

By Alan Norton

The [BIOS](#) (Basic Input/Output System) is critical to the proper operation of your computer. It is the first code that is executed at start-up and defines the way your motherboard will communicate with the system hardware components.

The decision to flash your BIOS should not be taken lightly. It is essential that you do it mistake free if you still want to be able to use your computer.

For the purposes of this article I am going to assume that you understand the risks of flashing your BIOS and have a good reason for upgrading your existing BIOS. If are not familiar with the basics of flashing the BIOS or if you are not 100 percent sure that flashing your BIOS is the right thing to do then please read the companion article [Three Good Reasons for Flashing Your BIOS](#).

**Disclaimer:** *Flashing the BIOS incorrectly can lead to an unusable system. Flash the BIOS at your own risk.*

I have detailed ten common mistakes that are made during a BIOS upgrade listed in order from the beginning to the end of the BIOS flashing process.

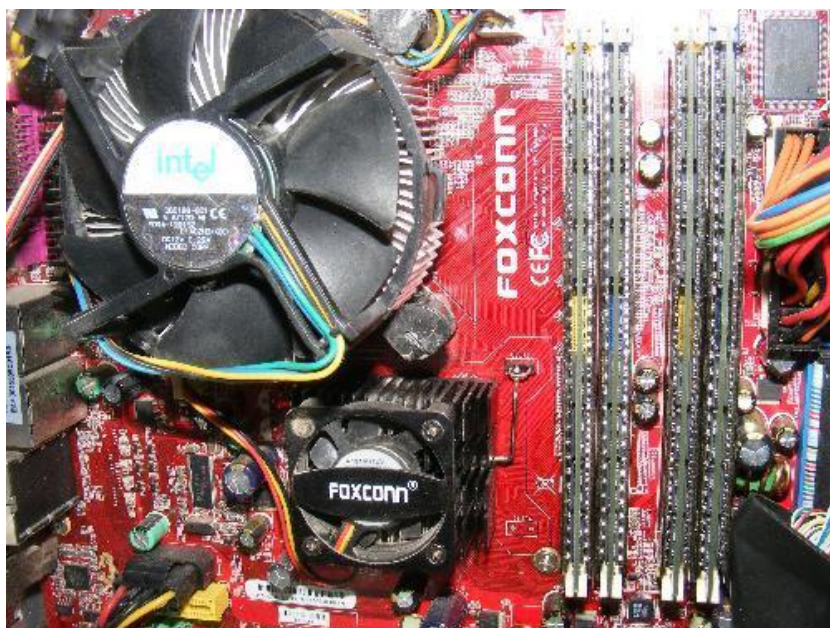
## 1. Misidentification of your motherboard make/model/revision number

If you built your computer then you know the brand of the motherboard that you purchased and you will also likely know the model number. The revision number may be less well known to you.

If you purchased your computer prebuilt, as most people do, then you probably don't know what is under the hood. You might be able to get the information by entering the serial number of the PC on a Web site, but when it comes to flashing your BIOS you need to be 100 percent accurate and the information on the Web site could be incorrect. The only way to know for sure your motherboard make is to pop off the side panel or open the case and take a peek. **(Figure A)** Look for the manufacturer, model number and a revision number. **(Figure B)**

## 10 common mistakes you should avoid when flashing your BIOS

**Figure A**



*The motherboard make is printed on the motherboard. Do not get the name from the fans.*

**Figure B**



*The motherboard model can be printed on the motherboard or as in this case, on a sticker placed on the motherboard.*

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You can also get pertinent information from the initial POST screen. (**Figure C**) The first line in the upper left portion of the screen shows the BIOS maker and version. The second line shows the motherboard model, BIOS version and date. The lower left section of the screen shows the BIOS version date, motherboard model and BIOS ID.

Figure C



Initial POST screen showing motherboard model and BIOS information

[eSupport.com](http://eSupport.com) has a BIOS scan browser plugin utility that works with IE Explorer and Firefox. (**Figure D**) You can use it to verify the information that you have gotten from a visual inspection of the motherboard, but not as your sole source of information.

