

Spruce up your

Does your PC show no significant improvement in performance even though you upgraded to the latest processor or hard disk? Maybe you need to tweak your BIOS settings

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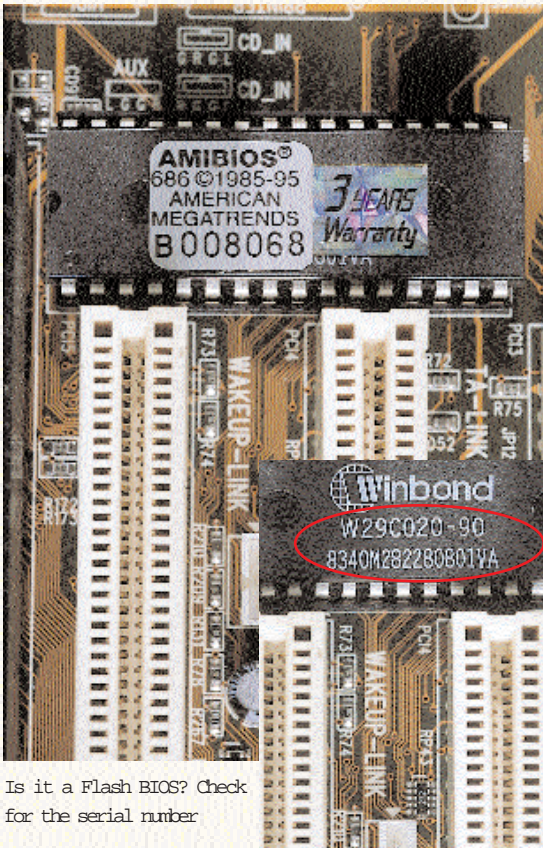
Tweaking the BIOS is tricky. Before changing your BIOS settings, note down or save the existing settings.

If while trying any of these tips you goof up resort to the default settings. This option however, does not change the standard settings such as date, hard disk and floppy drive, which you may have configured manually.

KNOW YOUR BIOS

The name and age

The BIOS of a PC is unique to its motherboard. To know which type of BIOS you have, you need to first check the motherboard of your system. Switch on your PC and as your system boots up, watch the display carefully.



Is it a Flash BIOS? Check for the serial number

A string of numbers starts rolling on the screen—this is called the memory check. Once the numbers are finished you will find the name of the BIOS manufacturer and the version number. On the bottom of your screen, you would probably find this.

Award PnP Bios Extension v1.0A
 - 1998 10/08/1998
 i440BX-P11-3100-010c-00

Press the Pause key and note the details. These specify the type of BIOS in your system and also the motherboard of your computer, both of which are crucial when upgrading your BIOS (in this example, the motherboard is a Pentium II i440BX).

In case your PC does not display any of

these details, look for your PC's manual or contact your dealer for the details.

Does it flash?

A few years ago, if you wanted to upgrade the BIOS of your system, you had to change the chip or the motherboard, which was very expensive. Flash BIOS lets you do the same by running a software utility.

To find out if your BIOS is Flash upgradable, look for a sticker that says 'Flash-BIOS' on one of the chips on your motherboard. To confirm this, remove the sticker and check if the serial number of the BIOS has '28/29' on it.

Millennium Ready

When you boot your PC anytime after December 31, 1999, the BIOS of your system should be able to intelligently interpret the century register in the Real Time Clock as '20' instead of '19' and pass on this information to the operating system. Some 486 PCs and the very early Pentiums may not support changeover from 19 to 20. To check if your BIOS will live to see the new millennium, try this:

Create a DOS Boot Disk and boot your PC using this Boot Disk. Change the BIOS date to 11:59 pm, December

31, 1999. Shut down your PC and wait for at least one minute before restarting the computer with the Boot Disk still in your 'A:' drive. Type the date command again at the a: prompt and if you are still somewhere in 1980 or 1990, you need to upgrade your BIOS.

You can also use one of the Y2K utilities available on January CHIP CD or download them from www.firmware.com.

