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 Signs like PC not responding after pressing the power button, no splash screen, and no error messages can leave you frustrated. All these indicate POST failure, which simply means the computer can't load anything, and aside from your OS, even the BIOS can't boot! An effective way to detect the cause is by inspecting the POST LED or hearing beep codes. But if your motherboard doesn't offer such a feature or there's no red light/beep sound, you'll need to examine each component individually. Whenever we encounter such a problem at our workplace, we try a series of relevant fixes. These may involve clearing CMOS, checking power supply failure, reseating RAM and GPU, and examining CPU and cooler. If nothing helps, we try to identify the root cause by booting up with only the basic components. Important: In this article, I will only focus on the hardware issues that are preventing the BIOS to boot up. In case you're able to log in to Windows but the BIOS Utility doesn't show up, follow the linked guide that should help you fix it. A common mistake I've encountered with most users is they connect the monitor to the motherboard's I/O port even when an add-on graphics is installed. If your processor doesn't support integrated graphics or the option is disabled in BIOS, your monitor won't display anything. This might make it feel like your PC is not booting up. Keeping this thing in mind, ensure you have used the appropriate video port for your display device. If you're planning to use onboard graphics, check whether the Intel or AMD CPU supports it. Also, the iGPU option needs to be enabled. First, detach the discrete GPU to boot using the integrated graphics and make the necessary changes. There's no standard cause for the PC to not boot up. Any component (CPU, GPU, RAM, Boot Drive, or PSU) might have gone bad. You need to examine each of them individually, which can be a little tiresome. To make troubleshooting easier, most modern boards are equipped with a POST LED indicator or Beep speaker (which requires a dedicated header connection). The on-screen codes on the Debug LED or the pattern of beeping vary on different brands. Demonstration: ASRock Dr. Debug error code Our team has prepared guides on popular motherboards that should help you out. Navigate to the linked guides to find the error code and proceed with the recommended fixes: In case your motherboard doesn't offer such a feature, it might come with four debug LEDs (DRAM, VGA, CPU, and BOOT). If you see a red/orange light on any of them, there's certainly an issue with the particular component. Demonstration: VGA Light on Motherboard Besides, other hardware could have gone faulty as well. Whether there's a POST LED/beep or your mainboard doesn't support such, my fixes below should cover up every issue. Important: Make sure you ground yourself before operating with the PC components. This is to prevent them from your body's static buildup. A system can become unstable and not boot to BIOS due to misconfigured settings or bad overclocking. In such a case, clearing the CMOS values resets the BIOS and often be an effective solution. First, inspect your user manual to know what it recommends for clearing CMOS. If your motherboard embeds a dedicated CLEAR CMOS button, pressing this for a few seconds should suffice. However, not all models support this feature. So, look for a 2-pin or 3-pin header (labeled CLR_CMOS, PWD, etc.). Take a jumper or a flat-headed screwdriver to short the two pins. In case you can't go ahead with any of the two methods, your board should integrate a CMOS battery. Remove it and wait for about 10 to 15 minutes (as recommended by your manufacturer) and this should clear CMOS for you. Once you're able to get to the BIOS screen, load the default values and save the changes. A common mistake with beginners is they reseat the battery immediately or have trouble shorting the headers. If you're in the same boat, retry a few more times. Try keeping the battery out for at least an hour (which once worked in my case). Even if that doesn't help, your CMOS battery could be dead. If you have a spare one, use that to confirm whether this is the actual culprit. Another major reason could be the PC not receiving sufficient power from the PSU. When this happens, your motherboard's RGB won't light up, and even pressing the power button leads to no further action (doesn't even display an error message or simply shows No Signal). Since there's no power, it's pretty obvious that your PC can't POST or boot to BIOS. First, try reconnecting the ATX and CPU cables. Even though they should be well secured, such an issue can persist if you recently built your rig or you had tinkered with it earlier and didn't connect them properly. While you're at it, inspect both cables and ensure they are not damaged by any chance. Sometimes, PSU might not be turning on. Check the switch or if you think there's a fault with the power cord or wall outlet, try a different one. Did you experience any sign of your PSU failing? In that case, try using a spare power supply. That's what we usually do at our office. This gives us an idea of whether the current one seeks an upgrade. You can also try testing your PSU if you have prior hardware knowledge and the appropriate equipment. If you're seeing a red light on the motherboard's DRAM LED, it's indicating issues with the memory modules. Here's what you can do in such a scenario: Reseating RAM stick ensuring notch alignment Reseat/reinstall your RAM stick(s). A common mistake is not inserting/locking them properly–I've