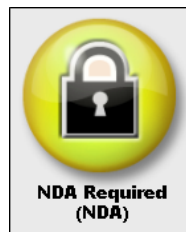


# AMIBIOS8 ROM Utility User Guide

## AMIBCP

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**NDA REQUIRED**



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### *Revision Information*

Date	Rev	Description of Changes
2009-05-13	1.0.0	Initial Document.

## **Overview**

AMIBCP stands for American Megatrends BIOS Configuration Program. It provides you, the OEM or system integrator, with an easy way to customize some of the AMIBIOS features without coding. This means that you do not have to contact American Megatrends every time a minor change has to be made in your system's AMIBIOS.

With AMIBCP, you can customize your AMIBIOS. This can speedup system development and allow you a greater degree of freedom in adding or changing system features.

## **Features**

This utility offers following features:

- Configure the AMIBIOS System Setup.
- Edit the Registers Tables.
- Edit PCI IRQ Routing Table.
- View AMIBIOS Features, CPU Microcode Patches, Edit Minor Version Number, Sign on message and OEM data.
- View and Edit AMIBIOS String.
- View and Modify AMIBIOS DMI Tables.
- SETUP screen layout

## **Requirements**

### **Supported Operating System**

AMIBCP Utility is supported in the following operating systems:

- Microsoft® Windows® 98 (v3.30 and above will not support any more.)
- Microsoft® Windows® ME
- Microsoft® Windows® NT 4.0
- Microsoft® Windows® 2000
- Microsoft® Windows® XP/XP64
- Microsoft® Windows® PE
- Microsoft® Windows® Vista 32/64

### **BIOS Requirements**

The loaded BIOS ROM file should have the followings:

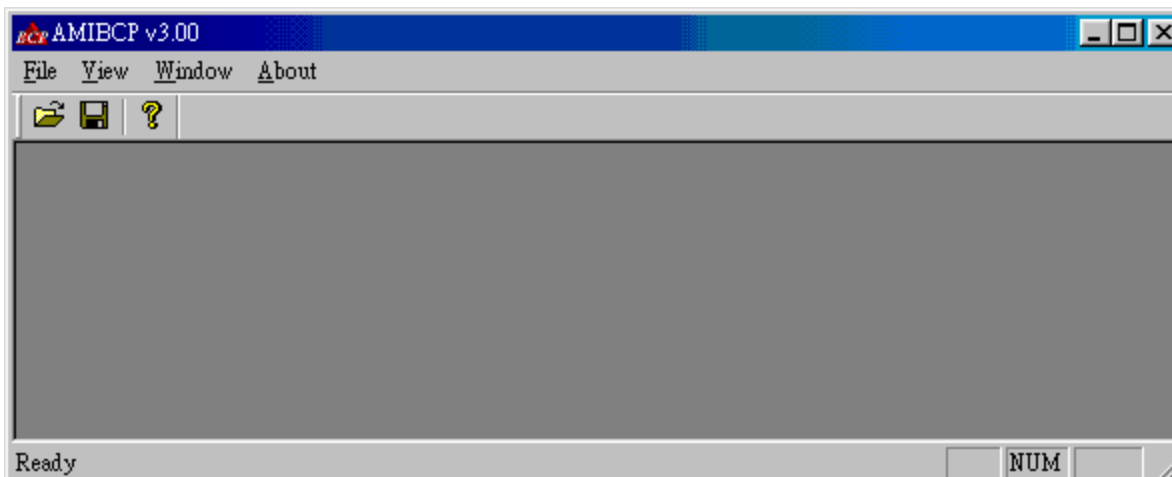
- The file MUST be an AMIBIOS ROM file (Core version 8.xx.xx only)
- BIOS ROM file should be building via "8.00.08\_AMITools\_17" label or above.

## **Getting Started**

Installation

*Copies the **AMIBCP.EXE** executable file to any storage location accessible by the host system and then double-click **AMIBCP** icon Or type **AMIBCP** in command prompt to run.*