UPGRADING YOUR BIOS

BIOS Upgrades

In case you have a BIOS that

BEFORE YOU CHANGE YOUR BIOS

- 1 Backup, backup, backup. Note all BIOS values
- 1 Look for the settings that optimise your BIOS automatically. Use them.
- 1 Changing some settings might cause data corruption, or skip the Power On Self Test (POST). If you are happy with the boot-up speed your BIOS has, enable all hardware checks.
- 1 If changing any setting pops up a warning, don't go ahead with it!

does not support the changeover to 21st century, you must upgrade your BIOS. You could either contact the dealer from whom you have purchased the PC or attempt to change the BIOS yourself. Double-check the identity of the older BIOS, and get a BIOS chip that agrees with the type of motherboard you have. Open your PC and replace the older BIOS chip with the new one.

But before you take up this task in your own hands, don't forget to:

- Note down the old BIOS settings.
- Disable the System BIOS Cacheable option in the original BIOS.
- Keep the older BIOS: Don't throw it out at least till you are sure the new BIOS works without problems.
- Check if your present motherboard chipset supports a Flash BIOS.

Upgrading or Flashing your BIOS involves a 'Flasher'— software utility on a bootable floppy and a data-file. This program, which is present in most BIOS utilities, prompts you to save the current BIOS, and copies the data-files



Standard BIOS set-up

into the BIOS chip. You can always flash back to the original version if you are having problems with the new one.

BODYGUARD BIOS

Secure your PC

Your operating system or application software may have a built-in password. But that should not make you complacent. Most software-based passwords can be



Set supervisor password to secure your

bypassed by booting from a floppy. The best way to secure your system is to assign a Setup and User password, available from the BIOS features setup. Assign System or User level to the Security Option and then assign a password using the Change Password option.

Do not forget to note down the password. Your system is now secure. The next time your PC boots it would ask for a password before the Operating System starts and also when you try to change the setup. Some BIOS chips such as Phoenix BIOS, have a Supervisor/User level for passwords. So a user may be able to enter the setup but can change only basic functions such as date.

Restrict access

One of the most common methods used to squeeze information out of a PC is through the floppy drive. Protect your PC from virus infection or from undesirable access by changing the floppy drive settings in the BIOS CMOS setup. Change the access status to 'none' if you want it disabled or you could enable the 'Read Only' option and thus restrict access to uninvited users.

This option is not available in all BIOS setups. So you could alternatively, disable the FDD controller in your Advanced BIOS setup.

Virus Watch

If you do not have the latest anti virus program, you can have your BIOS warn you of the viruses. Enable the Virus Watch option if you want the BIOS to warn you every time a program tries to access the Boot Sector or the partition table of the hard disk. Some applications inadvertently trigger off this option and the system hangs or boots. Remember to disable this option when installing a new software or operating system. Some types of BIOS provide the Fixed Disk Boot Sector option. Set this to Write Protected and you will be warned when the boot sector is about to be modified.

SPEED UP BOOTING AND PERFORMANCE

Disable Bootup Floppy Seek

When you boot your PC the BIOS first scans if the floppy drive has a floppy



Advanced BIOS settings

inside. This protects the system from any virus infections that can occur as a result of this type of data transfer, but on the flip side it increases the bootup time. If you disable this option, your computer will be much faster at startup.

Change Boot Sequence

Normally your operating system is housed by the C: drive. So the BIOS looks for the same before handing over control to the OS.

To cut down on the time your OS requires to boot-up, set the default Boot sequence to C first.

Enable the Quick POST

A Quick Power On Self-Test (POST) reduces the boot-up time by ignoring redundant tests. However, disable this option if you have an older hard disk—these require extra time to achieve the nominal rotational speed.

Shun the summary

Disable the Summary Screen option and you will be able to save a few seconds that are taken up by the hardware summary screen that appears during boot up.

Always enable External/Internal Cache Memory

Most processors (such as the Pentium) have an internal cache that operates at the same speed as the processor. Newer chips have larger caches. Enabling this extra-fast memory facilitates access of frequently needed data and boosts system performance. The other (external) cache memory or L2 cache lies between the RAM and the processor and in most cases, is enabled by default. If you find a significant drop in the level of performance while using memory-intensive applications, check if this memory has been enabled.

Turn 'Off' Cache ECC support

The Error Correction Cache Support increases the reliability of your system but can slow down the PC. If you prefer speed over reliability, disable this option.

