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A reference guide to the Dell OptiPlex Diagnostic Indicators

Summary: The following article is specific to the OptiPlex Desktops. It lists the diagnostic LEDs and Beeps that are built into them for diagnostic use during a No POST situation.

This article may have been automatically translated. If you have any feedback regarding its quality, please let us know using the form at the bottom of this page.

Article Content

Symptoms

Dell OptiPlex computers have a long history of integrated diagnostic indicators that provide important insight when a computer fails the Power On Self-Test (**POST**). These indicators can be audible beeps, power buttons that display different states and colors, specific diagnostic LEDs, or a combination of these.

This article is a reference guide to the codes available on each model and what those codes mean. You can use this guide as a starting point to find your own solution, or you can contact technical support for further help. If you do contact us, our technicians may ask for your diagnostic codes in order to better understand your issue.

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Cause

Note: If you do not see any LEDs, or only a Flashing Amber Power LED, your computer may be experiencing a power issue before the POST starts. If so, see the Dell Knowledge Base article: [How to Troubleshoot a No Power Issue on your Dell Desktop](#).

- Note:** For the tables below, remember that the diagnostic LEDs only indicate how far through the POST process could be completed. They do not indicate the problem that caused the POST routine to stop. You can find out more in the Dell Knowledge Base article: [Resolve No Power, No POST, No Boot or No Video issues with your Dell Computer](#).
- Note:** If your computer successfully completes POST and then displays a black screen, you are likely experiencing a No Boot issue and not a No POST issue. See the Dell Knowledge Base article: [Resolve No Power, No POST, No Boot or No Video issues with your Dell Computer](#).

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Resolution

Diagnostic LEDs for the OptiPlex series (2020 to Present)

With the latest series, the Power Button state now gives more accurate errors. Using a blink and color shift pattern to indicate where it has a problem.



- Note:** If you have an OptiPlex All In One (AIO) Computer, use the reference tables below.
- Note:** To see the contents of a section, click the heading to expand that section, or show all to expand all the sections.

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Power Button LEDs ▼

Diagnostic Indicator Table ▼

- Note:** On any OptiPlex built since **2012** (that is, **7010/9010/9010 AIO**), Dell has stopped using all beep codes **except** for the **Memory Failure** code. (**1, 3, 2, or one beep, then three beeps, then two beeps.**) If your computer was built after 2012 and is making any other beep code, contact technical support for further help.

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Diagnostic LEDs for the OptiPlex series (2012 to 2020)

With this series, the diagnostics indicator LEDs were removed. Instead, the Power Button state gives a blink and color shift pattern to indicate where it had a problem. You can identify these computers by the fact that there is no Diagnostics LED block on the front of the unit.



Note: If you have an OptiPlex All In One (AIO) Computer, use the reference tables below.

Note: To see the contents of a section, click the heading to expand that section.

Power Button LEDs



Diagnostic Indicator Table



Note: On any OptiPlex built since **2012** (that is, **7010/9010/9010 AIO**), Dell has stopped using all beep codes **except** for the **Memory Failure** code. (**1, 3, 2, or one beep, then three beeps, then two beeps.**) If your computer was built after 2012 and is making any other beep code, contact technical support for further help.

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Diagnostic LEDs for the OptiPlex series (2009 to 2012)

With this series, the diagnostic LEDs changed to include a combination of the Power button LED state and the diagnostic LED indicators. The Diagnostic LEDs remain 1, 2, 3, 4, and placed on the front of the unit. You could identify these computers by their flat black and gray front face.



Note: To see the contents of a section, click the heading to expand that section.

Power LED and Diagnostic LEDs



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Diagnostic LEDs for the OptiPlex series (2005 to 2009)

This series had a combination of Power button LED states, and the A, B, C, D block was replaced with 1, 2, 3, 4 instead. The diagnostics LEDs moved from the rear of the chassis to the front under the audio ports. You could identify these models by their flat black front face and gray side panels and lids.



Note: To see the contents of a section, click the heading to expand that section.






Power LEDs












Diagnostics LEDs



LED Pattern (1 2 3 4)	LED Pattern	State Name	State Description	Suggested Resolution
	Off	Off	System POST complete—LED time-out has occurred.	<ul style="list-style-type: none"> If the LEDs light up and then turn off, troubleshoot the display and the operating system. If the LEDs do not light up at all, there may be a power issue.
	4	RCM	BIOS checksum failure—Recovery mode	<ul style="list-style-type: none"> Reset the BIOS and clear the NVRAM. If this occurred after a Windows update, verify that your startup was not corrupted.

LED Pattern (1 2 3 4)	LED Pattern	State Name	State Description	Suggested Resolution
	3	CPU	CPU configuration activity or failure; CPU Cache failure	<ul style="list-style-type: none"> • Disconnect all external devices and components down to your PSU, motherboard, and CPU. • If the fault continues, contact technical support. • If the fault stops, plug disconnected parts back one at a time until fault recurs. Contact technical support for further guidance.
	34	MEM	Memory subsystem configuration activity or failure	<ul style="list-style-type: none"> • Remove all memory modules from the personal computer and determine whether the LED code changes. • If it does not, contact technical support. • If it does change, reconnect the memory modules one at a time until the fault recurs. Test the faulty module in another slot and contact technical support for further guidance.
	2	PCI	PCI device configuration or failure	<ul style="list-style-type: none"> • Remove all external devices and all internal PCI devices. • If the fault continues, contact technical support. • If the fault stops, reconnect the components one at a time until the fault recurs, then contact technical support.
	2 4	VID	Video subsystem configuration or failure	<ul style="list-style-type: none"> • Ensure that the video cable is connected to the correct port. • Reseat any graphics cards. • If the fault continues, remove any graphics cards and retest with a working monitor and video cable. • Contact technical support once you know which part the fault follows.
	23	STO	Storage device configuration or failure	<ul style="list-style-type: none"> • Reseat the cables from the hard drives (HDDs) to the motherboard. • If the fault continues, try substituting a known good hard drive into the computer and contact technical support.