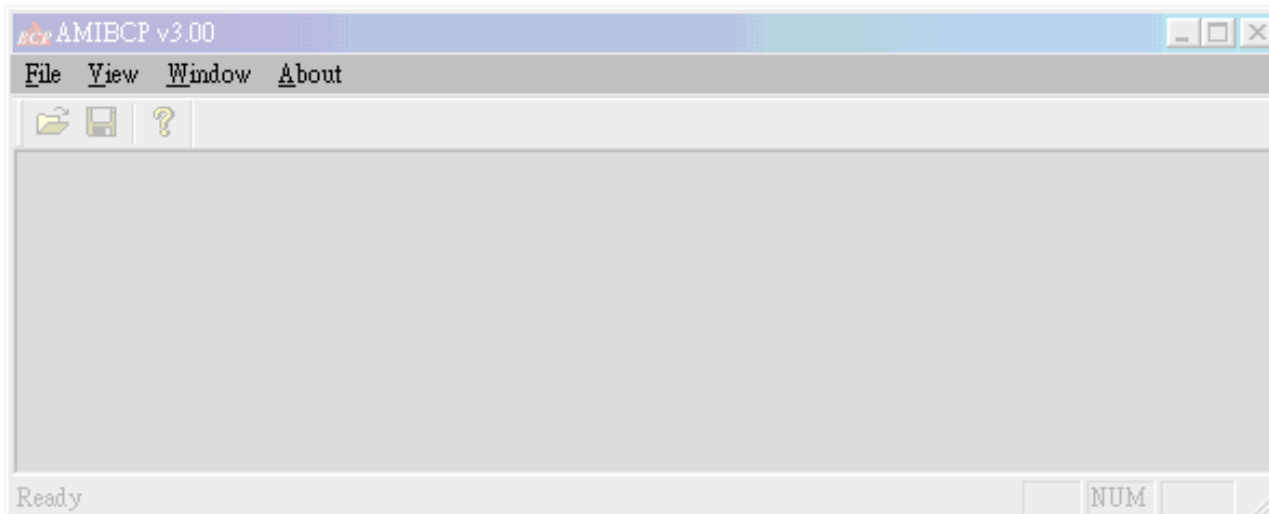
## Main Window



## Menu Bar

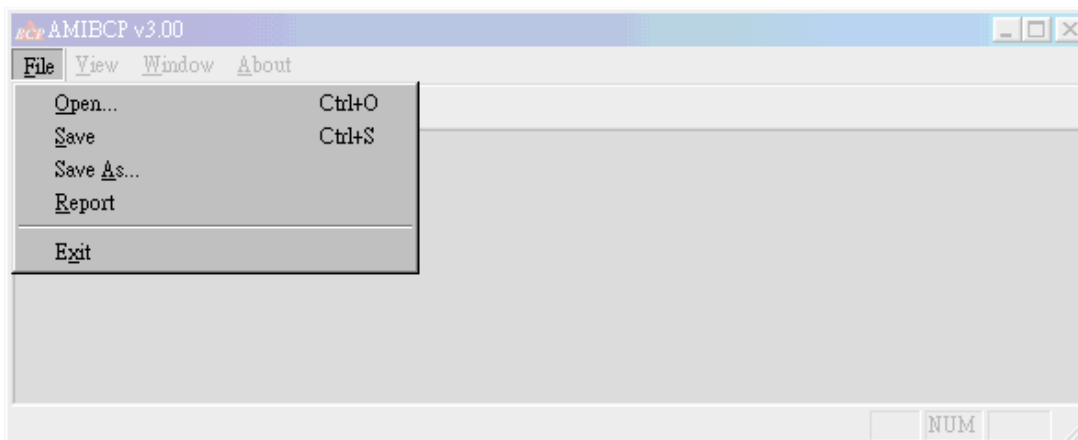
The *Menu bar* is located at the top of the AMIBCP window. The *Menu bar* contains the following:

- File drop-down menu
- View drop-down menu
- Window drop-down menu. This menu can be shown only when BIOS ROM loaded.
- About



### File drop-down menu

When you click on *File*, the *File* menu drops down as shown in the following:



The *File* drop down menu item are explained in the following table:

File menu item list	
Name	Description
Open	Open an AMIBIOS ROM file.
Save	Save any changes you have made to the AMIBIOS ROM file.
Save As	Same feature as <i>Save</i> item. In addition, it allows you to specify the location and change the existing file name.
Report	Generate a report for current AMIBIOS ROM file. All of the BIOS information will write to specific path/filename.
Exit	Quit program.

### View drop-down menu

When you click on *View*, the *View* menu drops down as shown in the following:



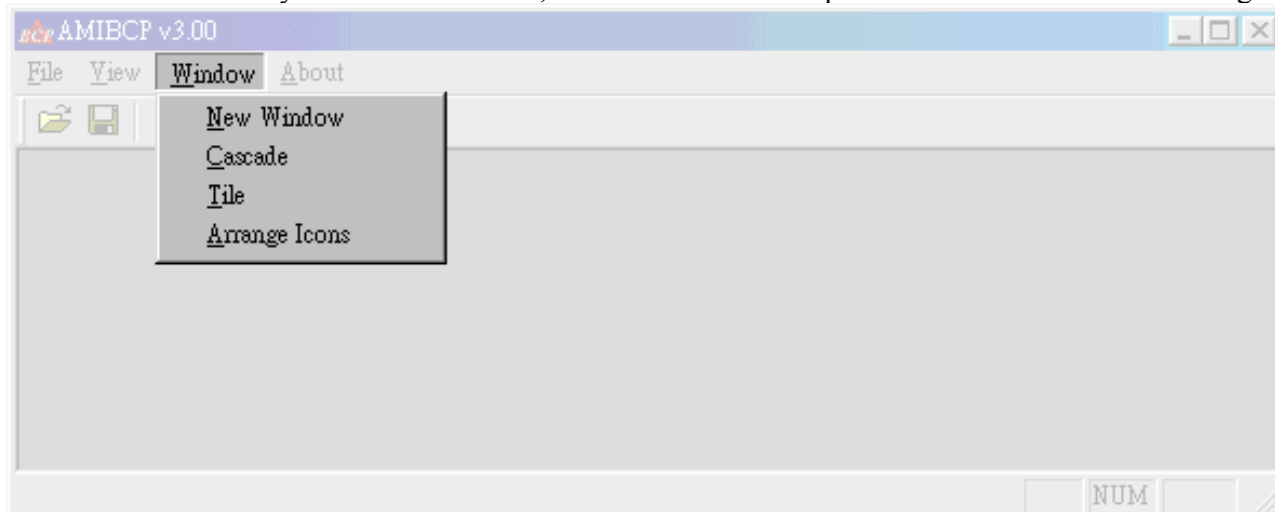
The *View* drop down menu item are explained in the following table:

View menu item list	
Name	Description
Toolbar	Display or hide the <i>Toolbar</i> . The <i>Toolbar</i> is displayed under the <i>Menu</i>

	bar.
Status Bar	Display or hide the <i>Status bar</i> . The <i>Status Bar</i> is displayed at the bottom of the <b>AMIBCP</b> window.

### Window drop-down menu

When you click on *Window*, the *Window* menu drops down as shown in the followings:

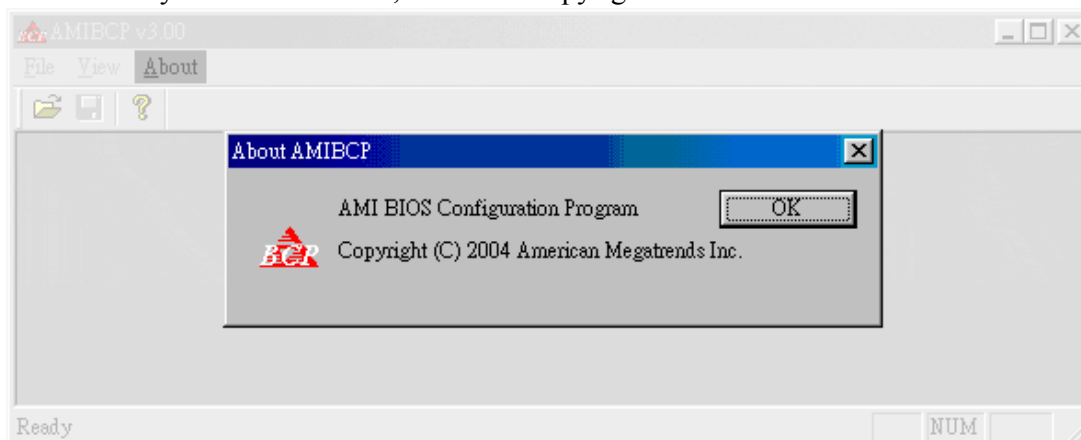


The *Window* drop down menu item are explained in the following table:

Window menu item list	
Name	Description
New Window	Open current AMIBIOS ROM to a new window.
Cascade	Arrange the AMIBIOS ROM windows so that they overlap one another.
Title	Display AMIBIOS ROM windows at the same time.
Arrange Icons	Automatically arrange the icons.

