

***Technical Manual***  
***Of***  
***Intel Pine Trail D Series CPU***  
***& ICH8M Chipset***  
***Based***  
***3.5'' SBC***

***NO.G03-NF38-F***

***Revision: 1.0***

***Release date: September 24, 2012***

**Trademark:**

- \* Specifications and Information contained in this documentation are furnished for information use only, and are subject to change at any time without notice, and should not be construed as a commitment by manufacturer.

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## Environmental Protection Announcement

Do not dispose this electronic device into the trash while discarding. To minimize pollution and ensure environment protection of mother earth, please recycle.



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## Environmental Safety Instruction

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- Avoid the dusty, humidity and temperature extremes. Do not place the product in any area where it may become wet.
- 0 to 60 centigrade is the suitable temperature. (The figure comes from the request of the main chipset)
- Generally speaking, dramatic changes in temperature may lead to contact malfunction and crackles due to constant thermal expansion and contraction from the welding spots' that connect components and PCB. Computer should go through an adaptive phase before it boots when it is moved from a cold environment to a warmer one to avoid condensation phenomenon. These water drops attached on PCB or the surface of the components can bring about phenomena as minor as computer instability resulted from corrosion and oxidation from components and PCB or as major as short circuit that can burn the components. Suggest starting the computer until the temperature goes up.
- The increasing temperature of the capacitor may decrease the life of computer. Using the close case may decrease the life of other device because the higher temperature in the inner of the case.
- Attention to the heat sink when you over-clocking. The higher temperature may decrease the life of the device and burned the capacitor.

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## Manual Revision Information

Reversion	Revision History	Date
1.0	First Edition	September 24, 2012

## Item Checklist

- ☒ Motherboard
- ☒ User's Manual
- ☒ CD for motherboard utilities
- ☒ Cable(s)

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# Chapter 1

## Introduction of the Motherboard

### 1-1 Feature of Motherboard

- Onboard Intel® Pine Trail D Processor + ICH8M Chipset, with low power consumption never denies high performance
- Support SODIMM DDRIII 800 Single Channel, up to 4GB
- Support 1 \* SATAII Device
- Onboard one CF/CF to SATA card Slot and two Mini PCIE slots
- Onboard 4 \* RJ-45 gigabit Ethernet LAN ports
- Integrated with 1 \* 18-bit Single Channel LVDS header
- Support USB 2.0 data transport demands
- Support CPU Smart FAN
- Compliance with ErP standard
- Support Watchdog function

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## 1-2 Specification

Spec	Description
Design	● 3.5"SBC; 6 layers; PCB size: 14.8x 10.2 cm
Chipset	● Intel® ICH8M Express chipset
Embedded CPU	● Intel® PineTrail D CPU
Memory Slot	● 1 * DDRIII SODIMM Slot for un-buffered Single Channel DDRIII 800 MHz SDRAM, expandable to 4GB <b>Notice:</b> <i>*Support Small Outline DIMMs Raw Cards RC-B(1Rx8), and RC-F (2Rx8). Does not support RC-A (2Rx16), RC-C (1Rx16), RC-D (2Rx16 dual die), and RC-E(2Rx16)</i>
Expansion Slots	● CF/CF to SATA card slot x1 ● Mini-PCI E slot x2
LAN Chip	● Integrated with four Realtek RTL8111EVL PCI-E Gigabit LAN chips ● Support Fast Ethernet LAN function of providing 10/100/1000Mbps Ethernet data transfer rate
BIOS	● AMI 8MB Flash ROM
Rear I/O	● DC12V power-in connector x1 ● Serial port x1 ● USB 2.0 port x 2 ● RJ-45 LAN port x4
Internal I/O	● SATAII 3 Gb/s port & SATA Power connector x1 ● CPU FAN header x1 ● Serial port header x1 ● GPIO header x1 ● CIR header x1 ● 9-pin USB 2.0 header x2 (Expandable to 4* USB 2.0 ports)

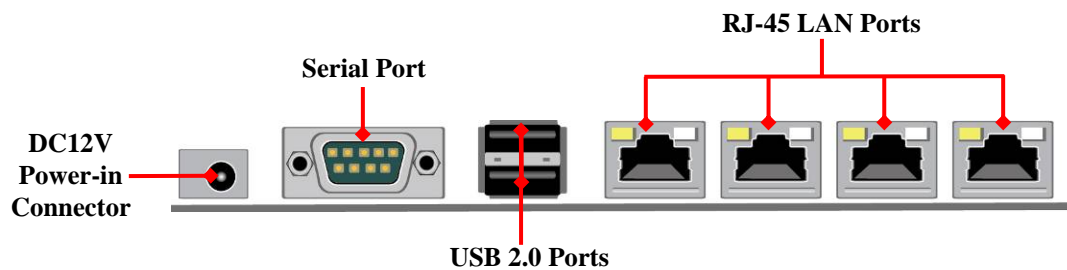
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	<ul style="list-style-type: none"><li>● Front panel header x1</li><li>● LANLED header x1</li><li>● VGA header x1</li><li>● LVDS connector x1</li><li>● LVDS inverter x1</li></ul>
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## 1-3 Layout Diagram