LED Pattern (1 2 3 4)	LED Pattern	State Name	State Description	Suggested Resolution
	234	USB	USB subsystem configuration activity or failure	<ul style="list-style-type: none"> Remove all external devices and any internal CRUs. If LEDs change, add parts back one at a time until the fault recurs, and then contact technical support. If the fault remains the same with the parts removed, contact technical support.
	1		No memory detected	<ul style="list-style-type: none"> Reseat all memory modules. If the fault continues, try inserting the memory modules in different slots and contact technical support.
	1 4	MBF	Fatal system board failure detected	<ul style="list-style-type: none"> Contact technical support.
	1 3		Memory is detected; configuration or compatibility error.	<ul style="list-style-type: none"> Reset the BIOS and clear the NVRAM and any previous errors. Remove all memory from personal computer (including any graphics cards) and determine whether the LED code changes. If it does not, contact technical support. If it does change, reconnect the components one at a time until the fault recurs. Test the faulty part in another slot and contact technical support.
	1 3 4	PRV	Indicates computer activity preceding video initialization	<ul style="list-style-type: none"> Remove all external devices and any internal CRUs. If LEDs change, reconnect the parts one at a time until the fault recurs, and then contact technical support. If the fault remains the same with the parts removed, contact technical support.
	1 2	CFG	System resource configuration	<ul style="list-style-type: none"> Reset the BIOS and clear the NVRAM and any previous errors. Remove all external devices. If LEDs change, reconnect the parts one at a time until the fault recurs, and then contact technical support. If the fault remains the same with the parts removed, contact technical support.

LED Pattern (1 2 3 4)	LED Pattern	State Name	State Description	Suggested Resolution
	12 4		Reserved	<ul style="list-style-type: none"> Reserved
	123	POV	POST complete— Onscreen error message	<ul style="list-style-type: none"> Troubleshoot as per the error message on-screen.
	1234	STD	POST complete— operating system hand-off complete	<ul style="list-style-type: none"> The Power On Self-Test has passed all checks. Troubleshoot the hard drive and the Operating System.

Contact Support

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Diagnostic LEDs for the OptiPlex series (Prior to 2005)

This series had a block of four LEDs (A, B, C, and D) on the back of the chassis that lit up in green and amber. The table below describes what these LEDs indicated. These models were readily identifiable by their rounded fronts and clamshell assembly.



Diagnostic LEDs



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OptiPlex audible Beep codes

In addition to the various types of diagnostics LEDs, there are several audible beep codes across all the models of these computers.

These codes are recognized across manufacturers and have remained the same for some time.


The key to these codes is displayed in the table below.

Note: You can also find out about error messaging in your computers manual. You can go to the Manuals section of the [support site](#) for your particular computer. (Enter your service tag or pick your computer from the product list.)

 **Note:** To see the contents of a section, click the heading to expand that section.

Beep Codes Table



 **Note:** On any OptiPlex built since **2012** (that is, **7010/9010/9010 AIO**), Dell has stopped using all beep codes. **Except** for the **Memory Failure** code (**1, 3, 2, or one beep, then three beeps, then two beeps**). If your computer was built after 2012 and is making any other beep code, contact technical support for further help.

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Glossary of Acronyms:

See the table for definitions of the acronyms within this article.

Acronym	Definition
BIOS	Basic Input/Output System
CFG	Resource Configuration
CPU	Central Processing Unit
DIMM	Dual In-line memory module
DMA	Direct Memory Access
EC	Embedded Controller
HECI	Host Embedded Controller Interface
LCD	Liquid Crystal Display
LED	Light Emitting Diode
MBF	Motherboard Failure
MBIST	Memory-integrated Self-Test
ME	Management Engine
MEM	Memory
NVRAM	Non-Volatile Random Access Memory
PCI	Peripheral Component Interconnect
POV	Post-video Activity
PRV	Pre-video Activity

Acronym	Definition
PSU	Power Supply Unit
RAM	Random Access Memory
RCM	Recovery Mode
ROM	Read Only Memory
RTC	Real-Time Clock
S0	System Power State S0 - This is the Working State, where your Windows personal computer is awake.
S1	System Power State S1 - In this sleep state, the CPU is stopped, and your computer is in standby mode.
S2	System Power State S2 - This state is similar to S1 except that the CPU and computer cache are lost because the processor loses power.
S3	System Power State S3 - In this state, data is saved to RAM, hard drives, and other hardware are shut down.
S4	System Power State S4 - In this state, RAM, and other data are saved to the hard disk.
S5	System Power State S5 - The System is off.
SBIOS	Small Board Interface Operating System
SPI	Serial Peripheral Interface
STD	Boot Hand Off
STO	Storage Device
TPM	Trusted Platform Module
USB	Universal Serial Bus
VID	Video

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Additional Information

Recommended Articles

Here are some recommended articles related to this topic that might be of interest to you.

- [Resolve No Power, No POST, No Boot or No Video issues with your Dell Computer](#)

- [Understanding Beep Codes on a Dell Desktop Personal Computer](#)
- [How to Diagnose and Resolve Common Memory Issues on a Dell Desktop Computer](#)
- [How to Troubleshoot Power Issue on a Dell Desktop or All-in-One](#)

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Note:

If you see a recognizable code, follow the instructions and contact technical support, if necessary. Ensure that you have the code information ready, as the support technician may need this information to help you.

If you see a code that is not listed above, contact technical support.

If you require further assistance, contact technical support.

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