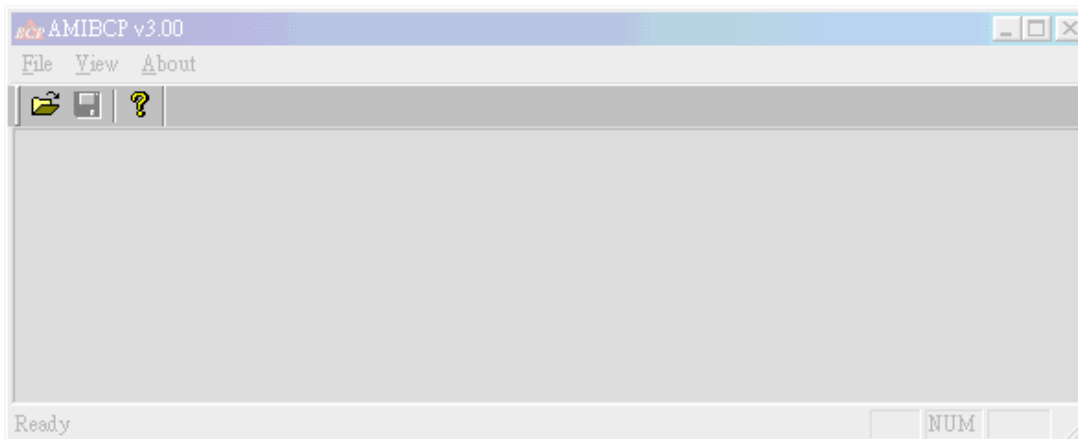
### About

When you click on *About*, AMIBCP copyrights information will be shown as below:






## Toolbar

The *Toolbar* is located under the *Menu bar*. It contains three icons.

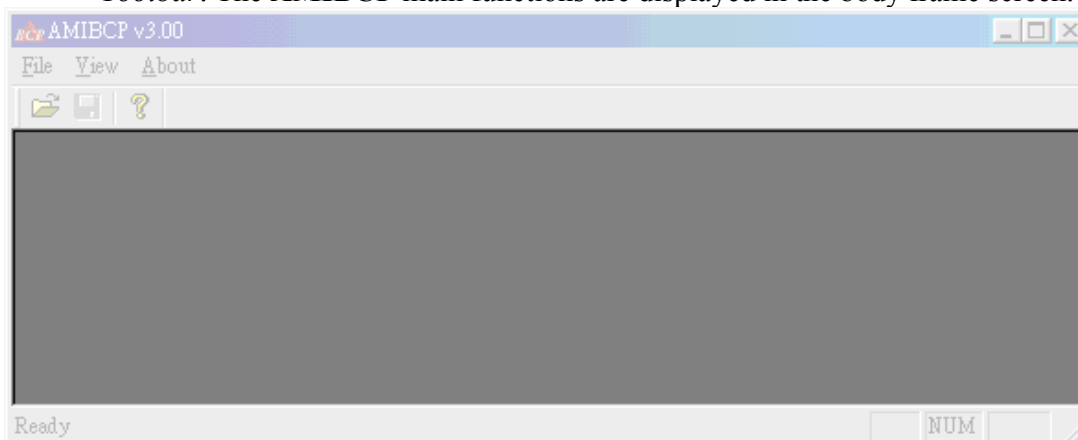


The *Toolbar* icons are explained in the following table:

Toolbat Icon List	
Icon	Description
	Open an AMIBIOS ROM file.
	Save any changes you have made to the AMIBIOS ROM file.
	Display AMIBCP copyrights information.

## Body Frame

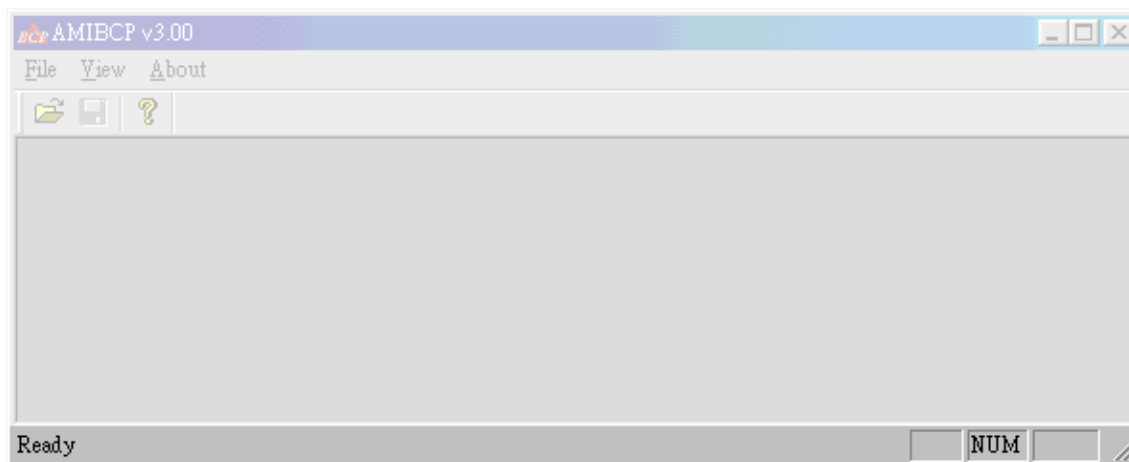
The *Body Frame* is the main frame of **AMIBCP**. It is located under the *Menu bar* and *Toolbar*. The **AMIBCP** main functions are displayed in the body frame screen.