*Rear IO Panel Diagram:*

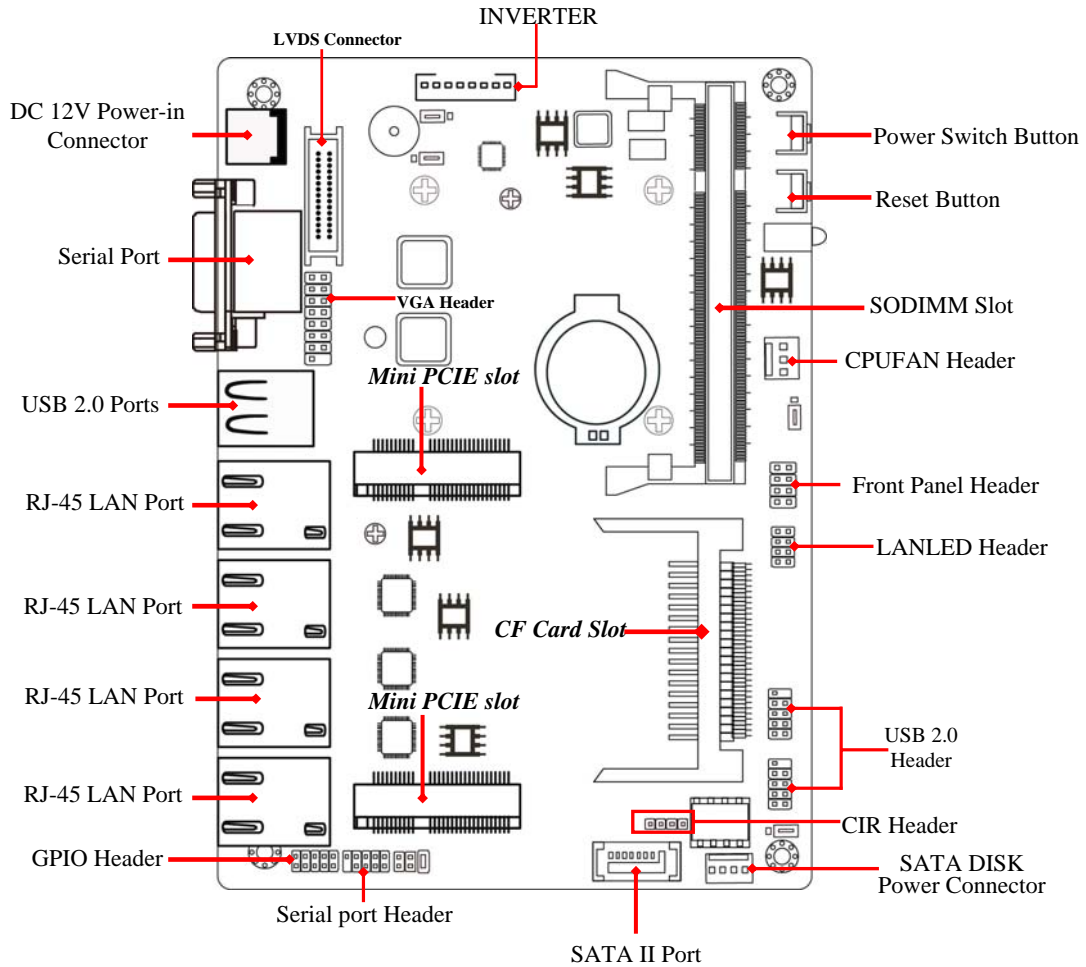




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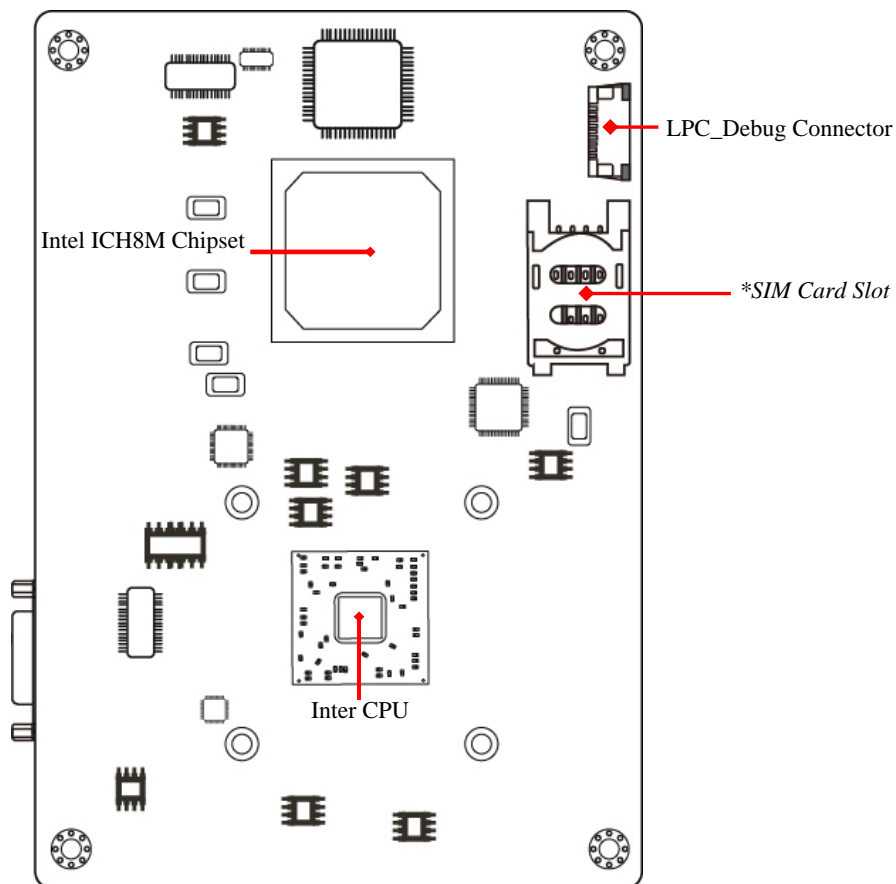
***Internal Diagram-Front Side:***



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*Internal Diagram-Back Side:*