Enable Fast Gate A20 option

Also called the Turbo Switch, this function determines how your PC accesses memory over 1 MB. Programs such as Windows and OS/2 need the Gate A20 to be continually enabled and disabled. To enhance the performance of Windows, enable the fast Gate A20 option.

This will not affect the programs, which use only conventional memory within the 1 MB limit.

Enable System & Video ROM Shadow

This setting will copy the contents of the system and video ROM into the Random Access Memory, so the RAM will be used in place of the system or video ROM and will significantly increase performance.

Disable Backup & Virus Reminders

Backup and Virus Reminders when

COMMON BIOS OPTIONS

- 1 A key or combination of keys that allows you to enter the BIOS Setup either during checking the various components of your PC (POST) or after the boot process is complete. Example: [Del], [Shift] + [Alt] + [Esc].
- 1 The status bar at the bottom of the screen usually defines which keys are to be pressed for different settings. Example: [PageUp], [PageDn], [Spacebar].
- 1 Every BIOS allows you to quit with-

enabled, cause your system to display a reminder to back up the system and run virus software, which can be quite irritating at times. Disabling these options or scheduling them to be periodically enabled—daily, weekly, or monthly—will save time.

STANDARD SETTINGS

Default Passwords

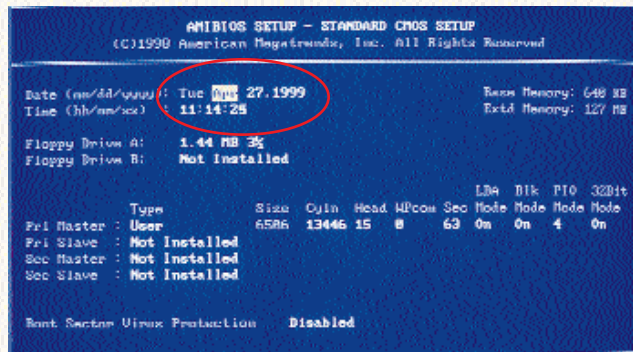
If the password you had assigned to your BIOS setup or System does not work, maybe you typed the wrong one! But if you are sure you have tried the right password and it does not work, it is likely that your system may have reverted to its default password. Try these as passwords (alter between upper- and lower-case characters):

AMI, Award, bios, setup, cmos, AMI_SW, AMI!SW/, AMI?SW/, j262, password, hewitt rand, AMI_SW, lkwpeter, AMI.

If none of these work, you might have to open your PC and run down the battery which powers the BIOS chip, remove the battery and put it back after a few hours). Refer to your PC manual to disable the jumper settings which will reset your BIOS and System Password.

Date problems

If you think your computer has the most sophisticated clock in the world, you are wrong. The RTC or real time clock depends on the quality of your motherboard. So if you noticed that your PC has been losing (or gaining) several seconds every month, don't be surprised. The fault probably lies with the battery. All you can



Changing BIOS date and standard information

do is adjust it once in a while.

TROUBLE SHOOTING

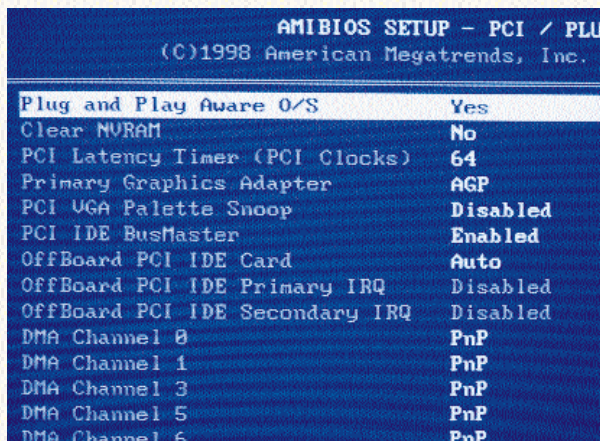
What went wrong?

This error option determines the BIOS behaviour when it encounters an error during the Power On Self-Test (POST). Select All Errors to stop the computer at every error.

Or, for example, if you use your computer as a server without the keyboard, select All, but Keyboard so that only errors apart from the keyboard errors are reported.