## Status Bar

The *Status bar* is located under *Body Frame*. The left area of the *Status Bar* describes actions of menu items as you use the arrow keys to navigate through menus. The right area of the *Status Bar* indicates if any of the following keys are latched:

Item	Description
CAP	The <Caps Lock> key is latched down.
NUM	The <Num Lock> key is latched down.
SCRL	The <Scroll Lock> key is latched down.



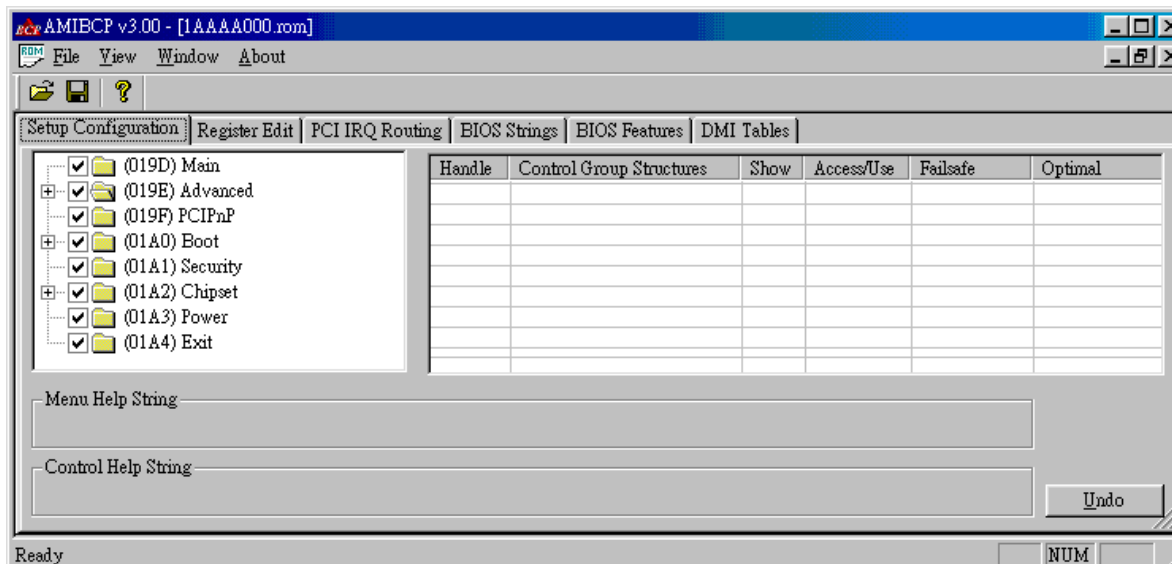
## **Functions**

To use AMIBCP, you can double-click the executable file icon to open Main Window and press  on *Toolbar* to open an AMIBIOS ROM file.

AMIBCP allows you to view and modify the AMIBIOS ROM file image. You can perform various actions using the following configuration tabs:

- Setup Configuration Tab
- Register Editing Tab
- PCI IRQ Routing Tab
- BIOS Features Tab
- BIOS Strings Tab
- DMI Tables Tab



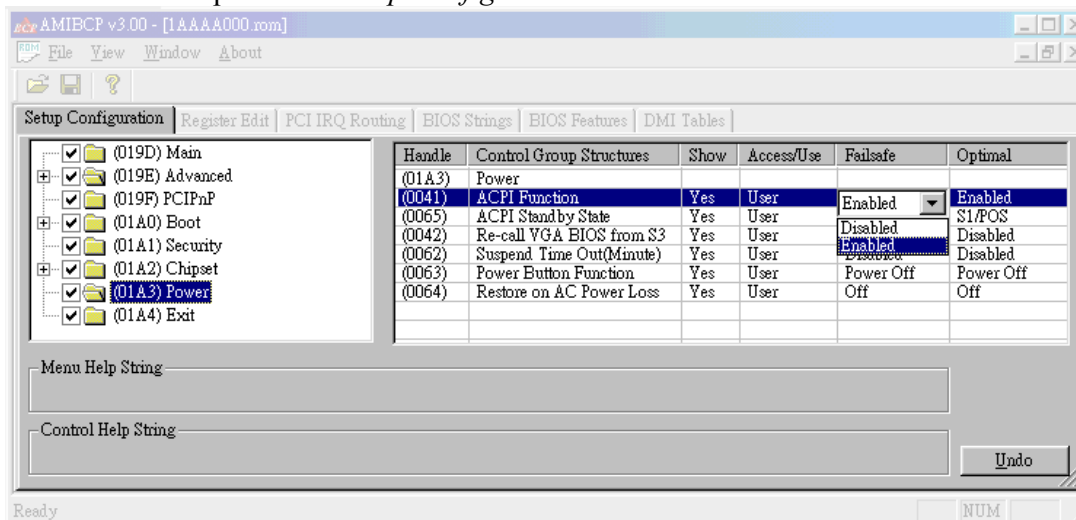


## Setup Configuration Tab

The *Setup Configuration* tab allows you to change the settings for AMIBIOS setup options. To change settings, just double-click on the field/check box what you want to do. Currently, you can perform the following actions:

- Edit the control group structure names
- Show or hide setup screen and setup questions
- Modify access levels and usage
- Edit failsafe and optimal values
- Change SETUP screen layout

An example of the *Setup Configuration* tab is shown below:




## Field

The *Setup Configuration* fields are explained in the following table:

Field	Description
Handle	This field displays the setup item's string number in <i>BIOS strings</i> . This is a read-only field.
Control Group Structures	This field allows you to modify the setup item's name that appears in the AMIBIOS setup screen.
Show	This field allows you to display or hide a particular setup item from the AMIBIOS setup screen.
Access/Use	This field allows you to control the access levels and usage of setup item.
Failsafe	This field allows you to program the setup item with the safest possible settings that can be used if the system behaves erratically.
Optimal	This field allows you to program the setup item with the best system performance settings.

### Buttons

The *Setup Configuration* button is explained in the following table:

Icon	Description
	This button allows you to restore the original setup settings. <b>Note :</b> This <i>Undo</i> button is used the same way throughout the AMIBCP program.