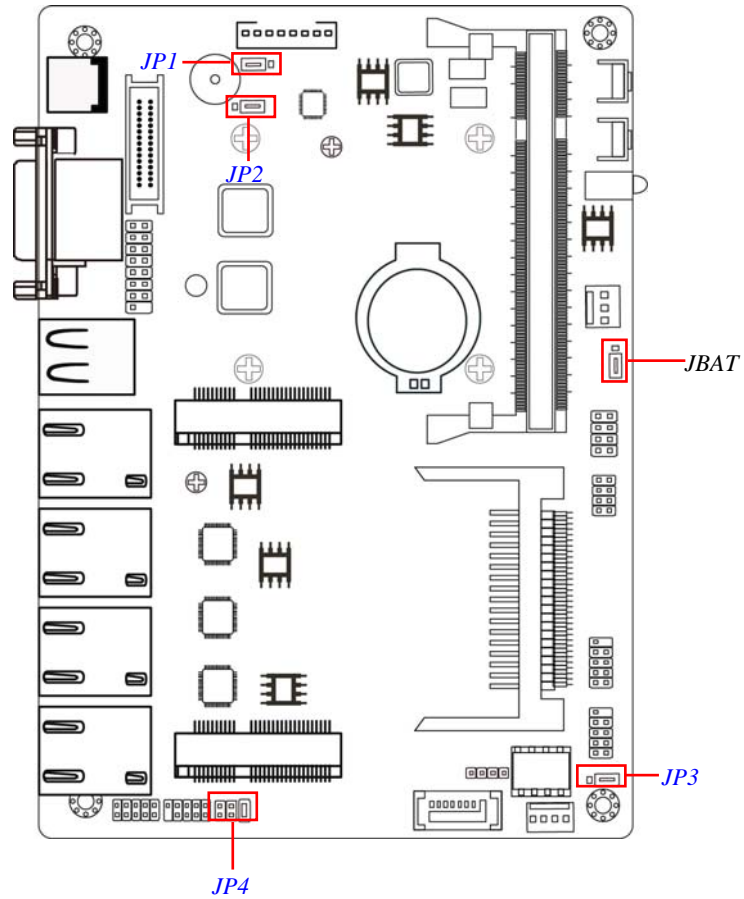


**\*Note:** SIM card slot is optional, depending on the model you purchase.

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*Jumper Position:*



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## ***Jumper***

<b>Jumper</b>	<b>Name</b>	<b>Description</b>
JP1	INVERTER VCC 12V/5V Select	3-Pin Block
JP2	LVDS PVCC 5V/3.3V Select	3-Pin Block
JP3	CF Card Master/Slave Mode Select	3-Pin Block
JP4	COM2 Header Pin9 Function Select	6-Pin Block
JBAT	CMOS RAM Clear Function Setting	3-Pin Block

## ***Connectors***

<b>Connector</b>	<b>Name</b>
J1	DC 12V Power –in Connector
COM1	Serial Port COM Connector
USB1	USB 2.0 Port Connectors
LAN1/2/3/4	RJ-45 LAN Connectors
PWOUT	SATA Power out Connector
SATA1	SATAII Connector
CPUFAN	CPUFAN Connector
INVERTER	LVDS Inverter Connector

## ***Headers***

<b>Header</b>	<b>Name</b>	<b>Description</b>
USB2/3	USB 2.0 header	9-pin block
JW_FP	Front Panel Header(PWR LED/ HD LED/ /Power Button /Reset)	8-pin Block
LANLED	LANLED Header	8-pin Block
VGA	VGA Header	15-pin Block
LVDS	18-bit LVDS header	30-pin Block
CIR	CIR header	4-pin block
COM2	Serial port headers	9-pin block
GPIO	GPIO header	10-pin block

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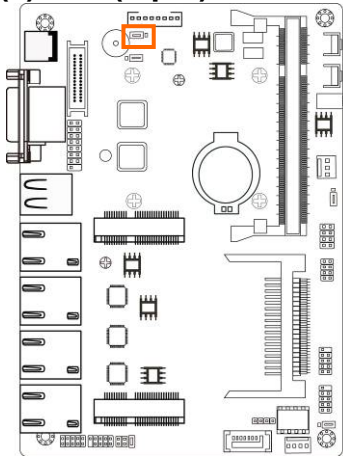
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# Chapter 2

## Hardware Installation

### 2-1 Jumper Setting

(1) JP1 (3-pin): INVERTER VCC 12V/5V Select



JP1

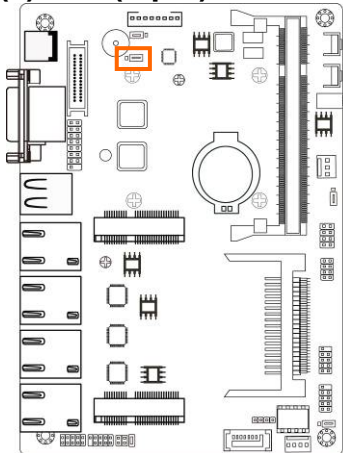


JP1

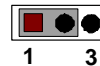


1-2 Closed: Inverter 12V Selected; 2-3 Closed: Inverter 5V Selected

(2) JP2 (3-pin): LVDS PVCC 5V/3.3V Function Select



JP2



JP2

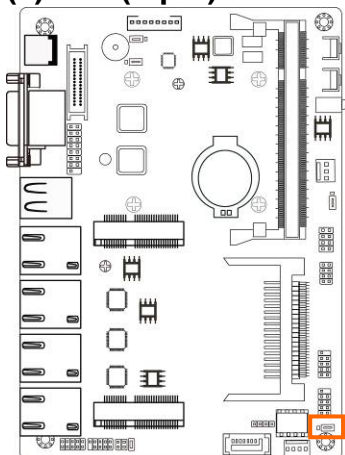


1-2 Closed: LVDS PVCC= 5V; 2-3 Closed : LVDS PVCC= 3.3V

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### (3) JP3 (3-pin): CF Card Master /Slave Mode Select



JP3

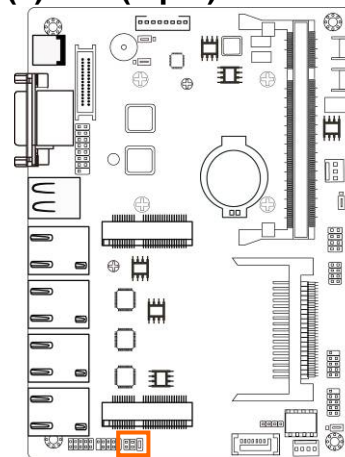


JP3

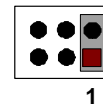
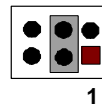
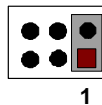


1-2 Closed: CF Card Slave Mode; 2-3 Closed :CF card Master Mod

### (4) JP4 (6-pin): COM2 Header Pin9 Function Select



JP4

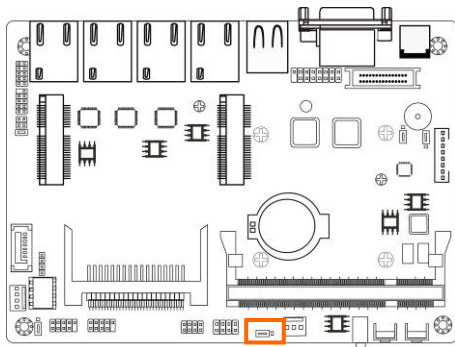


1-2 Closed: RS232; 3-4 Closed : +12V; 5-6 Closed : +5V

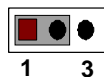
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## (5) JBAT (3-pin): Clear CMOS

