

# BIOS Features

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## 1. BIOS Features

We are proud that Hddguarder™ is the leader of HDD recovery card. We have been researching, developing, manufacturing and selling the HDD recovery card for over 4 years, and have been upgrading our product Hddguarder™ to follow PC and Microsoft DOS/Windows. Thus we know more about the BIOS upgrading roadmap. For every HDD recovery card user, it is more helpful to learn more information about BIOS.

Together with PC upgrading, BIOS has some new features. The 6 new features **MAYBE** make some compatibility problems to the HDD recovery card.

- < Boot Sector Virus Protection
- < Plug & Play O/S
- < Boot Device Priority
- < Quick Boot
- < Legacy PCI Slot
- < Interrupt 19 Capture

## 2. Compatibility Problems

### (1) Boot-Frozen

After the card plugged and installed, while PC booting, one case is “the cursor is blinking at the left top corner on the black screen and PC is frozen”, the other case is “PC is frozen after Windows 95/98 (95/98 ONLY, NOT ME/NT/2000/XP/2003) logo has displayed”.

(2) Card-Not-Plugged

After the card plugged, one case is “just like no card plugged”, the other case is “the card works well at power-on (cold boot), but it is ignored by BIOS at reboot (warm boot) no matter we hit Ctrl-Alt-Del, reboot from windows or press reset button”.

(3) Looped-Boot

After the card plugged, either installed or not, PC boots repeatedly and cannot boot OS.

3. BIOS Features Setup

Motherboard Recommended	BIOS Settings	Menu		Feature
	Award	BIOS FEATURES SETUP	Virus Warning	Disable
			Boot Sequence	LAN is the first
		PNP/PCI CONFIGURATION	PNP OS Installed	Yes
	Award ©2001	Advanced BIOS Features	Anti-Virus Protection	Disable
			First Boot Device	LAN
		PnP/PCI Configurations	PNP OS Installed	Yes
	Award ©2001	Advanced BIOS Features	Anti-Virus Protection	Disable
			First Boot Device	LAN
		PnP/PCI Configurations	Boot Other Device	Enable
			PNP OS Installed	Yes
	Award	Boot	Boot Virus Detection	Disable
			1. Other Boot Device	INT18 Device (Network)
			Plug & Play O/S	Yes
Intel 845		Advanced à Boot Configuration	Plug & Play O/S	Yes
		Boot	Intel@Rapid BIOS Boot	Disable
Intel 865 Intel 875	AMI	Boot à Boot Device Priority	1st Boot Device	Network Option ROM
DELL Optiplex GX270			Legacy PCI Slot	Enable
	AMI © 2002 V2.51	Boot à Security Settings	Boot Sector Virus Protection	Disable
		Boot à Boot Device Priority	1st Boot Device	Network Card
ASUS P4P800		Bootà Boot Settings Configuration	Quick Boot	Disable
		Bootà Boot Settings Configuration	Interrupt 19 Capture	Enable

The settings in the table are not the BIOS default ones and not necessary, but are recommended. When you encounter the compatibility problems, please you check the CMOS setup in-order marked in color RED, ORANGE, BLACK, BLUE, GREEN.

4. Boot Sector Virus Protection

For all the other HDD recovery card brands from China domestic and China Taiwan, this feature MAYBE resulted in the boot-frozen problem in the past. So in the users memory, this feature MUST be “Disable”.

HddGuarder™ NEVER meets the problem, it CAN work well completely no matter this feature is “Enable” or “Disable”.

5. Plug & Play O/S

At the end of 2000, we encountered that this feature resulted in the first case of card-not-plugged problem. But in our memory, we never more met it since the April 2001. Our conclusion is that this problem happened ONLY on one or some AMI BIOS version(s),

HddGuarder™ CAN work well NOW no matter this feature is "Yes" or "No".

### 6. Boot Device Priority

At the end of 2000, we encountered that this feature resulted in the first case of card-not-plugged problem. Sometimes by now, we still met this problem on some BIOS, we found that this feature DOES NOT ALWAYS result in this problem on other more BIOS, i.e. HddGuarder™ CAN work well on these BIOS no matter what this feature is. Thus we just recommend that this feature is the setting marked in color BLACK in the above table.

