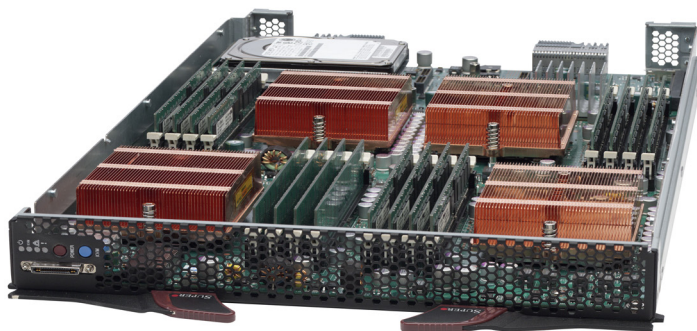




SBA-7141M-T Blade Module



BIOS Setup Manual

Revision 1.0

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Manual Revision 1.0

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SBA-7141M-T

Bios Setup Manual

1. Introduction

This document describes the Phoenix BIOS™ Setup utility for the SBA-7141M-T AMD Blade Module. The Phoenix ROM BIOS is stored in a flash chip and can be easily upgraded using a floppy disk-based program. See *Chapter 9* of the *AMD SuperBlade User's Manual* (MNL-0975) for further details.

2. Running Setup



NOTE: Default settings are in **bold** text unless otherwise noted.

The BIOS setup options described in this section are selected by choosing the appropriate text from the MAIN BIOS SETUP screen. All displayed text is described in this section, although the screen display is often all you need to understand how to set the options.

When you first power on the computer, the BIOS is immediately activated. While the BIOS is in control, the Setup program can be activated in one of two ways:

1. By pressing <DELETE> immediately after turning the system on, or
2. When the message **Press the <Delete> key to enter Setup** appears briefly at the bottom of the screen during the POST, press the <DELETE> key to activate the MAIN SETUP menu.

3. Main BIOS Setup Menu

The MAIN MENU screen has two main frames. The left frame displays all the options that can be configured. "Grayed-out" options cannot be configured. The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it.



NOTE: The BIOS has default text messages built in. SuperMicro retains the option to include, omit, or change any of these text messages.

Settings printed in **Bold** are the default values. Use the UP/DOWN arrow keys to move among the different settings in each menu. Use the LEFT/RIGHT arrow keys to change the options for each setting.

Items that use sub-menus are indicated with the ► icon. With the item highlighted, press the <ENTER> key to access the submenu.

The BIOS setup utility uses a key-based navigation system called hot keys. Most of these hot keys (<F1>, <F10>, <ENTER>, <ESC>, <ARROW> keys, and so on) can be used at any time during the setup navigation process. Press the <ESC> key to exit the CMOS SETUP menu.

When you first enter the AMI BIOS Setup utility, you will see the MAIN MENU screen. You can always return to the MAIN MENU by selecting the **Main** tab on the top of the screen with the arrow keys. The MAIN MENU screen provides you with a system overview, which includes the version, built date and ID of the AMIBIOS, the type, speed and number of the processors in the system and the amount of memory installed in the system.

System Time/System Date

You can edit the SYSTEM TIME/SYSTEM DATE field to change the system time and date. Highlight SYSTEM TIME or SYSTEM DATE using the <ARROW> keys. Enter new values through the keyboard. Press the <TAB> key or the <ARROW> keys to move between fields.

The date must be entered in **DAY/MM/DD/YYYY** format. The time is entered in **HH:MM:SS** format. Please note that time is in a 24-hour format. For example, 5:30 A.M. appears as 05:30:00 and 5:30 P.M. as 17:30:00.

4. Advanced Settings Menu

Choose **Advanced** from the BIOS Setup Utility main menu with the arrow keys. The items with a triangle beside them have sub menus that can be accessed by highlighting the item and pressing <ENTER>. Below is a list of all submenus in the ADVANCED SETTINGS menu:

- BOOT Settings Configuration
- CPU Configuration
- PCI/PnP Configuration
- Super IO Configuration
- Chipset Configuration
 - NorthBridge Configuration
 - SouthBridge/MCP55 Configuration
- Event Log Configuration
- PCI Express Configuration
- Remote Access Configuration
- System Health Monitor

BOOT Settings Configuration

The menu options in the BOOT SETTINGS CONFIGURATION submenu and their descriptions are shown in [Table 1](#).