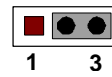


JBAT



1

3



1

3

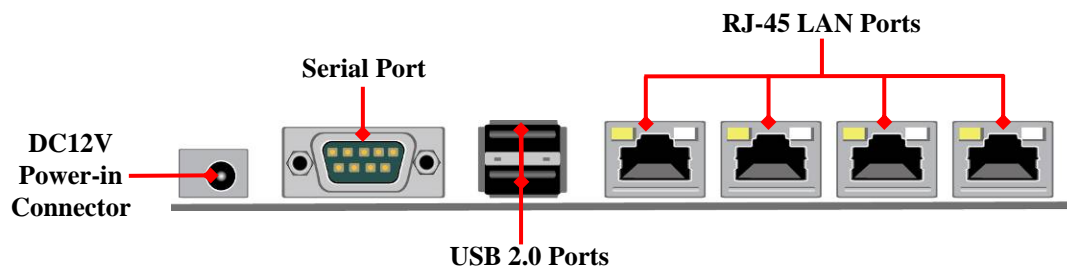
1-2 Closed: Normal; 2-3 Closed: Clear CMOS

CMOS Clear Setting

## 2-2 Connectors and Headers

### 2-2-1 Connectors

#### (1) Rear I/O Connectors

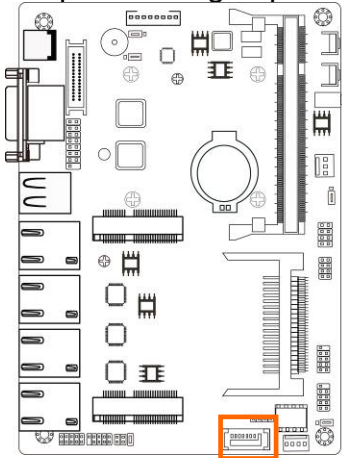


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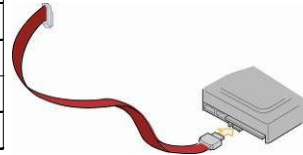
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## (2) SATAII Port connector: SATA1

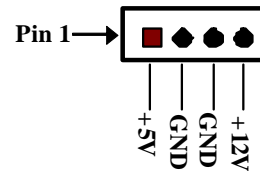
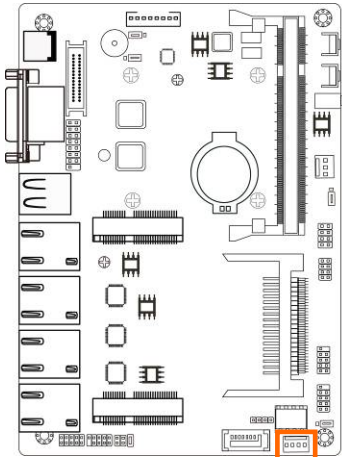
SATA1 port is a high-speed SATAII port that supports 3 GB/s transfer rate.



Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

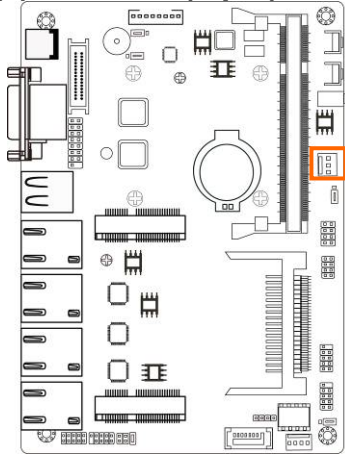


## (3) SATA Power Connector (4-pin): PWOUT

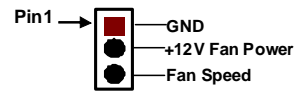




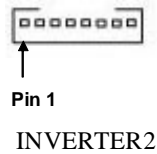
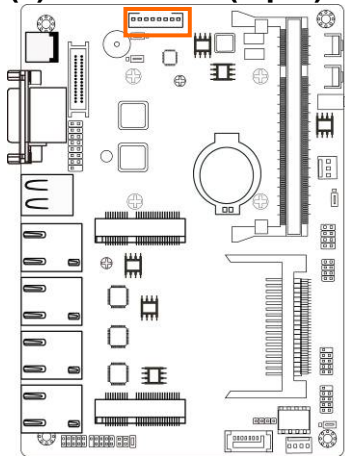
#### (4) CPUFAN (3-pin): CPUFAN Connector



CPUFAN



#### (5) INVERTER (8-pin): LVDS Inverter Connector

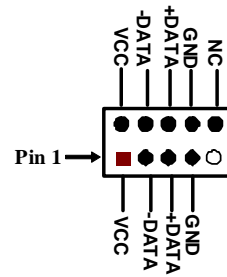
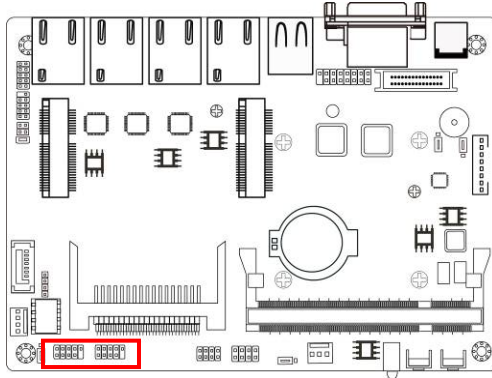


Pin No.	Definition
1	Backlight Enable
2	NC
3	PVCC
4	PVCC
5	GND
6	GND
7	NC
8	NC

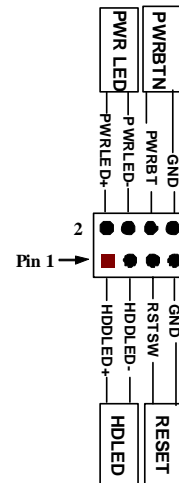
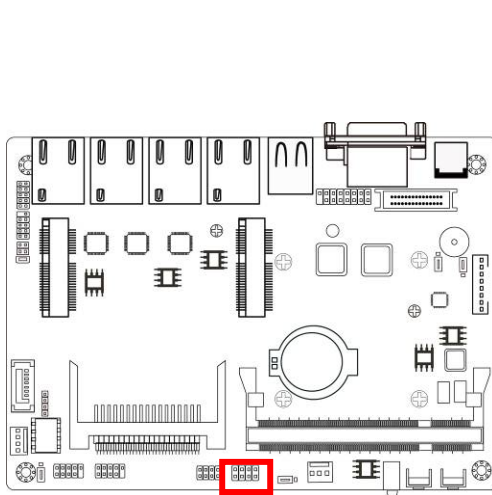
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## 2-2-2 Headers