All Plug but No Play

A Plug-and-Play enabled PC automatically detects the addition of a new device (such as a Zip Drive, external modem or a new soundcard), and installs the necessary drivers. If your hardware vendor insists that your PC is Plug and Play, and you have had to often use the Add/Remove Hardware feature of Windows 95/98, you need to have a second look at your BIOS settings. Check if the Plug and Play option under Advanced



Enable Plug & Play for optimum performance

Settings is 'enabled'. The options could be Auto, Yes or No. If you set it to Yes, the operating system configures the PnP devices. If set to No, the onus lies on the BIOS to configure the PnP devices.

Try setting it to Auto first and check if your operating system automatically

detects the new devices. If not, set the configuration to No and let the BIOS configure this device.

Old Hard Disks Die Hard

Setting the Hard disk Type to Auto automatically detects newer hard disks. However, for some older hard disks, you will have to user-define the CHS (Cylinder, Head, Sector) settings.

To do this first disable the LBA Mode. The Logical Block Addressing Mode is a basically a logical format which translates the disk's physical characteristics into formats that can be understood properly by the BIOS.

You cannot change these since they are factory-preset. Once the LBA mode is disabled, check your drive's documentation and take extreme care while changing the CHS settings.

"Error Reading Drive"

While booting from your hard disk, if you come across this error, check the BIOS setup for the Hard Disk settings. The Type option should be None, Auto or User. Choose None or No hard disk if you are operating a SCSI drive together with a matching controller.

If only one hard disk is installed on your computer, enter None under Secondary registers, as this will eliminate the time the BIOS spends in detecting IDE devices. If you find the hard disk settings blank, use the Hard Disk Auto-detect option.

Another reason for the error could be the wrong floppy drive format, for

example, selecting the 1.2-MB 5.25-inch format, while you have a 1.44-MB 3.5-inch floppy drive. Some BIOS chips carry an additional option called Floppy 3 Mode Support. This should be 'enabled' only for special 1.2 MB drives in the 3.5-inch format.

In general, BIOS has up to 4 boot options—first it looks for the floppy and other removable devices, next the hard disk, then the CD-ROM and finally, controlled by Class A NIC.

Recover a corrupt BIOS

If your BIOS is corrupted, the best thing is to contact your hardware vendor and fix it. However, if you are adventurous enough to try to recover your corrupt BIOS yourself, try either of these options.

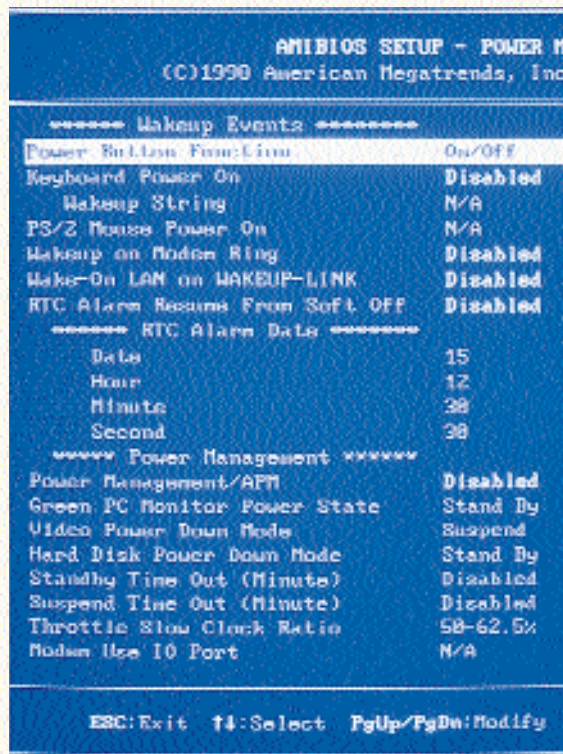
Hot-Swapping

- Get another BIOS of similar make. You can remove one from another PC. Before removing the BIOS, enable the System BIOS cache option.
- Replace the corrupt BIOS with the BIOS that is functional.
- Boot your PC using a bootable DOS disk.
- Now re-replace the working BIOS with the corrupt BIOS. Next Flash an appropriate BIOS to the corrupt BIOS with the relevant BIOS software from your floppy and reboot.