[Wim's BIOS Website](http://Wim's BIOS Website) claims that the plugin has no adware or spyware but use it at your own risk. Vista users will need to run IE Explorer or Firefox as an Administrator to allow it to work.

Figure D



A screenshot of the results of the free BIOS & Device Driver Update Inquiry

I could not find a revision number on my motherboard. The initial POST screen and BIOS scan makes no mention of one either. The full model name of my board is 975X7AB-8EKRS2H. There is, however, a 975X7AB-2.0-8EKRS2H version of my motherboard, which makes the correct identification of my motherboard very important when it comes to finding and downloading the correct BIOS update file.

## 2. Failing to research or understand the BIOS update details

Even properly researching the changes in the BIOS upgrades may not be enough to completely understand exactly *what* was changed. Often these BIOS upgrade notes are written by techs with little or poor knowledge of English and rarely are the details noted in full. It is not uncommon to find something similar to this.

```
X38-002A BIOS Upgrade  
21/10/2007  
Fix to E6400 S3 resume problem
```

There are several issues with this. You need to know what E6400 and S3 are. Even after learning that an E6400 is an Intel Core 2 Duo CPU and S3 is one of four sleep functions in the PC's power settings, you then need to know if you have an E6400 CPU. If you do, are you using the S3 STR (Suspend To RAM) Sleep option in Windows and having problems with it?

You can't expect your motherboard manufacturer to explain what E6400 and S3 mean, but they should be able to explain what the problem was that was fixed. Perhaps if more people requested this, more detailed information might be included in the BIOS update notes in the future.

Most BIOS updates are *cumulative*. You will need to review all of the BIOS update notes *after* your current BIOS version in order to know all of the changes made with the latest upgrade version.

### 3. Flashing your BIOS for a fix that is not needed

As you can see from the example above, it is often difficult to understand exactly what *fix* was implemented with a BIOS upgrade. It is equally difficult for the average PC user to determine if any of the hardware in their system is included in the fix. As a rule of thumb if your computer is operating normally, leave it alone.

If you are unsure if a BIOS update will fix a problem that you are having with your PC, you can ask for more information from the manufacturer. Be 100 percent sure that the BIOS update will fix any issues that you may be having before flashing the BIOS. Hoping a BIOS update will fix a problem that you are experiencing is a poor reason to risk a BIOS flash.

### 4. Flashing your BIOS with the wrong BIOS file

Most BIOS updates come as a zipped file containing the binary code file, the flash utility, and sometimes a README file. Flashing the erasable memory of your BIOS with the wrong code is almost certain to cause failure the next time you try to boot. Be careful when selecting the file. Many motherboard model names are similar within a single manufacturer. Download the file for the exact make/model/revision of your motherboard.

The flash utility included in the download should match the BIOS manufacturer information on the initial POST screen. In the example above, I have an Award BIOS from Phoenix Technologies (Phoenix Technologies and Award merged in 1998). The older version of the Award flash utility that I received in my BIOS update file was called AWDFLASH.EXE. The latest version is called AFU869.EXE. The acronym AFU [stands for the Award Flash Update Utility](#). It also coincidentally [stands for what happens if your flash goes bad](#).

### 5. Using an outdated version of the manufacturer flash utility or tool

You may be tempted to pull out the CD that came with the motherboard or computer and use the utilities on the CD to flash your BIOS. It is well worth your time to download the latest utilities from your motherboard manufacturer or computer maker. There is usually a good reason why a new version of the flash program has been made available.

You will need to go to the motherboard manufacturer or computer makers Website to download the latest version of the BIOS code anyway, so plan to download the latest flashing utilities or tools at the same time.

