- 3-2-1-3 Jump to UserPatch2.
- 3-2-2-1 Disable A20 address line.
- 3-2-2-3 Clear huge ES segment register.
- 3-2-3-1 Search for option ROMs.
- 3-2-3-3 Shadow option ROMs.
- 3-2-4-1 Set up Power Management.
- 3-2-4-3 Enable hardware interrupts.
- 3-3-1-1 Set time of day.
- 3-3-1-3 Check key lock.
- 3-3-3-1 Erase "F2" message.
- 3-3-3-3 Scan for F2 keystroke.
- 3-3-4-1 Enter SETUP.
- 3-3-4-3 Clear in-POST flag.
- 3-4-1-1 Check for errors.
- 3-4-1-3 POST complete; prepare to boot operating system.
- 3-4-2-1 One beep.
- 3-4-2-3 Check password (optional).
- 3-4-3-1 Clear global descriptor table.
- 3-4-4-1 Clear parity checkers.
- 3-4-4-3 Clear screen (optional).
- 3-4-4-4 Check virus and backup reminders.
- 4-1-1-1 Try to boot with INT 19.

- 4-2-1-1 Interrupt handler error.
- 4-2-1-3 Unknown interrupt error.
- 4-2-2-1 Pending interrupt error.
- 4-2-2-3 Initialize option ROM error.
- 4-2-3-1 Shutdown error.
- 4-2-3-3 Extended Block Move.
- 4-2-4-1 Shutdown 10 error.
- 4-3-1-3 Initialize the chipset.
- 4-3-1-4 Initialize refresh counter.
- 4-3-2-1 Check for Forced Flash.
- 4-3-2-2 Check HW status of ROM.
- 4-3-2-3 BIOS ROM is OK.
- 4-3-2-4 Do a complete RAM test.
- 4-3-3-1 Do OEM initialization.
- 4-3-3-2 Initialize interrupt controller.
- 4-3-3-3 Read in bootstrap code.
- 4-3-3-4 Initialize all vectors.
- 4-3-4-1 Boot the Flash program.
- 4-3-4-2 Initialize the boot device.
- 4-3-4-3 Boot code was read OK.

IBM Desktop

Beeps	Meaning
No beep	No power, loose expansion card (ISA, PCI, or AGP), a short, or an improperly grounded motherboard
1 short	System OK
1 long	Video/display problem; video card incorrectly seated or defective
2 short	POST Error displayed on monitor
3 long	Problem with 3270 keyboard card
1 long, 1 short	Problem with system board

1 long, 2 short	Problem with display adapter (MDA, CGA)
1 long, 3 short	Problem with EGA
Repeating short beeps	Problem with power supply or system board
Continuous beep	Problem with power supply or system board

IBM Thinkpad

Beeps	Message
Continuous beeping	System board failure
1 beep with blank display	LCD connector problem, LCD backlight inverter failure, video adapter failure, or LCD assembly failure
1 beep w/message "Unable to access boot source"	Boot device failure or bad system board
1 long, 2 short	System board, video adapter, or LCD assembly failure
1 long, 4 short	Low battery voltage
1 beep every second	Low battery voltage
2 short w/message	Read the error message on the display
2 short with blank display	System board failure

Mylex

Beeps Meaning

1	Normal boot: No problems
2	Video adapter error: Video adapter is not seated or is faulty
3	Keyboard controller error: Keyboard controller IC bad
4	Keyboard error: Keyboard itself might be bad, or the controller IC on the motherboard
5	PIC 0 error: The programmable interrupt controller IC is bad
6	PIC 1 error: Same as above
7	DMA page register error: DMA controller IC is bad
8	RAM refresh error

- 9 RAM data error
- 10 RAM parity error
- 11 DMA controller 0 error: DMA controller IC for channel 0 has failed
- 12 CMOS RAM error: Bad CMOS RAM
- 13 DMA controller 1 error: DMA controller IC for channel 1 had failed
- 14 CMOS RAM battery error: Dead CMOS battery; can usually be replaced
- 15 CMOS RAM checksum error: CMOS RAM failed
- 16 BIOS ROM checksum error: BIOS RAM failed

Quadtel BIOS

The following information is from the [BIOS Central Quadtel BIOS Beep Codes page](#).

- 1 short Normal boot: System is booting normally.
- 2 short CMOS IC error: The CMOS RAM is faulty. Replace the IC if possible.
- 1 long, 2 short Video failure: The video adapter is faulty. Reseat the video adapter or replace the adapter if possible.
- 1 long, 3 short Peripheral controller error: One or more of the system peripheral controllers is bad. Replace the controllers and retest.