### Menu Help String

This area displays the help string for individual setup menu. When you select a menu item on Setup Menu list, the help message will be shown here:

### Control Help String

This area displays the help string for individual setup item. When you select an item on Control Group Structures list, the help message will be shown here.

### Setup Structures

The Setup Structures consists of setup controls, such as questions, date, time, password, and setup control group items.


Example of Setup Structures are shown in the following table:

Field/Check Box	Description
Setup Controls	For setup questions, you can modify the show, access/use, failsafe

	<p>and optimal fields. Setup questions strings can be edited. For the date, time and password controls, you can modify the show and access/use fields.</p> <p><b>Note:</b> Setup question strings can be edited or replaced in the BIOS Strings tab.</p>
Control Group Items	<p>For the separator control group item, you can modify the show field and type of separator to display (blank line/single, thin line/double or thick line).</p> <p>For the static-text control group item, you can modify the show field and usage (normal/title).</p> <p>For the dynamic-text control group item, you can modify the show field and refresh on/off value of the dynamic text (refresh or no refresh).</p> <p><b>Note:</b> If the refresh option is selected, the text refreshes once per second.</p>

### Using the Setup Configuration Tab




You can use the *Setup Configuration* tab by following steps:

1. Select a setup screen and a sub setup screen.  
For example : Advanced->Super IO Configuration  
**Note :** Some of the setup screen does not have sub setup screen.
2. Click on *Show*, *Access level*, *Fail-safe* or *Optional* fields to modify setup options.  
**Note :** When modifying *Failsafe/Optional* fields, some items have only list of numbers. These items are implemented using AMIBIOS external functions. Its required executing AMIBIOS code is used to define the list of all possible options for setup items. These fields are filled with numeric identifiers because external functions are not available after booting.
3. To save the changes you have made to the AMIBIOS ROM file, click on the *File* menu bar and select *Save* menu item. You can also click  icon on *Toolbar* to save the changes you have made.  
**Note :** You can click on the *Undo* button to restore the original setup settings before saving any new changes.

### Changing SETUP screen layout in Setup Configuration Tab

You can change SETUP screen layout in *Setup Configuration* tab by following steps:

- **Menu Item layout**
  1. Choose a Menu Item you want to move on left side of *Setup Configuration* tab.
  2. Click and hold on left button of mouse.
  3. Drop the chosen Menu Item to new place.  
While the dropping operation is under running, you may see following icons:

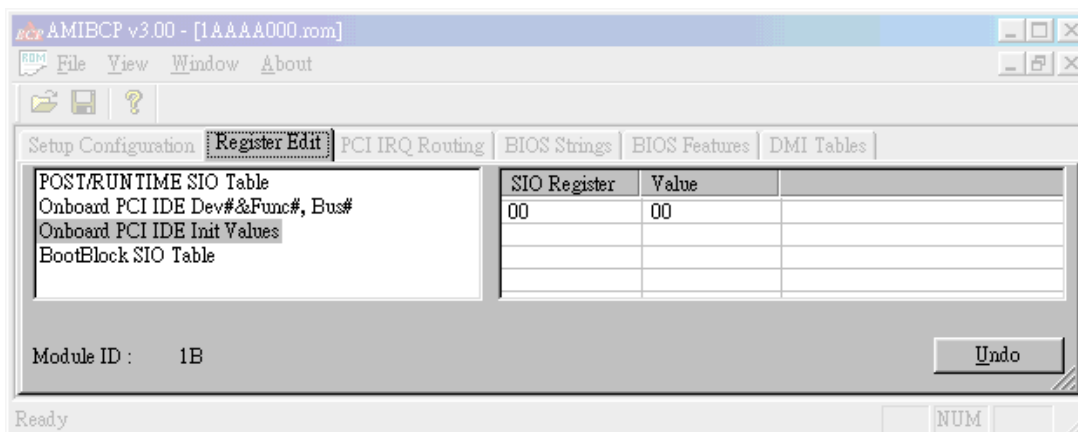
Icon	Description
	This icon indicates the chosen Menu Item will be subordinate to the focus item.
	This icon indicates the chosen Menu Item will be having same rank with the focus item.
	This icon indicates the chosen Menu Item may not move to the place where you like.

- **Question Item layout in same Menu**
  1. Choose a Menu Item on left side of *Setup Configuration tab*.
  2. Choose a Question Item you want to move on right side of *Setup Configuration tab*.
  3. Click and hold on left button of mouse.
  4. Drop the chosen Question Item to new place.
- **Question Item layout between Menus**
  1. Choose a Menu Item on left side of *Setup Configuration tab*.
  2. Choose a Question Item you want to move on right side of *Setup Configuration tab*.
  3. Click right button of mouse to *Cut* the target Question Item.
  4. Choose the Menu Item you like on left side of *Setup Configuration tab*.
  5. Click right button of mouse on right side of *Setup Configuration tab* to *Paste* the cut Question Item.

## Register Edit Tab

The *Register Edit* tab allows you to edit the AMIBIOS register tables. Each table contains register, data, or other fields that can be edited.

**Note:** Depending on a particular BIOS table, more than two columns can be used.  
An example of the *Register Edit* tab is shown below:



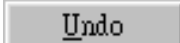
## Field

The *Register Edit* fields are explained in the following table:

Field	Description
Register	This field allows you to change the register address of a particular device or chipset.
Data	This field allows you to change the values to be programmed into the device or chipset.
Undo	This button allows you to restore the original register values.

## Buttons


The *Register Edit* button is explained in the following table:

Icon	Description
	This button allows you to restore the original setup settings. <b>Note :</b> This <i>Undo</i> button is used the same way throughout the AMIBCP program.

**Note :** It is not recommended to change chipset registers values without working knowledge about that specific chipset.

## Using the Register Edit Tab

You can use the *Register Edit* tab by following steps:

1. Click on the *Register* table to be edited from the list of that appear on the left side of screen. A list of register values or other data is displayed on the right side of the *Register Edit* tab screen.
2. To edit the fields, simply double-click on the field you want to modify and type in new value.
3. To save the changes you have made to the AMIBIOS ROM file, click on the *File* menu bar and select *Save* menu item. You can also click  icon on *Toolbar* to save the changes you have made.