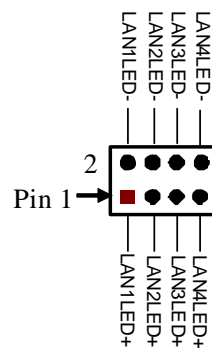
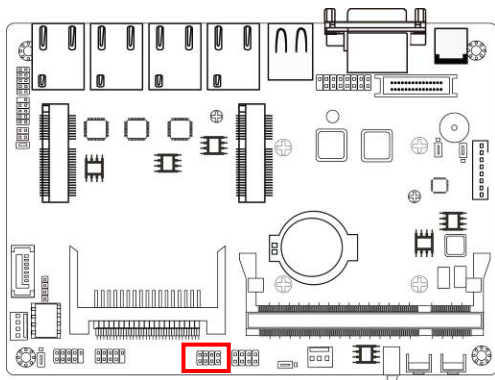
### (1) USB2/USB3 (9-pin): USB 2.0 Port Header



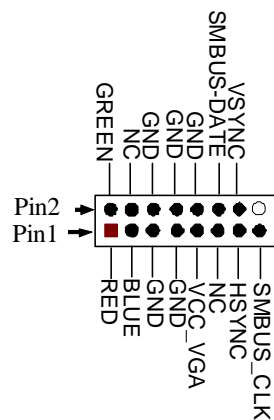
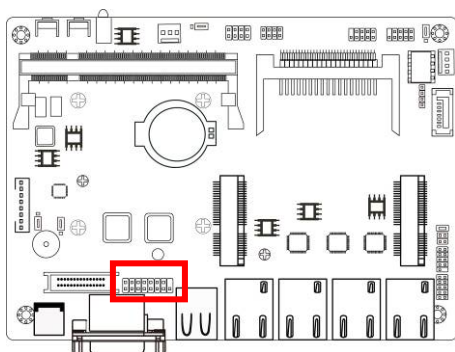
### (2) JW-FP: (8-pin) Front Panel Header



### (3) LANLED (8-pin): LANLED Header



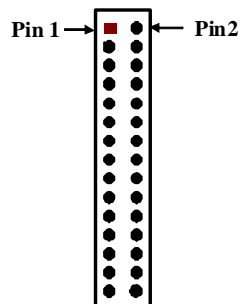
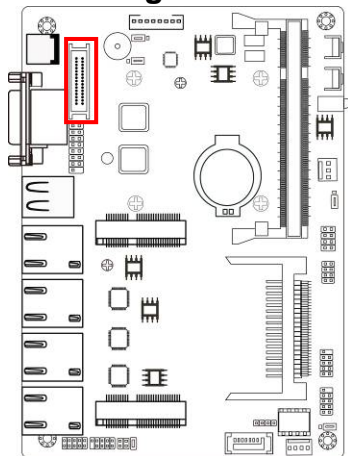
### (4) VGA (15-pin): VGA Header



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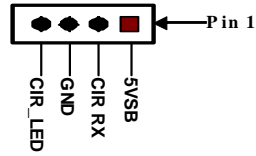
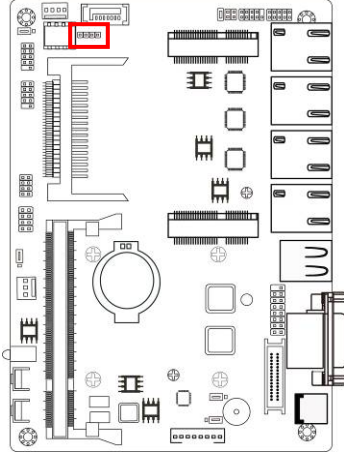
### (5) 18-bit Single Channel LVDS Header (30-pin): LVDS



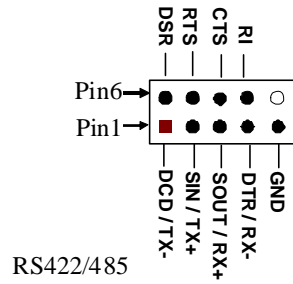
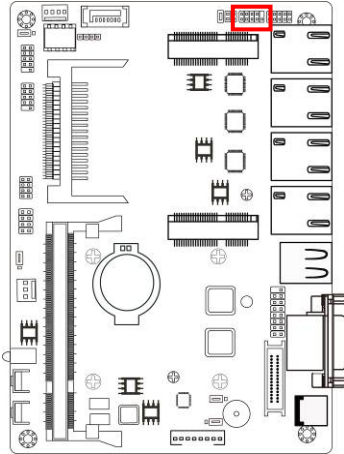
**LVDS Header**

Pin NO.	Pin Define	Pin NO.	Pin Define
Pin 1	NC	Pin 2	NC
Pin 3	NC	Pin 4	NC
Pin 5	NC	Pin 6	NC
Pin 7	NC	Pin 8	NC
Pin 9	NC	Pin 10	NC
Pin 11	NC	Pin 12	NC
Pin 13	GND	Pin 14	GND
Pin 15	GND	Pin 16	GND
Pin 17	NC	Pin 18	NC
Pin 19	LVDS_CLKAP	Pin 20	LVDS_CLKAN
Pin 21	LVDSA_DATAP2	Pin 22	LVDSA_DATAN2
Pin 23	LVDSA_DATAP1	Pin 24	LVDSA_DATAN1
Pin 25	LVDSA_DATAP0	Pin 26	LVDSA_DATAN0
Pin 27	PVCC	Pin 28	PVCC
Pin 29	PVCC	Pin 30	PVCC

## (6) CIR Header (4-pin): CIR



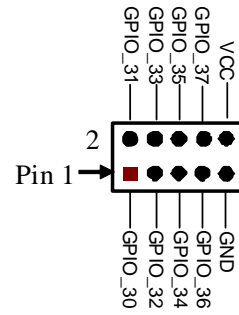
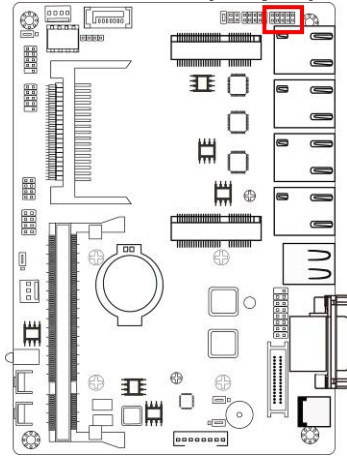
## (7) Serial Port Header (9-pin): COM2 (RS422/485)



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**(8) GPIO Header (10-pin): GPIO**



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## Chapter 3

### Introducing BIOS

**Notice!** The BIOS options in this manual are for reference only. Different configurations may lead to difference in BIOS screen and BIOS screens in manuals are usually the first BIOS version when the board is released and may be different from your purchased motherboard. Users are welcome to download the latest BIOS version from our official website.