Using Boot-Block (Works with certain Intel Motherboards and Award BIOS)

- Change the Flash Recovery jumper to the recovery mode position.
- Install the bootable upgrade diskette into drive A:
- Reboot the system. Since the recovery process uses the boot-block BIOS (a small area of the BIOS that does not get overwritten). The boot-block however, supports the floppy drive and works only with ISA graphics card. If your system has a PCI card, you will not get any display while recovering.
- As soon as the A: drive light goes 'off' the recovery is completed.
- Turn the computer 'off', change the Flash Recovery jumper back to the default position, and turn the system 'on' with the upgrade floppy in drive A:, and continue with the upgrade.

Note: These options could damage your



Enable energy saving options

PC. Besides both these methods work only with a Flash BIOS.

HANDY TIPS

Boot from your CD

Some BIOS chips enable the system to boot from the CD. This is useful especially when installing operating systems such as Linux or Windows 98 from the CD-ROM drive.

Conserve power, save money

To avoid paying heavy electricity bills, fine-tune your PC's Power Management functions.

Enable the Power Management Support to approximately 22 minutes of Doze, Standby and Suspend modes. For this, select the User Defined option. This means that after 22 minutes, the various devices in your PC such as hard disk, monitor (most Energy Star compliant monitors enter the standby mode by default) and video goes in any of these modes.

Give your PC a break when you are not working.

Soft Shutdown

If your APM control is set to 'Yes', you can switch off your PC by just clicking on

Shutdown. This feature is available only in the new BIOS chips and PCs.

Wake up your PCs

If you are managing a large LAN system and want to run a Backup Utility that takes Backup of the data on all the PCs, use the Wake-On LAN option.

Set the Power Button Behaviour to Sleep/Wake. So when the PC is shut down, it goes into Sleep Mode instead of switching off completely. Next 'enable' the Wake-On LAN option. This will help you switch 'on' every PC in the company and run the backup utility without having to actually turn 'on' each one.

Fax on a holiday

If you want your PC to continue receiving faxes even when you are on a short vacation, enable the Wake on Modem Ring option.

To USB or not to be

The keyboard configuration of your BIOS has the following options: Numlock On, Keyboard auto-repeat rate, and Keyboard auto-repeat delay.

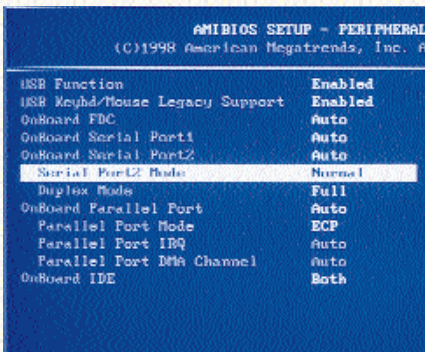
These options can now also be set from the Windows Control Panel. However, enabling the Legacy USB support option will allow you to connect your ordinary keyboard through a USB adapter.

Fine-tune your parallel port

The parallel port mode setting can be set to bi-directional or ECP/EPP. If your printer, scanner or peripheral device, which is connected to the parallel port of your PC, is dysfunctional, try setting it to one recommended by most of the peripheral devices.

Setting to Enhanced Parallel Port offers data transfer speed of up to 2 Mbps. Extended Capabilities Port offers throughput up to 4 Mbps. However, using this option can cause problems since it supports direct memory addressing.

Working with Infrared



Fire that infrared port

If your PC supports infrared devices, you will have to make the necessary settings to make use of this functionality. Under the Advanced Settings of your BIOS you can find the Serial port mode option. Change this to **Normal** in order to use Infrared devices.