**Note :** You can click on the *Undo* button to restore the original setup settings before saving any new changes.

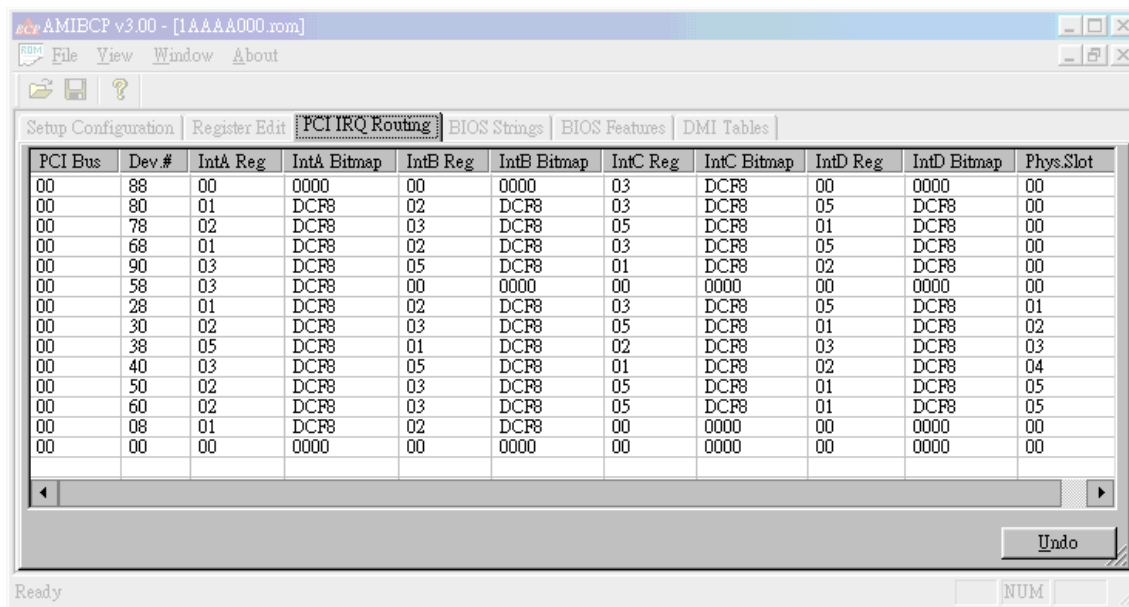
## PCI IRQ Routing Tab

The *PCI IRQ Routing* tab allows you to view and modify the *PCI IRQ Routing* table that is used by AMIBIOS during POST and runtime.

You can view and modify the following fields:

- PCI Bus
- Dev.#
- Int A-B-C-D Reg
- Int A-B-C-D Bitmap
- Phys.Slot

An example of the *PCI Routing* tab is shown below:



## Fields


The *PCI IRQ Routing* fields are explained in the following table:

Field	Description
PCI Bus	This field displays the PCI bus that the device/slot is on. <b>Note:</b> Most boards contain a single PCI bus, so this field is usually set to 0.
Dev.#	This field displays the PCI device/slot number. The value of this field is set to a slot or device address on the PCI bus shifted left by three bits (the device number must be in bits 7:3 and bits 2:0 must be 000).
Int A-B-C-D Reg	This field displays the chipset register number that controls the PCI slots (or device) Int A, B, C, and D Pin. The value in this field is basically arbitrary. Slots and devices that share the same chipset interrupt signal must have the same value for this field. <b>For example:</b> If Slot 1 Int A pin and Slot 2 Int B pin are both connected to the same chipset interrupt signal, then the chipset register value for Slot 1 Int A must match Slot 2 Int B. If a slot or device has nothing connected to its Int A pin, then this field must be set to 0. If a slot or device has its Int A pin hardwired directly to an IRQ, then this field is set to 0F <sub>x</sub> h (where x is 0-F for IRQ 0 - IRQ 15). This is useful if a motherboard has a PCI IDE chip that has its Int A pin hardwired to IRQ 14.
Int A-B-C-D Bitmap	This field displays the IRQ that the chipset is capable of routing to in the slots (or device) Int A, B, C, and D pin. <b>Note:</b> If the value for Chipset Register is set to 0, then all bits in this field are set to 0.

	<b>Note :</b> If the value for chipset register was set to 0F <sub>x</sub> h to indicate a hardwired connection to a certain IRQ, then only one bit corresponding to that IRQ must be set in this field.
Phys.Slot	This field displays the slot number of a PCI slot as it appears to the end user. Numbers like 1, 2, 3, and 4 must be used. <b>Note :</b> Onboard PCI devices such as PCI IDE chips must have this field set to 0 to indicate that the device is not a removable PCI adapter card.


### Buttons

The *PCI IRQ Routing* button is explained in the following table:

Icon	Description
	This button allows you to restore the original setup settings. <b>Note :</b> This <i>Undo</i> button is used the same way throughout the AMIBCP program.

