

## Boot Mode

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### 1. What's HddGuarder™ Boot Mode?

When I was an assistant teacher in Peking University in 1987, I was very interested in how the IBM PC/XT booted PC-DOS and I began to study BIOS. Of course now I have known all about it.

At the first, we look from BIOS side. After power-on-self-test (POST) finishes, BIOS initializes HddGuarder™ and then boots OS in a certain order and ways. We found that each of various BIOS versions has various order and way to boot OS after it initializes HddGuarder™.

At the second, we look from HddGuarder™ side. HddGuarder™ MUST take various strategies (i.e. various boot modes) to respond to BIOS requests, or else some compatibility problems will occur.

### 2. Compatibility Problems

Although the compatibility problems, that we discuss here, have the same names with the ones that we discuss in <BIOS Features>, but these ones are not those ones. Those problems CAN be solved by setting CMOS properly, but these ones CANNOT be solved whatever CMOS setup is, the exclusive choice for users is to KILL the card.

### (1) Card-Not-Plugged

After the card plugged, it is "just like not plugged", i.e. installation menu does not appear. However the HddGuarder™ boot mode menu can appear if [Ctrl-B](#) or numeral key [7](#) is hit just after "Hit [DEL](#) to enter CMOS setup" message.

### (2) Abnormal-Boot

After the card plugged, the message "DISK BOOT FAILURE, INSERT SYSTEM DISK AND PRESS ENTER" will appear, PC maybe boot OS rightly, or the boot is frozen (refer to the following).

### (3) Boot-Frozen

After the card plugged, the boot is frozen just after the hardware list and the cursor is blinking at the left side of the text screen.

### (4) Looped-Boot

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

## 3. Solutions (1) by HddGuarder™

Till 1999, we had been developing HDD recovery card for over 2 years. At that time while we issued the 3rd generation HDD recovery card for Windows 98, we designed three software boot modes for HddGuarder™ to fit in with various sorts of BIOS and to solve the compatibility problems.

### (1) Standard Mode

Be compatible with almost ALL PCs. For PCs requiring [Enhanced Mode](#), this mode will cause the card-not-plugged problem.

### (2) Enhanced Mode

A few PCs with AMI BIOS require this mode. For PCs requiring [Standard Mode](#), this mode will cause abnormal-boot, or boot-frozen or looped-boot problem(s).

### (3) Original Mode

Rarely used. Only certain DELL PCs require this mode.

## 4. Solutions (2) by HddGuarder™

Till the summer of 2003, we continually got messages from our users that they have to change [Standard Mode](#) (as the default) to [Enhanced Mode](#) to install HddGuarder™ card. Thus we upgraded the three boot modes.

### (1) New Standard Mode

= OLD Standard Mode + OLD Enhanced Mode.

### (2) New Enhanced Mode

= OLD Enhanced Mode + OLD Original Mode.

### (3) New Original Mode

= OLD Standard Mode.

Now the default boot mode is New Standard Mode. So [we have a lot of confidence about that HddGuarder™ CAN fit in with ALL PCs.](#)

## 5. How to change HddGuarder™ Boot Mode?

Just after the message "Hit [DEL](#) to enter CMOS setup", press [Ctrl-B](#) or numeral key [7](#), the HddGuarder™ boot mode menu will appear in [figure 1](#). Hit numeral key [1](#) or [2](#) or [3](#) to change boot mode, [figure 2](#) appears. After any key pressed, [figure 3](#) appears to prevent unauthorized change for PCI card. The default password is "function", or is set by the previous user.



Figure 1  
Figure 3

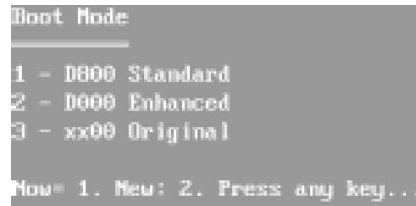
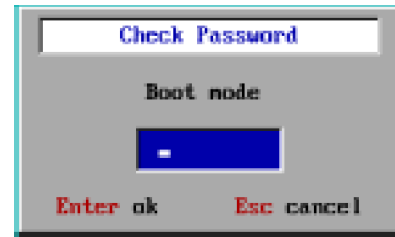


Figure 2



For ISA card, boot mode can be changed ONLY by changing the short-caps on the card. HddGuarder™ does not check password.

## 6. Copyright

The HddGuarder™ boot modes MUST NOT be copied.

For the copyright reasons, other HDD recovery card brands either have very un-friendly interfaces, or have the compatibility problems that we discussed above.