MA Wait State

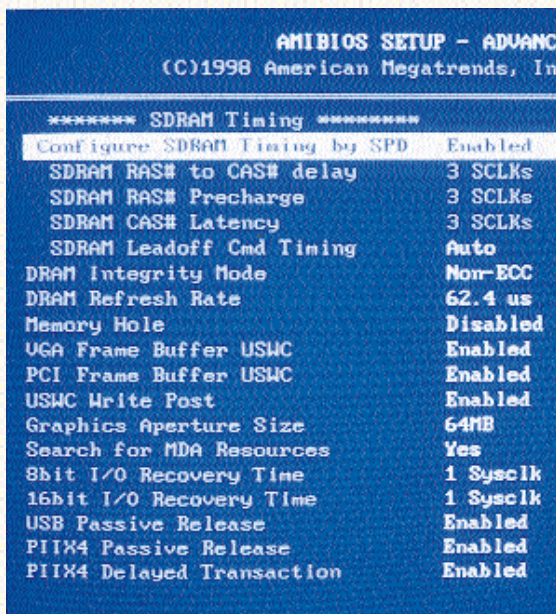
Inserts an extra wait state before the beginning of a memory read. The lower the setting, the faster the memory is accessed. Some types of BIOS use fast or slow settings--fast is recommended.

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Memory Tweaking

BIOS settings allow you to change the memory settings and using this you can resolve some of the memory conflicts in your system. Optimally, by default these settings are automatically defined.

However, you can change these one by



Memory settings to optimise your PC

one and check for a significant change in performance. Use any of the diagnostic tools or memory intensive applications to verify the settings.

Enable Chipset NA# Asserted

This permits pipelining, in which the chipset signals the CPU for a new memory address before all data transfers for the current cycle are complete, resulting in faster performance.

SDRAM RAS Pre-charge Time

The amount of time necessary to refresh the SDRAM before the next memory access. Set to lowest for best performance.

Memory timing

Most memory accesses usually occur in data bursts. How frequently these bursts occur depend on the memory timing defined in your BIOS memory settings. By default the automatic configuration sets it to the actual main memory timing installed on your motherboard.

You can disable this, set your own timing, and check if the performance of your PC is affected. Try out each of these settings separately in order to test the effect on performance.

DRAM Read & Write, RAS to CAS Delay and CAS Timing delay

DRAM memory is organised by rows and columns and accessed through strobes. During a memory read/write, the CPU activates RAS (Row Access Strobe) to find the row containing the required data. Afterwards, a CAS (Column Access Strobe) specifies the column.

RAS and CAS are used to identify a location in a DRAM chip. RAS access is the speed of the chip while CAS is half the speed.

A higher RAS value increases performance. If you have slow DRAM than define a value of '1' delay or the lowest value possible.

Enable DRAM Speculative Leadoff

This option is available to certain chipsets to speed up the first access to system memory. The memory con-

troller 'Tricks' by starting the initial read request before the address for the read has been completely resolved. Disable this setting if it gives any problems.

Enable Turbo Read Leadoff

This function optimises the performance in cache-less, 50-60 MHz or one-bank EDO DRAM systems.

Memory Holes

Most BIOS chips still support obsolete concepts such as Memory holes, which allow you to fit a memory expansion card when enabled. These can be addressed, through a reserved area in your PCs, or system RAM. However, SIMM and DIMM have rendered this option obsolete.

The same goes for memory reservation. The improvement in memory management in new Operating Systems and advances in peripherals has done away with the need to address issues such as the difference between the first 640 KB of RAM and the 'upper' 384 KB. However, if older ISA card documentation specify the allocation of certain memory addresses than you can do so by allocating the same here.

HARD DISK OPTIONS

Enable IDE HDD Block Mode

This means the BIOS can read and write from the hard disk using the block mode, which transfers data in blocks, rather than in bytes. As a result, more data can be transferred in one read-write operation, speeding up performance. Only IDE hard disks support this mode.

Enable Ultra IDE

Enables the Ultra IDE hard disk transfer mode at 33 Mbps. This is useful only for Ultra IDE Hard Disks.

Multi-Sector Transfers

This setting specifies the number of sectors to be transferred in one block. The standard selection is one sector per block. If Block PIO is enabled, the MAX option specifies the maximum possible block size, but this does not necessarily mean the fastest transfer speed.

Transfer Modes

This setting specifies the mode used to transfer data between the disk and mem-



ory. The available options depend on the disk subsystem's capabilities. If the disk supports a PIO or DMA transfer method, choosing one of these options gives the best performance.

OTHER PERFORMANCE BOOSTERS



Enable Peer Concurrency

This would allow multiple PCI devices to run simultaneously. However this might reduce the system resources available for other tasks. So enable this only if it gives the desired results.