### 6. Not following or understanding the motherboard manufacturers specific directions

Most of you reading this article and considering a BIOS upgrade are probably of the male persuasion. Like me you probably don't like reading and following directions. This is one time when reading and following the motherboard manufacturer instructions are essential. Each motherboard has specific steps that must be followed to have the upgrade succeed.

One example of this is a jumper on some motherboards or a setting in some BIOSes that must be changed to enable BIOS memory writing.

Instructions for flashing your make of motherboard can usually be found on the manufacturers Website. Specific instructions are sometimes placed in a README.txt file that comes with the BIOS flash file. Look for and read the instructions in this file carefully.

If you have read all of the steps needed to flash your BIOS and there are some steps that you don't understand, get help from the manufacturer or consider having a professional do the install for you.

## 7. Flashing your BIOS without an UPS or at higher risk times

It is best to flash your BIOS with a UPS installed to provide backup power to your system. A power interruption or failure during the flash will cause the upgrade to fail and you will not be able to boot the computer.

Don't assume that this can't happen to you. I was converting the file system on the root drive on a PC once at 2:00 in the morning when I heard a loud pop outside. The lights blinked and the conversion failed. Apparently a transformer had blown in the neighborhood interrupting my power just long enough to ruin my day, or rather night. I had to reinstall the operating system from scratch.

If you don't have access to a UPS, flash the BIOS in the late evenings or when the risk of power outages are lower. Avoid flashing the BIOS during thunderstorms, windy days, high peak electrical usage, prime drive time or any other time when power outages are more likely.

## 8. Flashing the BIOS from within Windows with other applications running

Flashing your BIOS from within Windows is universally discouraged by motherboard manufacturers. If you absolutely must flash your BIOS from within Windows and are willing to accept the additional risks involved, close all running applications and unnecessary processes. Antivirus processes running in the background are notorious for causing problems.

TechRepublic has a list of services that can be disabled in [XP](#) and in [Vista](#).

## 9. Flashing an overclocked system

Some information I found while researching this article recommended **not** flashing your PC while it is overclocked. You may be able to successfully flash your overclocked system, but why take the additional risks? I don't recommend overclocking except for the most experienced users with minimal changes and only for good reason. If you have an overclocked PC, you should be familiar enough with the BIOS to be able to reset the settings to their default values. Play it safe and throttle back.

## 10. Failing to have a recovery plan if the BIOS flash fails

When things go wrong it is a good idea to have a recovery plan. If your flash utility offers it, make a backup of your existing BIOS code. If this option is not available, download a copy of your current BIOS version or find a utility that will back up your current BIOS code. The original BIOS file should be on a bootable floppy with the flash utility and ready to install.

Prepare in advance for a floppy read failure by making bootable backup copies to have on hand. Mark your floppies with the BIOS version to know which are the new, and which are the original versions. It is also a good idea to copy the files to a Temp directory on the hard drive to verify that the files can be read or you can run CHKDSK to verify that there are no bad sectors on the floppy.

Research possible recovery options in advance and print them out. One example of this for some Dell PC's is the [BIOS Boot Block Jumper J7D2 instructions](#).

If you plan for a failure you will be less likely to panic if one occurs. If a failure does happen to you, do *not* turn off your computer. A failed flash means that the BIOS is likely corrupted and a reboot will fail. Keep the support number for your computer written down and available.

Plan for the worst case scenario; consider keeping a backup PC handy and ready to use.

## The Final Word

If you have noticed some themes in this article then you are quite perceptive, patient reader:

- Prepare, Prepare, Prepare!
- Minimize the risks
- Become educated and do your research
- Double and triple check your work

I hope that these ten tips will aid you the next time you upgrade your BIOS. Happy flashing to you.

## Additional Resources

[TECHARP](#) - Detailed explanations of various BIOS settings.

[Intel](#) - Desktop motherboards BIOS settings dictionary.

[BIOSFLASH](#) – Good BIOS flash how-to.

## Additional resources

- TechRepublic's [Downloads RSS Feed](#) [XML](#)
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## Version history

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