At the beginning of 2001, we upgraded HddGuarder™ hardware PCB from PCI 2 to PCI 4 and got two patents. HddGuarder™ PCI4 CAN work well on all motherboards no matter what this feature is. However, at the end of 2002, we found that PCI4 was "just like not plugged" on Intel 845 motherboard, and we had to use PCI2. Thus we have been issuing PCI2, and PCI4 is provided ONLY when the users and distributors have tested it successfully and have informed us clearly.

Some other HDD recovery card brands may SAY that their cards CAN work well on all BIOS no matter what this feature is. I say that it SHOULD NOT be true.

### 7. Quick Boot

In the April 2003, we encountered that this feature resulted in the second case of card-not-plugged problem.

Set "Quick Boot" as "Enable", after the card plugged but not installed, HddGuarder™ installation menu appears at power-on (cold boot), but it NEVER MORE appears at reboot (warm boot) no matter we hit Ctrl-Alt-Del, reboot from Windows or press reset button. We conclude that BIOS ignores the card at WARM BOOT.

But then since the August 2003, we found that Intel 845/865/875 motherboards have also this feature and HddGuarder™ CAN work well no matter this feature is "Enable" or "Disable". Thus we remind our users that CMOS setup marked in color ORANGE in the above table should be checked if HddGuarder™ cannot work well.

### 8. Legacy PCI Slot

In the March 2004, we encountered DELL OptiPlex GX270 Mini Desktop PC that has ONLY one PCI slot and the "Legacy PCI Slot" feature in its CMOS setup. We found that any PCI card in the PCI slot is "just like no card plugged" if setting this feature as "Disable".

To use any HDD recovery card on this sort of PC such as DELL OptiPlex GX270, we MUST set "Legacy PCI Slot" as "Enable".

### 9. Interrupt 19 Capture

In the March 2004, we encounter one new problem on ASUS P4P800 motherboard that BIOS is AMI version 2.51.

Set "Interrupt 19 Capture" as "Disable", after the card plugged, either installed or not, PC boots repeatedly and cannot boot OS. We change HddGuarder™ boot mode to either "Standard" or "Enhanced", this problem cannot be solved. We change the boot mode to "Original", BIOS ignores the card and PC boots OS normally.

However, set "Interrupt 19 Capture" as "Enable", restore the boot mode to the default "Standard", HddGuarder™ CAN work well.

We come to our memory that one Thailand user reported one case just like this problem at the end of 2003, he did not mention the motherboard, the BIOS and "Interrupt 19 Capture", ONLY informed us that the problem had been solved by setting HddGuarder™ "Boot from HD only" as "Enable".

One of our OEM distributors insisted on canceling the HddGuarder™ "Boot from HD only" feature in his brand. So, he has only one way to solve the problem by setting "Interrupt 19 Capture" as "Enable".

For our HddGuarder™, user has another way to solved the problem by setting HddGuarder™ "Boot from HD only" as "Enable".

10. Solutions by HddGuarder™

Feature	Recommended Settings	Result-in	Solutions by Hddguarder
Boot Sector Virus Protection	Disable	Boot-Frozen	Compatible completely.
Plug & Play O/S Card-Not-Plugged	Yes	1st	Happened rarely now. MAY NOT be cared.
1st Boot Device Card-Not-Plugged	Network Card	1st	Motherboards manufactured in 2000 till 2002 SHOULD be checked this feature in BIOS. For motherboards after 2002, it MAY NOT be cared. Till 2003, HddGuarder™ PCI 4 could solve this problem perfectly. At the end of 2002, we found that ONLY PCI 2 is fit in with the Intel 845 motherboard, later with Intel 865/875 motherboard. Thus this feature should be set properly for PCI2. In the February 2004, we found that DELL and IBM PCs have the same chipset with Intel 845/865/875 motherboard, but PCI 4 is fit in with them, so this feature MAY NOT be cared. SHOULD be cared in 50%-scope.
Quick Boot	Disable	2nd Card-Not-Plugged	MAY NOT be cared in the other 50%-scope.
Legacy PCI Slot	Enable	1st Card-Not-Plugged	MUST be recommended settings
Interrupt 19 Capture	Enable	Looped-Boot	MUST be recommended settings

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