

B Beep Codes

Beep codes are a series of beeps sent through the speaker which indicate a problem during the Power On Self Test (POST). If text appears on the video screen, the LPX54 has completed POST; any other tone from the speaker indicates something other than a POST error. These tones **are not** described in Table B-1.

The beep error codes are a series of three sets of beeps. The duration of the beep tones are constant, but the length of the pauses between the beeps varies. For example: a 1-3-3 beep code will sound like one beep, a pause; three beeps consecutively, another pause; and then three more beeps.

One beep code is often misunderstood. If a video card is not installed or is failing, the system board will generate a long-short-long-short beep code. This is often interpreted as a 1-2-1 beep code. But POST errors always vary in the length of the pause and not the duration of the beep tone.

Another way of identifying a POST error is to use a device called a POST card. This peripheral card is inserted into one of the ISA slots and has an LED (or LCD) read out showing the contents of port 80h.

The following table provides a list of all beep codes and probable causes.

Beep code	Contents Port 80h	Description
None	01h	CPU register test in progress.
1-1-3	02h	CMOS read/write failure.
1-1-4	03h	ROM BIOS check failure.
1-2-1	04h	Programmable interval timer failure.
1-2-2	05h	DMA initialization failure.
1-2-3	06h	DMA page register write/read failure.
1-3-1	08h	RAM refresh verification failure.
None	09h	First 64K RAM test in progress.
1-3-3	0Ah	First 64K RAM chip or data line failure (multi-bit).
1-3-4	0Bh	First 64K RAM odd/even logic failure.
1-4-1	0Ch	Address line failure first 64K RAM.
1-4-2	0Dh	Parity failure first 64K RAM.
2-1-1	10h	Bit 0 first 64K RAM failure.
2-1-2	11h	Bit 1 first 64K RAM failure.
2-1-3	12h	Bit 2 first 64K RAM failure.
2-1-4	13h	Bit 3 first 64K RAM failure.
2-2-1	14h	Bit 4 first 64K RAM failure.
2-2-2	15h	Bit 5 first 64K RAM failure.
2-2-3	16h	Bit 6 first 64K RAM failure.
2-2-4	17h	Bit 7 first 64K RAM failure.
2-3-1	18h	Bit 8 first 64K RAM failure.
2-3-2	19h	Bit 9 first 64K RAM failure.
2-3-3	1Ah	Bit 10 first 64K RAM failure.
2-2-4	1Bh	Bit 11 first 64K RAM failure.
2-3-1	1Ch	Bit 12 first 64K RAM failure.
2-4-2	1Dh	Bit 13 first 64K RAM failure.

Beep code	Contents Port 80h	Description
2-4-3	1Eh	Bit 14 first 64K RAM failure.
2-4-4	1Fh	Bit 15 first 64K RAM failure.
3-1-1	20h	Slave DMA register failure.
3-1-2	21h	Master DMA register failure.
3-1-3	22h	Master interrupt mask register failure.
3-1-4	23h	Slave interrupt mask register failure.
None	25h	Interrupt vector loading in progress.
3-2-4	27h	Keyboard controller test failure.
None	28h	CMOS power failure and checks calculation in progress.
None	29h	CMOS configuration validation in progress.
3-3-4	2Bh	Screen initialization failure.
3-4-1	2Ch	Screen retrace test failure.
3-4-2	2Dh	Search for video ROM in progress.
None	2Eh	Screen running with video ROM.
None	30h	Screen operable.
None	30h	Screen running with video ROM.
None	31h	Monochrome monitor operable.
None	32h	Color monitor (40 column) operable.
None	33h	Color monitor (80 column) operable.

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