Table 1. BOOT Settings Configuration Submenu

Menu Option	Description
Quick Boot	If ENABLED , this option will skip certain tests during POST to reduce the time needed for the system to boot up. The options are Enabled and DISABLED .
Quiet Boot	If Disabled , normal POST messages will be displayed on boot-up. If ENABLED , this display the OEM logo instead of POST messages.
Add-On ROM Display Mode	Set this option to display add-on ROM (read-only memory) messages. The options are Force BIOS and KEEP CURRENT . The default setting is Force BIOS . - Select Force BIOS to allow the computer system to force a third party BIOS to display during system boot. - Select KEEP CURRENT to allow the computer system to display the BIOS information during system boot.
Bootup Num-Lock	Set this value to allow the NUMBER LOCK setting to be modified during boot up. The options are On and Off .
Wait for 'F1' If Error	Select Enabled to activate the WAIT FOR F1 IF ERROR function. The options are Enabled and DISABLED .
Hit 'DEL' Message Display	Select Enabled to display message to hit the DEL key to enter SETUP . The options are Enabled and DISABLED .
Interrupt 19 Capture	Select Enabled to allow ROMs to trap Interrupt 19. The options are Enabled and DISABLED .
OS Installation	Change this setting if using a 64-bit Linux operating system. The available options are Other and LINUX .
► ACPI Configuration	
ACPI Version Features	Use this setting the determine which ACPI version to use. Options are ACPI v1.0 , ACPI v2.0 and ACPI v3.0 .
ACPI APIC Support	Determines whether to include the ACPI APIC table pointer in the RSMT pointer list. The available options are Enabled and DISABLED .
ACPI OEMB Table	Determines whether to include the ACPI APIC table pointer in the RSMT pointer list. The available options are Enabled and DISABLED .
Headless Mode	Use this setting to ENABLE or Disable headless operation mode through ACPI .
MCP55 ACPI HPET Table	Use this setting to either Enable or DISABLE the MCP55 ACPI HPET table.
► Power Configuration	
Power Button Mode	Allows the user to change the function of the power button. Options are On/Off and SUSPEND .
Restore on AC Power Loss	This setting allows you to choose how the system will react when power returns after an unexpected loss of power. The options are POWER OFF , POWER ON and Last State .

Table 1. BOOT Settings Configuration Submenu (Continued)

Menu Option	Description
Watch Dog Timer	This setting is used to ENABLE or Disable the WATCH DOG TIMER function. It must be used in conjunction with the WATCH DOG jumper.
I2C Switch	Auto or DISABLE the I2C switch.
► MPS Configuration	
MPS Revision	This setting allows the user to select the MPS revision level. The options are 1.1 and 1.4 .
► Smbios Configuration	
Smbios Smi Support	This setting allows SMI wrapper support for PnP function 50h-54h. The options are Enabled and DISABLED .

CPU Configuration

The menu options in the CPU CONFIGURATION submenu and their descriptions are shown in [Table 2](#).

Table 2. CPU Configuration submenu

Menu Option	Description
GART Error Reporting	This setting is used to Enable or Disable GART error processing.
Microcode Update	This setting is used to Enable or DISABLE microcode updates for Virtual Machine.
Secure Virtual Machine Mode	This setting is used to Enable or DISABLE processor-assisted virtualization.
Power Now	This setting is used to ENABLE or Disable the AMD Power Now feature.
Thermal Throttling	This setting is used to ENABLE or Disable Thermal Throttling.
Power Now	This setting is used to ENABLE or Disable the generation of ACPI _PCC, _PSS, and _PCT objects.
ACPI SRAT Table	Enable or Disable the building of an ACPI SRAT Table.
Thermal Throttling	This setting is used to ENABLE or Disable Thermal Throttling.

SATA Configuration

The menu options in the FLOPPY/IDE/SATA Configuration submenu and their descriptions are shown in [Table 3](#).

Table 3. SATA Configuration submenu

Menu Option	Description
Serial ATA 0 Primary Channel	While entering BIOS, it auto detects the presence of IDE devices. This displays the status of auto detection of IDE devices.
Hard Disk Write Protect	Disable/ Enable device write protection. This will be effective only if device is accessed through BIOS.

PCI/PnP Configuration

The menu options in the PCI/PNP CONFIGURATION submenu and their descriptions are shown in [Table 4](#).