been there too! Make sure the notch lines up with a bump in the slot (one side is longer than the other) and once you reseat them, you should hear click sounds. If it's not going in even after giving an extra nudge, stop it immediately, or you might break the DIMM slot. Check for accumulated dust and clean the slots if needed. I recommend trying one stick at a time for users running dual-channel RAM. If this brings up the BIOS, know that one of the two might have gone bad. Also, it's a good idea to test on different slots. This gives you an idea of whether the RAM slot is working properly. While it's a rare case, even overclocking the RAM (using XMP or doing it manually) for a long time can cause system instability. Clearing CMOS should help in this situation. If the problem persists, your RAM could have been damaged and requires replacement. The processor uses BIOS information to initialize the entire system. In case anything goes wrong with the brain of the computer, your PC surely won't boot up! Here are some troubleshooting tips if you encounter a red light on the CPU LED: Check whether the CPU fan is spinning. Even recently, when our team tested one of the motherboards on a Test Bench, the installed stock cooler didn't spin. We tried reinstalling the cooler and it helped. Inspect the fan header and ensure you're using the right one. It should have the CPU_FAN label or look up your manual to find out if it's different. While overheating is a major issue with CPUs and should usually complete the POST (only thermal throttle when it reaches the Windows login screen), this may not always be the case. If the current fan seems to be damaged, you might need to upgrade to a better cooling solution. In case the above fixes don't help, your processor is probably failing. Try reapplying thermal paste, reinstalling the CPU (differs for AMD and Intel processors), and inspecting if there are any bent pins. While I've already discussed the monitor connectivity on the graphics card's video port earlier, there could be some other underlying issues as well. If that happens, you'll see that the VGA light on the motherboard flashes red. First of all, try reinstalling the graphics card. Make sure the slot is not accumulated with dust. You should hear it lock into its place. Did you connect the PCIe power cable? This is another silly mistake and I can recall doing it myself as well. While the PCIe slot does power your component with a maximum of 75W, that's just not enough if you're using a graphics card that requires a direct connection to the PSU. If both the preliminary fixes don't work out, try switching to another PCIe x16 slot. While it's best to opt for the first one (that's near to the CPU to achieve maximum performance), your motherboard might recommend another slot. Check your user manual to find out the appropriate one. Also, it's possible that the PCIe slot or the discrete GPU could be damaged. Try another slot (as mentioned earlier) or use a spare add-on card to verify this. Another issue I have come across with some users is their BIOS won't boot when using a DP cable and the Windows loads directly (works fine with HDMI or DVI cable though). This is due to corrupted or outdated VBIOS. So, if you encounter similar problems, I highly recommend updating the graphics card firmware. Your PC should boot into BIOS without a boot drive. But if the BOOT diode is red/orange, note that the connected HDD/SSD is causing a NO POST problem. This can happen due to a loose connection, no OS, a corrupted drive, and more. First, disconnect all the other storage devices (as well as additional peripherals). Try booting up with just the boot drive. If this helps, you now know what's causing the issue. In case that doesn't work, disconnect the boot drive as well. If your PC gets to BIOS, note that there's something wrong with the primary storage drive itself. Now, try reconnecting, and ensuring the SATA (both data and power cable) or the NVMe SSD is installed correctly. If you have a spare bootable storage drive, try connecting that to ensure there's nothing wrong with the headers, slots, and cables. In case there's a green light rather than a red, don't panic! Your PC is just taking time to initialize the drive. Usually, in such a scenario, the light disappears and you'll be booted up. If you're still stuck on a black screen with no BIOS/POST-related activities (and even no LED/Beep code), I suggest reseating all the components. Identify the issue from scratch by booting up with just the basic components– processor, CPU cooler, a single RAM, PSU cables (ATX and CPU), and graphics card (if the processor doesn't support integrated graphics). Our team usually performs such tests on a Test Bench, and if possible, you can follow this technique as well. In case there's no display after a new PC build or upgrading certain components, compatibility could play a major role. It's absolutely essential to use those parts that are compatible with both the motherboard and CPU. You can quickly check this using online tools PCPartPicker, PCBuilder, BuildMyPC, etc. Along with that, when building your PC, it's important to ensure that the motherboard doesn't short-circuit with the chassis or other metal objects. Ensure you have properly installed standoffs and spacers. Caution: Failed or interrupted BIOS flash may brick the motherboard. Make sure you don't encounter any power failures during the update. Even if you are using compatible components, an outdated BIOS might not support them. By flashing the latest version, you can fix such stability issues and oftentimes, this can solve