The BIOS is a program located on a Flash Memory on the motherboard. This program is a bridge between motherboard and operating system. When you start the computer, the BIOS program will gain control. The BIOS first operates an auto-diagnostic test called POST (power on self test) for all the necessary hardware, it detects the entire hardware device and configures the parameters of the hardware synchronization. Only when these tasks are completed done it gives up control of the computer to operating system (OS). Since the BIOS is the only channel for hardware and software to communicate, it is the key factor for system stability, and in ensuring that your system performance as its best.

In the BIOS Setup main menu of Figure 3-1, you can see several options. We will explain these options step by step in the following pages of this chapter, but let us first see a short description of the function keys you may use here:

- Press <Esc> to quit the BIOS Setup.
- Press ↑↓←→ (up, down, left, right) to choose, in the main menu, the option you want to confirm or to modify.
- Press <F10> when you have completed the setup of BIOS parameters to save these parameters and to exit the BIOS Setup menu.

- 
- 
- Press +/- keys when you want to modify the BIOS parameters for the active option.

### **3-1 Entering Setup**

Power on the computer and by pressing <Del> immediately allows you to enter Setup. If the message disappears before your respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the “RESET” button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt> and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to

**Press <Del> to enter setup**

### **3-2 Getting Help**

#### **Main Menu**

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

#### **Status Page Setup Menu/Option Page Setup Menu**

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <Esc>.

### **3-3 The Main Menu**

Once you enter AMI ® BIOS CMOS Setup Utility, the Main Menu (Figure 3-1) will appear on the screen. The Main Menu allows you to select from fourteen setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.



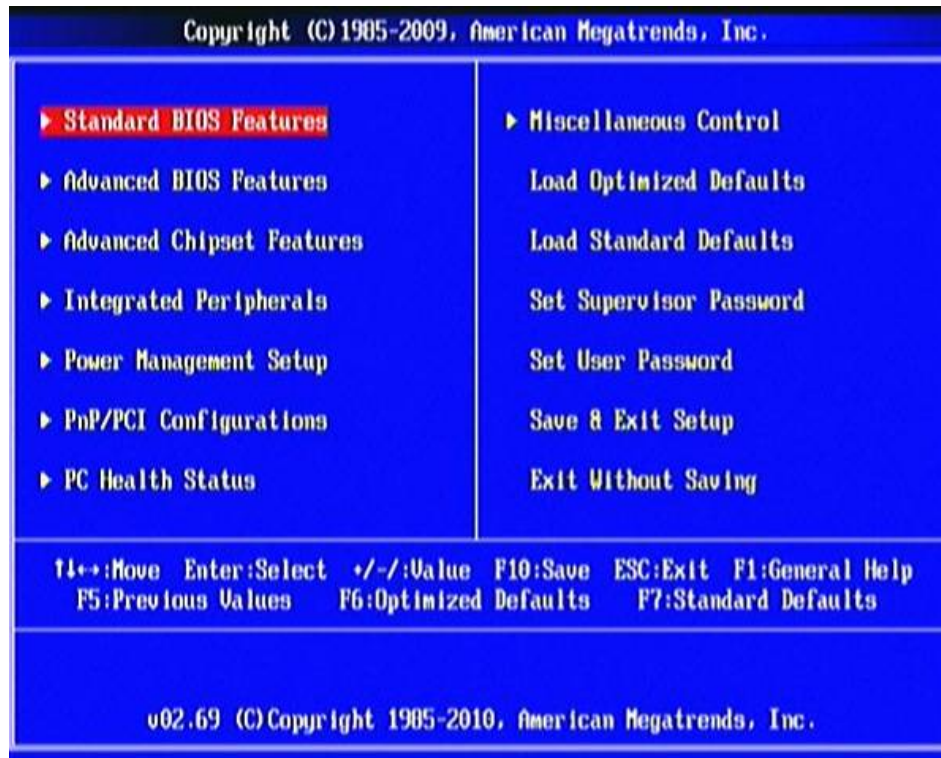


Figure 3-1

### Standard BIOS Features

Use this Menu for basic system configurations.

### Advanced BIOS Features

Use this menu to set the Advanced Features available on your system.

### Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

### Integrated Peripherals

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Use this menu to specify your settings for integrated peripherals.

**Power Management Setup**

Use this menu to specify your settings for power management.

**PnP/PCI Configurations**

Use this menu to specify your settings for PnP and PCI configurations.

**PC Health Status**

This entry shows your PC health status.

**Miscellaneous Control**

Use this menu to specify your settings for Miscellaneous Control.

**Load Optimized Defaults**

Use this menu to load the BIOS default values these are setting for optimal performances system operations for performance use.

**Load Standard Defaults**

Use this menu to load the BIOS default values for the minimal/stable performance system operation

**Set Supervisor Password**

Use this menu to set supervisor password.

**Set User Password**

Use this menu to set user password.

**Save & Exit Setup**

Save CMOS value changes to CMOS and exit setup.

**Exit Without Saving**

Abandon all CMOS value changes and exit setup.

## **3-4 Standard BIOS Features**

The items in Standard CMOS Setup Menu are divided into several categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

Copyright (C) 1985-2009, American Megatrends, Inc. Standard BIOS Features		
System Date	Tue 10/30/2012	Help Item
System Time	12:00:53	
▶ SATA Channel 1	Not Detected	Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.  Use [+] or [-] to configure system Date.
▶ CF-SATA	Not Detected	
▶ mSATA	Not Detected	
▶ CF Card Master	Not Detected	
▶ CF Card Slave	Not Detected	
System Memory Size : 2048MB		
↑←→:Move Enter:Select +/-:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

## System Date

Use [Enter], [TAB] or [SHIFT+TAB] to select setting filed. Then use [+] or [-] to configure system date.