Table 4. PCI/PnP Configuration submenu

Menu Option	Description
Clear NVRAM	Select YES to clear NVRAM during boot-up. The options are YES and No .
Plug & Play OS	Select YES to allow the OS to configure Plug & Play devices. NOTE: Selecting YES is not required for system boot if your system has an OS that supports Plug & Play. Select No to allow AMIBIOS to configure all devices in the system.
PCI Latency Timer	This option sets the latency of all PCI devices on the PCI bus. Select a value to set the PCI latency in PCI clock cycles. Options are 32, 64 , 96, 128, 160, 192, 224 and 248.
Allocate IRQ to PCI VGA	Set this value to allow or restrict the system from giving the VGA adapter card an interrupt address. The options are Yes and No.
Palette Snooping	Select ENABLED to inform the PCI devices that an ISA graphics device is installed in the system in order for the graphics card to function properly. The options are ENABLED and Disabled .
IRQ3/IRQ4/IRQ5/ IRQ7/IRQ9/IRQ10/ IRQ11/IRQ14/IRQ15	This feature specifies the availability of an IRQ to be used by a PCI/PnP device. Select RESERVED for the IRQ to be used by a Legacy ISA device. The options are Available and RESERVED.
DMA Channel 0/ Channel 1/Channel 3/ Channel 5/Channel 6/ Channel 7	Select Available to indicate that a specific DMA channel is available to be used by a PCI/PnP device. Select RESERVED if the DMA channel specified is reserved for a Legacy ISA device. The options are Available and Reserved.
Reserved Memory Size	You may set reserved memory with this setting. The options are Disabled , 16K, 32K and 64K.

Super IO Configuration

The menu options in the SUPER IO CONFIGURATION submenu and their descriptions are shown in [Table 5](#).

Table 5. Super IO Configuration submenu

Menu Option	Description
Serial Port1 Address	This option specifies the base I/O port address and Interrupt Request address of serial port 1. The options are DISABLED, 3F8/IRQ4, 3E8/IRQ4 and 2E8/IRQ3. • Select DISABLED to prevent the serial port from accessing any system resources. When this option is set to DISABLED, the serial port physically becomes unavailable. • Select 3F8/IRQ4 to allow the serial port to use 3F8 as its I/O port address and IRQ 4 for the interrupt address.
Serial Port2 Address	This option specifies the base I/O port address and Interrupt Request address of serial port 2. The options are DISABLED, 2F8/IRQ3, 3E8/IRQ4 and 2E8/IRQ3. Select DISABLED to prevent the serial port from accessing any system resources. When this option is set to DISABLED, the serial port physically becomes unavailable. Select 2F8/IRQ3 to allow the serial port to use 2F8 as its I/O port address and IRQ 3 for the interrupt address.
Serial Port 2 Mode	This tells the BIOS which mode to select for serial port 2. The options are Normal, IRDA and ASKIR.

Chipset Configuration

The CHIPSET CONFIGURATION submenu contains two submenus as shown in [Table 6](#).

Table 6. Chipset Configuration submenu

Menu Option	Description
► NorthBridge Configuration	This menu option configures the NorthBridge Chip. See Table 7 for details.
► SouthBridge/MCP55 Configuration	This menu option configures the SouthBridge/MCP55 Chip. See Table 8 for details.

NorthBridge Configuration

The menu options in the NORTHBRIDGE CONFIGURATION submenu and their descriptions are shown in [Table 7](#).

Table 7. NorthBridge Configuration submenu

Menu Option	Description
► Memory Configuration	
Bank Interleaving	Select Auto to automatically enable interleaving-memory scheme when this function is supported by the processor. The options are Auto and Disabled.
Enable Clock to All DIMMs	Use this setting to enable unused clocks to all DIMMs, even if some DIMM slots are unpopulated. Options are ENABLED and Disabled .
Mem Clk Tristate C3/ALTVID	Use this setting to ENABLE or Disable memory clock tristate during C3 and ALT VID.
Memory Hole Remapping	When ENABLED , this feature enables hardware memory remapping around the memory hole. Options are Enabled and DISABLED .
CS Sparing Enable	Use this setting to ENABLE or Disable the CS Sparing function.
DCT Unganged Mode	This allows selection of unganged DRAM mode (64-bit width). Options are Auto (Ganged Mode) and ALWAYS (unganged mode).
► ECC Configuration	
ECC Mode	DRAM ECC allows hardware to report and correct memory errors automatically. Options are Enabled and DISABLED. 4-Bit ECC Mode – Allows you to enable 4-bit ECC mode (also known as ECC Chipkill). Options are ENABLED and Disabled. - DRAM Scrub Redirect – Allows the system to correct DRAM ECC errors immediately, even with background scrubbing on. Options are ENABLED and Disabled. - DRAM BG Scrub – Corrects memory errors so later reads are correct. Options are Disabled and various times in nanoseconds and microseconds.
Power Down Enable	Enable or DISABLE DDR power down mode.
Power Down Mode	Set DDR power down mode to Channel or CHIP SELECT .
Alternate VID	Specifies and alternate VID while in low power states. Options are Auto and various voltages between .8V and 1.115V.
Memory Timing Parameters	Allows the user to select which CPU Node's timing parameters (memory clock, etc.) to display. Options are CPU Node 0 , CPU NODE 1 , CPU NODE 2 and CPU NODE 3 .
► DRAM Timing Configuration	
Memory Clock Mode	Set the Memory Clock Mode. Options are Auto , LIMIT and MANUAL .
DRAM Timing Mode	Set the DRAM Timing Mode. Options are Auto , DCT0 , DCT1 and BOTH .