Enable PCI/VGA Palette

The Palette Snooping option in the BIOS Video Configuration enables your ISA graphics card to run applications without any problems. However, this is not useful if you have a PCI/AGP graphics card. Also enable this if you use multiple video cards such as an MPEG card or VGA/TV converter.



CPU-To-PCI IDE Posting

Data from the CPU to the PCI bus can be buffered for the controller. Enable or set the lowest setting.



8/16 Bit I/O Recovery Time

Number of clock cycles to delay between I/O operations. The lower the setting the faster.



Enable Passive Release

Allows CPU to PCI Bus access during passive release and hence boosts the speed of your PC.



Enable Delayed Transactions

Enables an embedded 32-bit posted write buffer to support delay transaction cycles with relation to non-compliant PCI 2.1 devices, thus increasing performance.



32-bit I/O

This setting enables or disables 32-bit communication between the CPU and IDE adapter. A 32-bit transfer speeds performance but requires a PCI or VL bus.



Control your Interrupts

In case the new peripheral device you installed does not work well, you will have to check for conflicting devices in your PC. First check the Settings > Control Panel > System > Device Manager

in a Windows 95/98 PC. Locate the device and check the automatic setting under Resources.

Also refer to the peripherals documentation to find out which IRQ it uses. If this IRQ is also used by another device, disable this device and visit your BIOS IRQ reservation area under Advanced Configuration.

Reserve the IRQ needed by your erring peripheral and then save the settings. Next, manually set this IRQ in Windows. Let Windows automatically allocate the IRQ for the other device, which was using the same IRQ.



No BIOS

Battery failure and other problems can also cause your BIOS settings to be cleared and give a ROM checksum error.

In this event, a list of the default BIOS setting helps in putting your PC back to work. Using [Shift] [Print screen] is one quick option.

BIOS LINKS AND REFERENCES

- www.firmware.com
- www.ttitech.com
- www.unicore.com
- www.y2klinks.com/ring.htm
- www.y2k.com
- BIOS Manufacturers
- www.award.com
- www.ptltd.com
- www.megatrends.com
- www.mrbios.com



Get (Re)Fresh

There are different ways to refresh memory in your PC. Some memory chips can cycle the memory refresh process by way of 'hide and seek'.

This they do by using memory banks not usually used by the CPU. Called Hidden Refresh, enabling this process can increase performance of your system. Check if your PC's memory supports this feature.

If you use a laptop, enabling Slow Refresh will increase its performance slightly and also help you to save power—memory is refreshed at least four times slower and there is less conflict between the CPU and refresh circuitry.

Enabling Concurrent

LISTEN TO YOUR PC

An American Megatrends Inc (AMI) BIOS will beep during boot-up to let you know if there is a problem with your PC.

- 1 If you hear up to three beeps, there is some problem with your memory. Try resetting. If the problem persists, replace your memory chips.
- 1 If you are getting 4, 5, 7 or 10 beeps send the motherboard for repair or have it replaced.
- 1 If you get 6 beeps, you might have a faulty keyboard or keyboard control chip.
- 1 9 beeps mean you have to replace your BIOS chip.
- 1 11 beeps mean your external cache has problems.
- 1 There are also some long and short beep combinations. When you get

Refresh will allow both your CPU and hardware to refresh simultaneously. If disabled, the CPU waits till the hardware refresh has completed, thus reducing performance.

Enabling Burst Refresh and High Speed Refresh can also improve system performance. However, this feature may not be available in all BIOS chips.



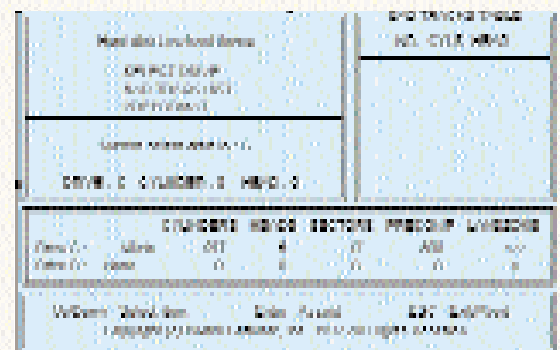
Play Dirty

If the Advanced setup in your BIOS has an option called Tag RAM includes Dirty, enable it. This option increases performance as it overwrites the cache during memory refresh cycles.