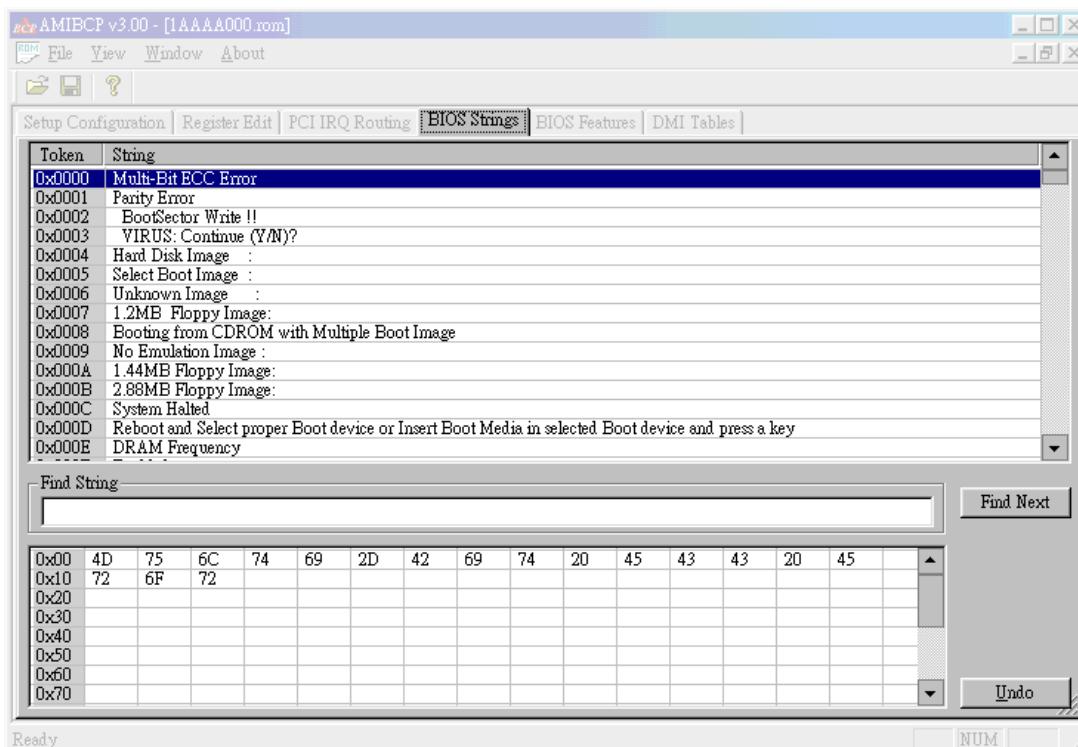
### Using the PCI IRQ Routing Tab

You can use the *PCI IRQ Routing* tab by following steps:

1. To modify any field in the *PCI IRQ Routing* table, simply double-click on any field you want to modify and type in new value.  
**Note :** You can add a new PCI entry into the table if all fields in the entry are set to zeros.
2. To save the changes you have made to the AMIBIOS ROM file, click on the *File* menu bar and select *Save* menu item. You can also click  icon on Toolbar to save the changes you have made.  
**Note :** You can click on the *Undo* button to restore the original setup settings before saving any new changes.

### BIOS String Tab

The *BIOS Strings* tab allows you to view and edit AMIBIOS strings.  
An example of the *BIOS Strings* tab is shown as below:



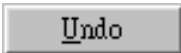
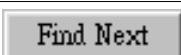
## Fields

The *BIOS String* fields are explained in the following table:

Field	Description
Token	The Token field displays the string handle that is used by AMIBIOS to reference the string.
String	The String field displays the AMIBIOS string as it appears in the AMIBIOS setup or POST screen. This field is editable.
Find String	This field allows you to find a specific string in BIOS Strings list. The string is case-insensitive.

## Buttons


The *BIOS String* button is explained in the following table:

Icon	Description
	This button allows you to restore the original setup settings. <b>Note :</b> This <i>Undo</i> button is used the same way throughout the AMIBCP program.
	This button allows you to find next string in BIOS Strings list.

## Using the BIOS String Tab



You can use the BIOS String tab by following steps:

1. To modify any string, double-click on it and type in the new string.
2. To save the changes you have made to the AMIBIOS ROM file, click on the *File* menu bar and select *Save* menu item. You can also click  icon on *Toolbar* to save the changes you have made.

**Note :** You can click on the *Undo* button to restore the original setup settings before saving any new changes.

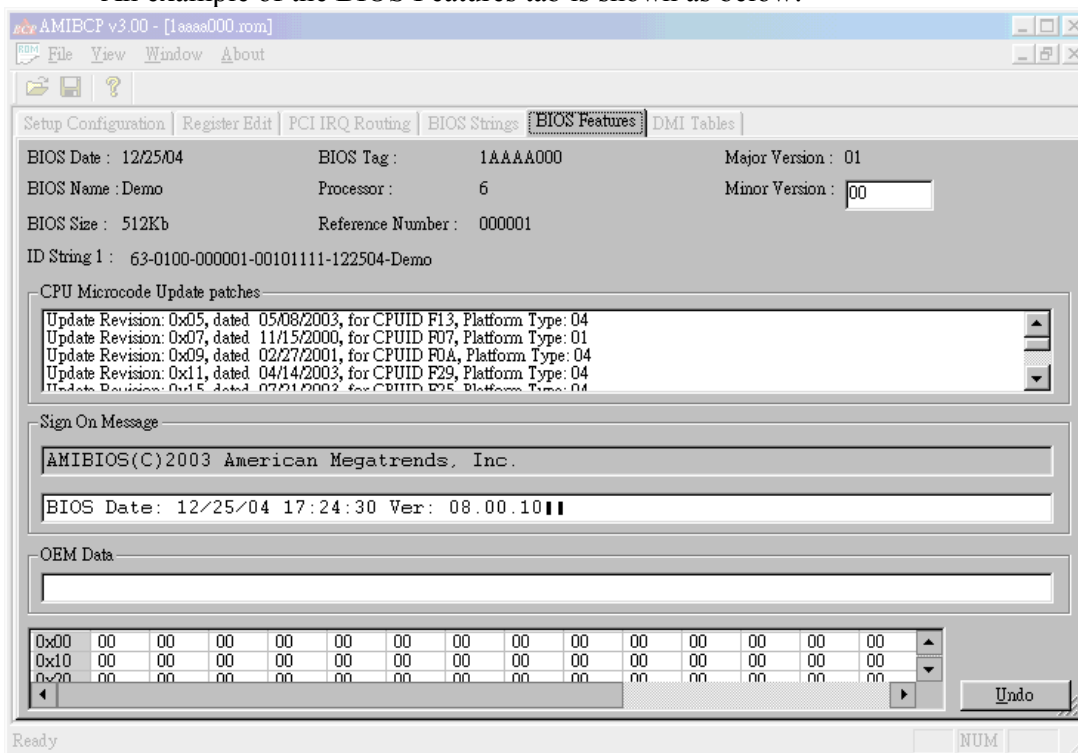
## BIOS String Tab

The *BIOS Features* tab allows you to view and configure some of the AMIBIOS features.