SouthBridge/MCP55 Configuration

The menu options in the SOUTHBRIDGE/MCP55 CONFIGURATION submenu and their descriptions are shown in [Table 8](#).

Table 8. SouthBridge/MCP55 Configuration submenu

Menu Option	Description
CPU/LDT Spread Spectrum	Enables spread spectrum for the CPU/LDT. Options are Center Spread , DOWN SPREAD or DISABLED.
PCI-E Spread Spectrum	Allows you to Enable or DISABLE spread spectrum for PCI-Express.
SATA Spread Spectrum	Enables spread spectrum for the SATA. Options are Enabled and DISABLED.
Primary Graphics Adapter	Options are PCI Express → PCI and PCI → PCI EXPRESS.
USB 1.1 Controller	Enable or DISABLE the USB 1.1 controller.
USB 2.0 Controller	Enable or DISABLE the USB 2.0 controller.
USB Devices Enabled	This menu option is greyed out and cannot be configured by the user.
Legacy USB Support	Select Enabled to enable the support for USB Legacy. Disable Legacy support if there are no USB devices installed in the system. AUTO disables Legacy support if no USB devices are connected. The options are DISABLED, Enabled and AUTO.
USB 2.0 Controller Mode	Select the controller mode for your USB ports. Options are HiSpeed and FULLSPEED. (HiSpeed=480 Mbps, FullSpeed=12 Mbps).
BIOS EHCI Hand-Off	Enable or DISABLE a workaround for OS's without EHCI hand-off support.
► USB Mass Storage Device Configuration	
USB Mass Storage Reset Delay	This sets the number of seconds POST waits for the USB mass storage device after the START unit command. Options are 10 SEC, 20 sec , 30 SEC AND 40 SEC.
► Emulation Type	
Device 1 Emulation Type	Options are Auto , FLOPPY, FORCED FDD, HARD DISK and CDROM. If Auto , then USB devices less than 530 MB will be emulated as floppy and remaining as hard drive. Forced FDD option can be used to force HDD formatted drive to boot as an FDD (example: ZIP Drive).
Device 2 Emulation Type	

Event Log Configuration

The menu options in the EVENT LOG CONFIGURATION submenu and their descriptions are shown in [Table 9](#).

Table 9. Event Log Configuration submenu

Menu Option	Description
View Event Log	Highlight this item and press <ENTER> to view the contents of the event log.
Mark All Events as Read	Highlight this item and press <ENTER> to mark all events as read.
Clear Event Log	Select Yes and press <ENTER> to clear all event logs. The options are YES and No to verify.

PCI Express Configuration

The PCI EXPRESS CONFIGURATION submenu contains a single menu option as shown in [Table 10](#).

Table 10. PCI Express Configuration submenu

Menu Option	Description
Active State Power Management	Used to ENABLE or Disable the PCI L0 and L1 link power states.

Remote Access Configuration

The menu options in the REMOTE ACCESS CONFIGURATION submenu and their descriptions are shown in [Table 11](#).

Table 11. Remote Access Configuration submenu

Menu Option	Description
Remote Access	Allows you to ENABLE or Disable remote access. If enabled, the settings below will appear.
Serial Port Number	Selects the serial port to use for console redirection. Options are COM1 and COM2 .
Serial Port Mode	Selects the serial port settings to use. Options are (115200 8, n, 1) , (57600 8, N, 1) , (38400 8, N, 1) , (19200 8, N, 1) AND (09600 8, N, 1) .
Flow Control	Selects the flow control to be used for console redirection. Options are None , HARDWARE and SOFTWARE .
Redirection After BIOS POST	Options are DISABLE (no redirection after BIOS POST), BOOT LOADER (redirection during POST and during boot loader) and Always (redirection always active). Note that some OS's may not work with this set to Always.
Terminal Type	Selects the type of the target terminal: ANSI , VT100 and VT-UTF8 .
VT-UTF8 Combo Key Support	Allows you to Enable or DISABLE VT-UTF8 combination key support for ANSI/VT100 terminals.
Sredir Memory Display Delay	Use this setting to set the delay in seconds to display memory information. Options are No Delay , 1 SEC , 2 SECS and 4 SECS .