The date format is <day><month><date><year>.

**Day** Day of the week is from Sun to Sat, determined by BIOS. Read-only.

**Month** The month is from Jan. through Dec.

**Date** The date from 1 to 31 can be keyed by numeric function keys.

**Year** The year depends on the year of the BIOS.

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## System Time

Use [Enter], [TAB] or [SHIFT+TAB] to select setting filed. Then use [+] or [-] to configure system time.

The time format is <hour><minute><second>.

### **SATA Channel 1/CF-SATA /mSATA/CF Card Master/CF Card Slave**

While entering setup, BIOS auto detects the presence of hard disk devices. This displays the status of auto detection of hard disk devices.

**Type:** The optional settings are: [Not Installed]; [Auto]; [CD/DVD] and [ARMD].

**LBA/Large Mode:** The optional settings are [Auto]; [Disabled].

Disabled: disables LBA mode.

Auto: enables LBA Mode if the devices support it and the device is not already formatted with LBA Mode disabled.

**Block (Multi-Sector Transfer):** The optional settings are: [Disabled] and [Auto].

Disabled: The Data transfer from and to the device occurs one sector at a time.

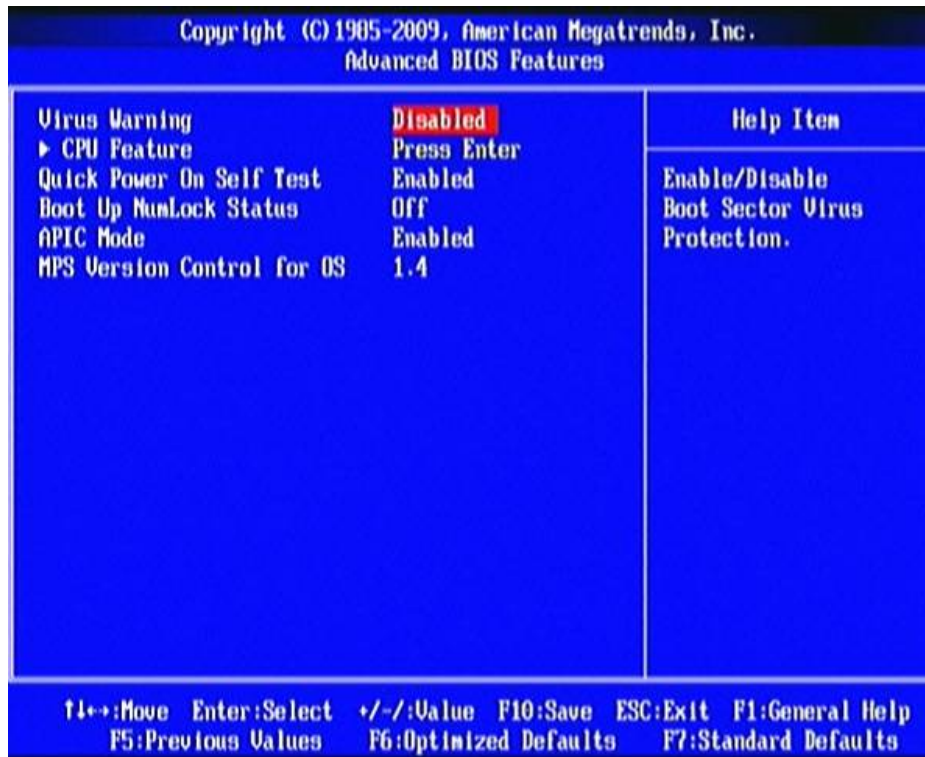
Auto: The Data transfer from and to the device occurs multiple sectors at a time if the device supports it.

**32 Bit Data Transfer:** the optional settings are: [Disabled] and [Enabled].

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## 3-5 Advanced BIOS Features



### Virus Warning

The selection Allow you to choose the VIRUS Warning feature for Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.

**Disabled** (default) No warning message to appear when anything attempts to access the boot sector or hard disk partition table.

**Enabled** Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector of hard disk partition table.

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### **Quick Power On Self Test**

This item allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system. The optional settings: [Disabled]; [Enabled].

### **Boot Up NumLock Status**

Use this item to select power-on state for Numlock key.

### **APIC Mode**

Use this item to include ACPI APIC table pointer to ESDT pointer list. The optional settings: [Disabled]; [Enabled].

### **MPS Version Control for OS**

This option is only valid for multiprocessor motherboards as it specifies the version of The Multiprocessor Specification (MPS) that the motherboard will use. The optional settings: [1.1]; [1.4].

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### 3-5-1 CPU Feature

Copyright (C) 1985-2009, American Megatrends, Inc.		
CPU Feature		
Hyper Threading Technology	Enabled	Help Item  Enabled for Windows XP and Linux4(OS optimized for Hyper Threading Technology) and disabled for other OS (OS not optimized for Hyper-Threading Technology)
Limit CPU MaxVal	Disabled	
Execute-Disable Bit Capabili	Enabled	
↑↓←→:Move Enter:Select +/-:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

#### Hyper Threading Technology

Enabled for Windows XP and Linux4(OS optimized for Hyper Threading Technology) and disabled for other OS (OS not optimized for Hyper–Threading Technology).

#### Limit CPU MaxVal

The optional settings are: [Disabled]; [Enabled].