Fast Page Mode DRAM

Enabling this speeds up memory access for Dynamic RAM.



Fine tune your hard disk settings

Tips & Tricks

WHERE BIOS DIFFERS

- 1 The keys used for changing settings
- 1 The level of help for each setting
- 1 The terms used for the same type of setting
- 1 Access to Advanced settings



Hard Disk Low Level Format

Some BIOS chips have a Low-Level Format utility. This utility looks for the necessary information of the drive selected, and searches for and lists bad tracks if any.



Memory Parity Error Check

Some BIOS chips have an additional feature that allows you to test bit errors in the memory. Every byte in memory has a ninth bit, which is designed such that with every write access the parity of all bytes is odd. With every read access the parity of a byte is checked for this odd parity.

Enabling this feature triggers the NMI (Non Maskable Interrupt), an interrupt you mostly cannot switch 'off', so the computer displays a RAM failure), becomes active and forces the CPU to enter an interrupt handler, displaying this message: Parity Error At 0AB5:00BE System Halted. Disable only if you have 8-bit RAM.

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MORE ERROR MESSAGES



"CMOS checksum error"

You have a faulty CMOS that might have been caused due to a weak battery. To make your CMOS operational again, you have to replace the battery.



"Disk boot failure, insert system disk and press Enter"

What this message means is that your BIOS could not find a boot device. The error message is displayed if you have opened your PC and tinkered with the hard disk, or if there was a sudden surge in your power supply that caused your PC to shut down.

The cause could also be just a loose controller card or cable or wrong device or boot sequence.



"Diskette drives or types mismatch error - Run Setup"

If you changed the hard disk settings (which is not at all advised) and could not

set them back, you are likely to get this message.

It means the type of diskette drive installed in the system is different from the CMOS definition. Run Setup to reconfigure the drive type correctly.

MORE TIPS TO CHECKOUT



You can get rid of that logo

If you own a branded PC, and you do not want the BIOS to display the company logo each time you start your PC (that's when the BIOS runs the POST check), you can disable it.

You will find the Display Logo option under the Advanced BIOS Settings. You can also disable the Display Logo option in case you have a low-end video card that cannot display a sharp logo.



Don't use the fan when you are not using your PC

The fan, which cools the processor, is always 'on' by default. In case you don't need to use your PC very often, configure your BIOS to switch 'off' the fan. When the temperature within the case reaches a certain level, the fan automatically switches off.

Note: This tip might help you conserve energy, but it might also heat up your processor.



SoftMenu BIOS

Some PCs have a BIOS that supports the SoftMenu BIOS option. This feature offers you the convenience of having a 'jumperless' board design, without having to open your PC!

This feature is especially useful for resellers who do not want to tamper with jumpers and switches when optimizing a PC. The SoftMenu BIOS also comes in handy when you wish to upgrade your PC by just changing the processor.

Look for the !!CPU SOFTMENU!! option when you enter the BIOS setup—the option automatically configures the CPU and displays it. Besides this you can also set the speed of the CPU and CPU voltage.

BIOS UTILITIES

Listed below are some freeware and utilities which allow you to change some of the hidden BIOS settings.



!BIOS

You will find multiple utilities in this freeware and the program is very user friendly too. !BIOS can run from a DOS window of Windows 95/98. You can download this from the following Web site:

<http://home.swipnet.se/~w-12702/11A/FILES/!BIOS310.ZIP>



CTCHIPZ

This utility allows you to change chipset specific registers (system configuration set-

tings sometimes identical to BIOS Setup Chipset Settings) that affect all kinds of system operation—from memory timings to cache size to PCI settings.

!BIOS- a user friendly utility

However, the program is not very easy-to-use and might take you some time to get down to using it. Also, make sure you know what chipset your PC has before you run this utility along with the configuration file.

You can download this from the following Web site

www.sysopt.com/biosmod.html#ctchipz



TweakBIOS

One of the best utilities for fine tuning your BIOS, it first identifies the hardware that can be configured and then displays the optimum settings.

This shareware can be downloaded from www.miro.pair.com/tweakbios/download.html



TweakBIOS Gone where no BIOS has gone