System Health Monitor

The SYSTEM HEALTH MONITOR submenu's menu option is shown in [Table 12](#).

Table 12. System Health Monitor submenu

Menu Option	Description
CPU Overheat Temperature	Use the "+" and "-" keys to set the CPU temperature threshold to between 65° and 90° C. When this threshold is exceeded, the overheat LED on the chassis will light up and an alarm will sound. The LED and alarm will turn off once the CPU temperature has dropped to 5 degrees below the threshold set. The default setting is 72o C .

Other items in the submenu are systems monitor displays for the following information: CPU1 TEMPERATURE, CPU2 TEMPERATURE, CPU3 TEMPERATURE, CPU4 TEMPERATURE, (for 4U systems), SYSTEM TEMPERATURE, CPU1 VCORE, CPU2 VCORE, CPU3 VCORE, CPU4 VCORE (for 4U systems), 3.3V VCC, +5VIN, +12VIN, 5V STANDBY and BATTERY VOLTAGE.

5. Boot Menu

The menu options for the BOOT menu are shown in [Table 13](#).

Table 13. Boot menu

Menu Option	Description
► Boot Device Priority	This feature allows the user to prioritize the boot sequence from the available devices. The devices to set are: • 1ST BOOT DEVICE • 2ND BOOT DEVICE • 3RD BOOT DEVICE • 4TH BOOT DEVICE
► Hard Disk Drives	This feature allows the user to specify the boot sequence from available hard disk drives.
1st Drive	Specifies the boot sequence for the 1st Hard Drive.
► CD/DVD Drives	This feature allows the user to specify the Boot sequence from the available drives.
1st Drive	Specifies the boot sequence for the 1st Removable Drive. The options are USB: PeppCMM Virtual Disc 1 and DISABLED .
2nd Drive	Specifies the boot sequence for the 1st Removable Drive. The options are USB: PeppCMM Virtual Disc 2 and DISABLED .

6. Security Menu

The menu options for the SECURITY menu are shown in [Table 14](#).

The AMI BIOS provides a **Supervisor** and a **User** password. If you use both passwords, the Supervisor password must be set first.

Table 14. Security Menu

Menu Option	Description
Change Supervisor Password	Select this option and press <ENTER> to access the sub menu, and then type in the password.
Change User Password	Select this option and press <ENTER> to access the sub menu, and then type in the password.
Boot Sector Virus Protection	This option is near the bottom of the SECURITY SETUP screen. The options are ENABLED and Disabled. • Select DISABLED to deactivate the Boot Sector Virus Protection. • Select ENABLED to enable boot sector protection. When ENABLED, the AMI BIOS displays a warning when any program (or virus) issues a <i>Disk Format</i> command or attempts to write to the boot sector of the hard disk drive.

7. Exit Menu

Select the EXIT tab from AMI BIOS SETUP UTILITY screen to enter the EXIT BIOS SETUP screen. The options for the EXIT menu are shown in [Table 15](#). You may also additionally press <Esc> to exit without saving or <F10> to save your settings and exit.

Table 15. Exit Menu

Menu Option	Description
Save Changes and Exit	When you have completed the system configuration changes, select this option to leave BIOS Setup and reboot the computer, so the new system configuration parameters can take effect. Select SAVE CHANGES AND EXIT from the EXIT menu and press <ENTER>.
Discard Changes and Exit	Select this option to quit BIOS Setup without making any permanent changes to the system configuration and reboot the computer. Select DISCARD CHANGES AND EXIT from the EXIT menu and press <ENTER>.
Discard Changes	Select this option and press <ENTER> to discard all the changes and return to AMI BIOS Utility Program.
Load Optimal Defaults	To set this feature, select LOAD OPTIMAL DEFAULTS from the EXIT menu and press <ENTER>. Then Select OK to allow BIOS to automatically load the OPTIMAL DEFAULTS as the BIOS Settings. The OPTIMAL SETTINGS are designed for maximum system performance, but may not work best for all computer applications.
Load Fail-Safe Defaults	To set this feature, select LOAD FAIL-SAFE DEFAULTS from the EXIT menu and press <ENTER>. The FAIL-SAFE settings are designed for maximum system stability, but not maximum performance.