firmware bugs too. Download the BIOS driver from your motherboard's support page. Rename the file (as stated in the BIOS Update Manual) and load it in a thumb drive. Since your PC is unable to boot into the BIOS, you need to use the USB Flashback button (if supported by the motherboard). Look for any other solution recommended by your manufacturer if it doesn't support the Flashback feature. Did you recently update your BIOS but failed or got interrupted during the process? In that case, you might be a little concerned. But if your board supports dual BIOS or any other built-in recovery tool, you should be able to reflash without any hassle. If you have extensive hardware knowledge, you can even try replacing the BIOS chip or utilize SPI CH341A Mini Programmer for reprogramming it. If nothing helps, the final option is to contact the authorized vendor or the manufacturer. If any components fail or are incompatible with your system, check whether your warranty covers it. If your Asus BIOS Flashback feature isn't working, it can be incredibly frustrating. More than likely, you're trying to use it as a last resort, so fixing it can mean the difference between your PC working or not. Fortunately, there's a solution to the light staying solid. The easiest way to fix Asus or ROG BIOS Flashback not working is to use a different USB drive. Unfortunately, the official instructions don't make it clear, but the feature is extremely sensitive to what type of USB drive you use and how it's formatted. When BIOS Flashback is working correctly on an Asus motherboard, the process should go like this: Insert the USB drive into the port on the rear marked "BIOS." With the PC powered off, hold the BIOS button on the rear I/O panel for three seconds. The BIOS button should blink three times, then start blinking rapidly. The button will continue blinking for 5-10 minutes while the BIOS update installs. Once it goes out, the process is complete. What's confusing about this is that if you press the button and it stays solidly lit after blinking three times, it means the process has failed. So, what can you do to make sure this doesn't happen? When preparing a USB drive for Asus BIOS Flashback, follow these instructions: Make sure to use a USB 2.0 drive that's 4GB or smaller. Format the drive to FAT32 with a 4096 allocation unit size. Download the BIOS from the official website. Unzip the file using Windows' built-in archival options. Go into the folder once the file is extracted and double-click on the BIOS renamer to give it the correct filename. Copy .CAP file to the root of the flash drive. Make sure to eject the drive properly. Now, follow the process detailed above to start Asus BIOS Flashback, and it should work. I found that following the exact same process with a 32GB drive resulted in it not being recognized by the BIOS Flashback function. Unfortunately, finding smaller drives at retailers is a bit tough, so you may need to turn to Amazon to acquire one. Your BIOS lets your computer check what you have, configure it, and allow everything to run on top of it. If your computer can POST (The very first check that everything is plugged in), you can likely fix any software issue with a keyboard and mouse. If your computer does not POST and can't get to the BIOS configuration screen (You'll usually press F2, Delete, or another key), you'll need to restore to a previous point.If you're installing new hardware like a new generation of CPU that your motherboard was released before they even existed, or overclocking and end up pushing something too far, you may need to bring things back from the dead. Many newer motherboards have a USB port and a physical button to restore the BIOS from a file and get it back to a working state whenever something goes really wrong. While simple in theory: Drag a file onto a USB, insert it, and press the button… It doesn't always go that way.That's where this guide comes in. But first: Are we doing things correctly?RTFM: Read the freaking manualIt's time. Break out the manual, or download a copy for your exact motherboard. You'll need to know which USB port to plug into, what button to hold for how long, and what to expect. On my specific ASUS motherboard, it's right next to the button. The manual skips the most crucial bit of info (or at least I couldn't see it) - the light flashes to indicate it is starting but if it's solid, something went wrong. I only found this out after an hour of searching for help. So, if you're lost: search YouTube for videos of people on your exact motherboard, or at least manufacturer and generation. The more you know about what to expect, the better. This is the start of our possibly long journey.Downloading the fileSearch your exact motherboard name, and click the Support page. You'll likely find downloads for drivers, the manual and the BIOS file. Download the latest version or a specific version if you know you need an older one. If it's a ZIP; extract it into your Downloads or Desktop.Now you'll need to rename the file. This helps people keep multiple versions in a folder (as the name needs to be the same no matter the version on your USB) to whatever the manual says. Some manufacturers include an EXE to run that renames the file for you.At this point, you can try to Hail Mary it. Once the file is named correctly, we can place it onto a USB. Plug it into the correct slot on your motherboard. Power it down if it isn't already, and hold the button. Your USB may flash and go off, the light may flash or go off, or remain solid instead of blinking – Whatever the fail state of the BIOS flash is: you may be sitting