You can view the following fields:

- BIOS Date
- BIOS Name
- Processor
- Major Version
- ID String 1
- BIOS Size
- Reference Number
- CPU Microcode Update Patches
- Sign On Message
- OEM Data (If available)

An example of the BIOS Features tab is shown as below:




## Fields

The *BIOS Features* fields are explained in the following table:

Field	Description
BIOS Date	This field displays the date when the AMIBIOS ROM file was built. The value in this field cannot be changed.
BIOS Name	This field displays the name associated with the AMIBIOS ROM file. The value in this field cannot be changed.
Processor	This field displays the number that is used to define the processor type. The value in this field cannot be changed.
Major Version	This field displays the main AMIBIOS revision number that is used with the AMIBIOS release. The value in this field cannot be changed.
ID String 1	This field displays the ID string that is associated with the AMIBIOS ROM file. The value in this field cannot be changed.
BIOS Size	This field displays the actual size of the AMIBIOS ROM file. The value in this field cannot be changed.
BIOS Tag	This field displays the eight-character tag that is associated with the AMIBIOS ROM file. The value in this field cannot be changed.
Minor Version	This field displays the minor AMIBIOS revision number that is used with the AMIBIOS release. This field is editable.
CPU Microcode Update Patches	This field displays processor patches that are contained in the AMIBIOS ROM file. The values in this field cannot be changed.
Sign On Message	This field displays the AMIBIOS sign-on message that is displayed during POST. The AMIBIOS copyright string is not editable. <b>Note :</b> This field must not be more than 175 characters in length.
OEM Data	This field displays the OEM data that is provided by the AMIBIOS. This field is 62-bytes long and displayed in two modes (text and hexadecimal). This field is editable. <b>Note :</b> The OEM data area is supported on the AMIBIOS 8.00.08 core and later releases.


## Buttons

The *BIOS Features* button is explained in the following table:

Icon	Description
	This button allows you to restore the original setup settings. <b>Note :</b> This <i>Undo</i> button is used the same way throughout the AMIBCP program.

## Using the BIOS Feature Tab

You can use the *BIOS Feature* tab by following steps:

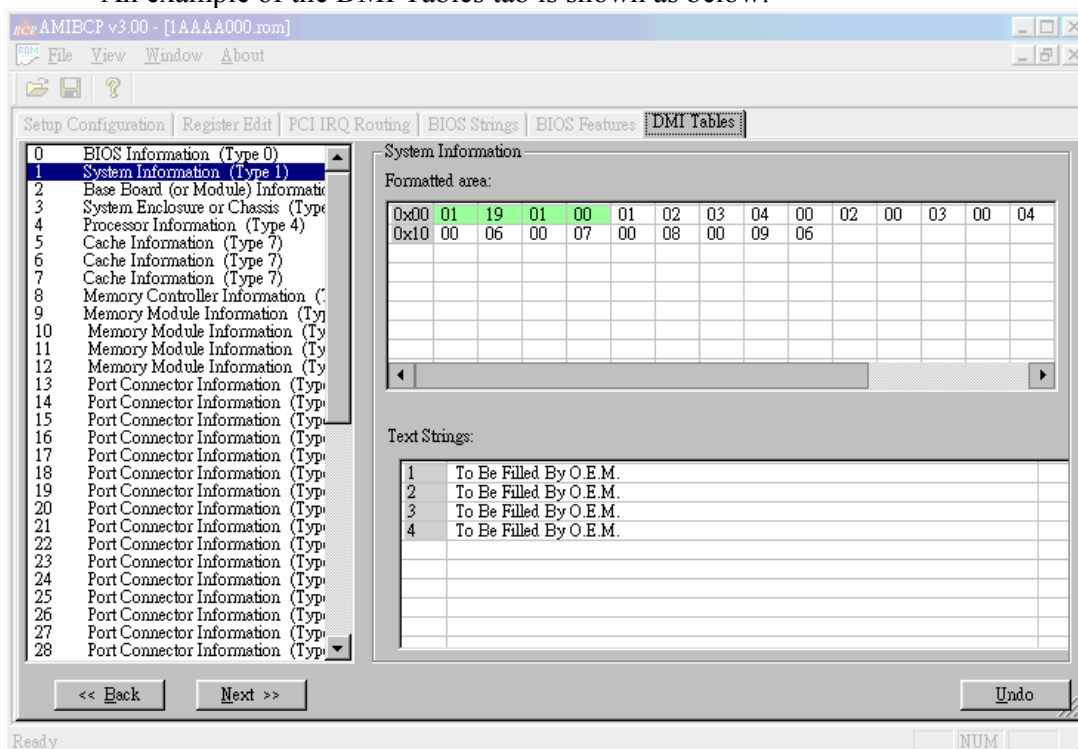
1. To modify any editable field, click on it and type in the new value.
2. To save the changes you have made to the AMIBIOS ROM file, click on the *File* menu bar and select *Save* menu item. You can also click  icon on *Toolbar* to save the changes you have made.

**Note :** You can click on the *Undo* button to restore the original setup settings before saving any new changes.

## DMI Tables Tab

The *DMI Tables* tab allows you to view and modify AMIBIOS DMI Tables such as BIOS information, system information, baseboard and so on.

An example of the DMI Tables tab is shown as below:



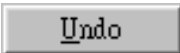
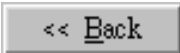
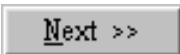
### Fields

The *DMI Tables* field are explained in the following table:

Field	Description
Formatted area	This field displays the DMI Tables values (in hex). You can modify all DMI table values except the first two bytes. Note: The first two bytes of the DMI Tables are used to define the table type and size.
Test Strings	This field displays the DMI Tables strings. You can modify these strings but you cannot change the number of strings.


### Buttons

The *DMI Tables* button is explained in the following table:

Icon	Description
	This button allows you to restore the original setup settings. <b>Note :</b> This <i>Undo</i> button is used the same way throughout the AMIBCP program.
	This button allows you to go to the previous DMI table in the table list.
	This button allows you to go to the next DMI table in the table list.

### Using the DMI Tables Tab

You can use the *DMI Tables* tab by following steps:

1. From the displayed *DMI Tables* list, select the table you want to view.
2. To edit the table, simply type in new values in the formatted or text strings areas.
3. To save the changes you have made to the AMIBIOS ROM file, click on the *File* menu bar and select *Save* menu item. You can also click  icon on *Toolbar* to save the changes you have made.

**Note :** You can click on the *Undo* button to restore the original settings before saving any new changes.