around for hours while it does nothing. I mentioned finding videos or more info about how it should look, so we know when it's not working. If it is in a fail state, unplug the USB, and let's continue.What we'll useMake sure the USB is empty. This way, we're not leaving essential documents or images on it - as we'll be wiping it clean. Every bit of data or files will be destroyed in this process, so ensure the USB is empty.For this, I'll use the built-in Windows software tool to prepare the drive: Windows Diskpart. You can use other tools like the SD Formatter Tool, FDISK command in Linux, or BOOTICE. See this guide for more info if you don't want to follow along.Prepare the USBNow for the fun part.Open a Command Prompt window or Terminal as Administrator. Enter the Windows Diskpart tool by entering diskpart. Hit enter, and we're in.Type list disk to see all the drives in your computer. You should be able to tell which is which just by the size. If you can't: Unplug your drive and rerun the command. Plug it in once more, and you'll see which is correct.Now select disk where` is your drive number.Enter clean to remove all partitions.Leave the window open as we may return here later, assuming things don't go to plan.Now that our drive is clean open Partition Manager by searching for it in the Windows Start Menu. You can also do it the slow way by running format fs=fat32 in the terminal - but that could take a VERY long time, especially for large and slow USB drives.In partition manager, scroll to the bottom of the list - where your USB drive will most likely appear. Look for the black bar, indicating an empty dream with no partitions. This is most likely your USB that we just cleared.Right-click the empty USB in Partition Manager and select New Simple Volume.... Click through the wizard with everything default until you can choose to format the partition. You will see a File system, Allocation unit size and Volume label input.Choose FAT32 from the File system dropdown.Leave the allocation unit size as Default.Set a name for the USB.Make sure Perform a quick format is checked.Click next, then finish, and it should format. Upon completion, you can copy the correct file and safely eject it. On Windows 11, click anywhere in the folder that's not a file, and you should be able to click Eject from the ribbon bar at the top of the file explorer. Or, you can check the bottom-right of your Start Bar for a USB icon in the tray icon area. Click it, and then click the USB drive with your BIOS on it to safely eject it. This way, we make sure that everything is done copying, and we can safely remove the media.Plug it into your motherboard and follow along with the steps in the manual. At this point, everything should work fine.Assuming it doesn't work and we're stuck in a fail state, we can allocate a different size instead.In the same diskpart window from earlier, after plugging in the USB, enter list disk once more and then select disk once more. Run clean once again, and re-open the Partition Manager.Locate the drive once more, and right-click New Simple Volume… This time, click next only once so we get to the "Specify Volume Size" screen. Enter 500 next to "Simple volume size in MB" so we can have a small partition, just big enough for the BIOS file. The BIOS file will likely be around 10-20MB, but we'll have more space just in case the motherboard needs to do anything (it likely won't).Next, pick a drive letter and click Next once more. Then we get some options we need to populate.Choose FAT from the File system dropdown. This is likely new.Leave the allocation unit size as Default.Set the name for the USB to nothing. Select all the text and hit delete or backspace.Make sure Perform a quick format is checked.After clicking through to the end, and when it finishes: Open the USB drive in file explorer once more and copy the BIOS file.Safely eject again. Plug it into your motherboard. Follow the steps specified in your manual and hopefully it should read and complete.Still nothing?If you're still stuck in a fail state, there's not much else we can do other than make absolutely sure you have the correct files. Even a slight difference in the name of the file you're downloading or the support page you downloaded the BIOS file from could spell disaster. It needs to be absolutely correct.You can try an older BIOS version and hope for the best… Otherwise, you'll need to RMA the board assuming something more is very wrong.If NOTHING is happening, you don't see the BIOS, and it's not posting at all: Check to see if other components are loose, and the usual.Hopefully, you won't need to send it back. That could be a long process, but you'll have a working board in the end. Reddit and its partners use cookies and similar technologies to provide you with a better experience. By accepting all cookies, you agree to our use of cookies to deliver and maintain our services and site, improve the quality of Reddit, personalize Reddit content and advertising, and measure the effectiveness of advertising. By rejecting non-essential cookies, Reddit may still use certain cookies to ensure the proper functionality of our platform. For more information, please see our Cookie Notice and our Privacy Policy. Reddit and its partners use cookies and similar technologies to provide you with a better experience. By accepting all cookies, you agree to our use of cookies to deliver and maintain our services and site, improve the quality of Reddit, personalize Reddit content and advertising, and measure the effectiveness of advertising. 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