#### Execute Disable Bit Capability

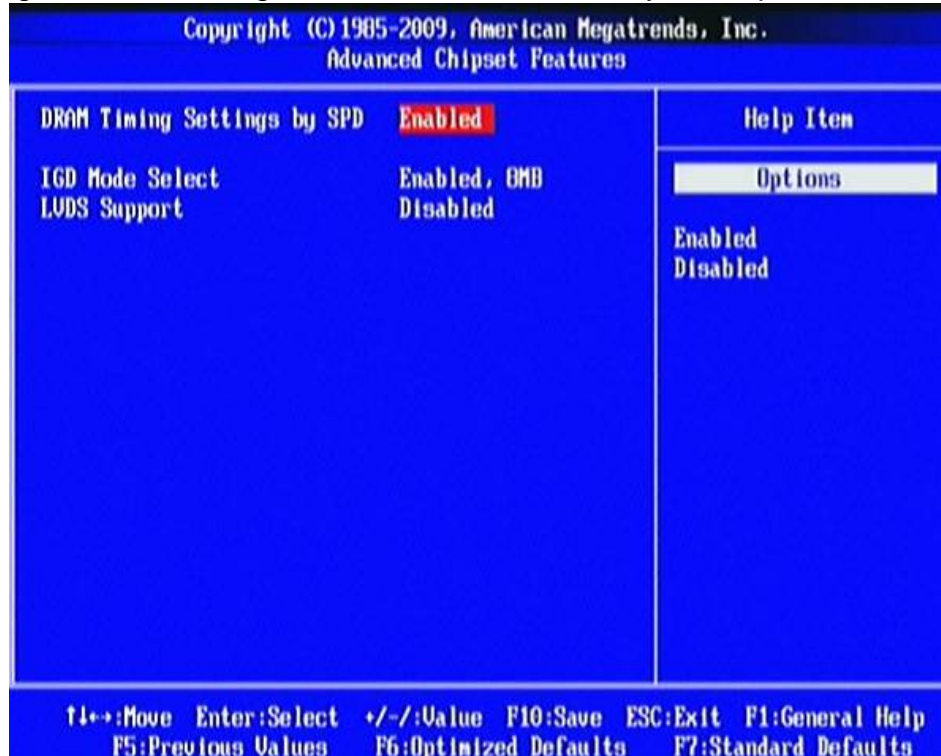
The optional settings are: [Disabled]; [Enabled]. When disabled, force the XD feature Flag to always return 0.

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## 3-6 Advanced Chipset Features

The Advanced Chipset Features Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.



### DRAM Timing Settings by SPD

The optional settings are: [Disabled]; [Enabled].

### IGD Mode Select

Use this item to select the amount of system memory used by the internal graphics device. The optional settings: [Disabled]; [Enabled, 8MB].

### LVDS Support

The optional settings are: [Enabled]; [Disabled].



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## 3-7 Integrated Peripherals



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## 3-7-1 Onboard SATA Function



### Onboard SATA as

The optional settings are: [IDE]; [AHCI].

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## 3-7-2 Onboard Device Function



### Extend Card LAN Boot ROM

The optional settings are: [Enabled]; [Disabled].

### Onboard LAN1 Controller/ Onboard LAN2 Controller/Onboard LAN3 Controller/ Onboard LAN4 Controller

The optional settings are: [Enabled]; [Disabled].

### Onboard LAN1 BootROM/ Onboard LAN3 BootROM/Onboard LAN4 BootROM

The optional settings are: [Enabled]; [Disabled].

### USB Host Controller

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The optional settings: [Enabled]; [Disabled].

### USB 2.0 Function

The optional settings: [Enabled]; [Disabled].

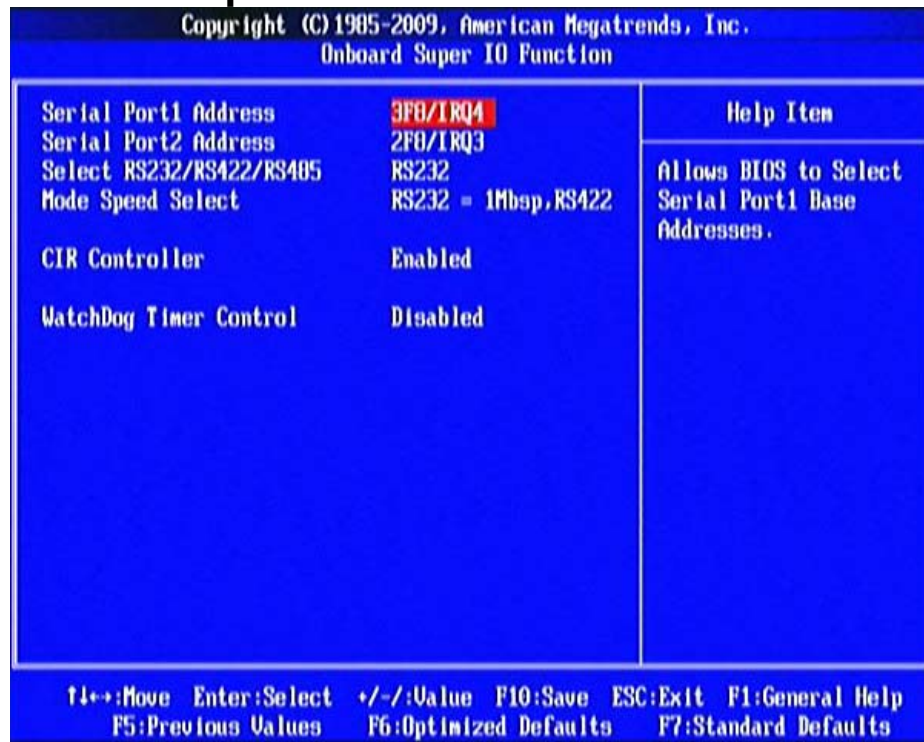
### USB 2.0 Operation Mode

Use this item to configure the USB 2.0 controller in HiSpeed(480Mbps) or FullSpeed(12Mbps).The settings are: [FullSpeed]; [HiSpeed].

### USB Keyboard Legacy/Mouse Legacy /Storage Legacy Support

Use these items to enable or disable legacy support for USB keyboard/mouse/ mass storage devices. The optional settings are: [Enabled], [Disabled].

## 3-7-3 Onboard Super IO Function



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### **Serial Port 1/2 Address**

This item allows BIOS to select base addresses for serial port 1/2.

### **Select RS232/RS422/RS485**

The optional settings are: [RS422];[RS232]; [RS485].

### **Mode Speed Select**

The optional settings are:

[RS232=1Mbps,RS422/485=10Mbps];[RS232/422/485=250Kbps].

### **CIR Controller**

The optional settings are: [Enabled]; [Disabled].

### **Watchdog Timer Control**

This item is used to activate the watchdog function. The optional settings are:

***When set as [Enabled], The following sub-items shall appear:***

### **WatchDog Timer Val**

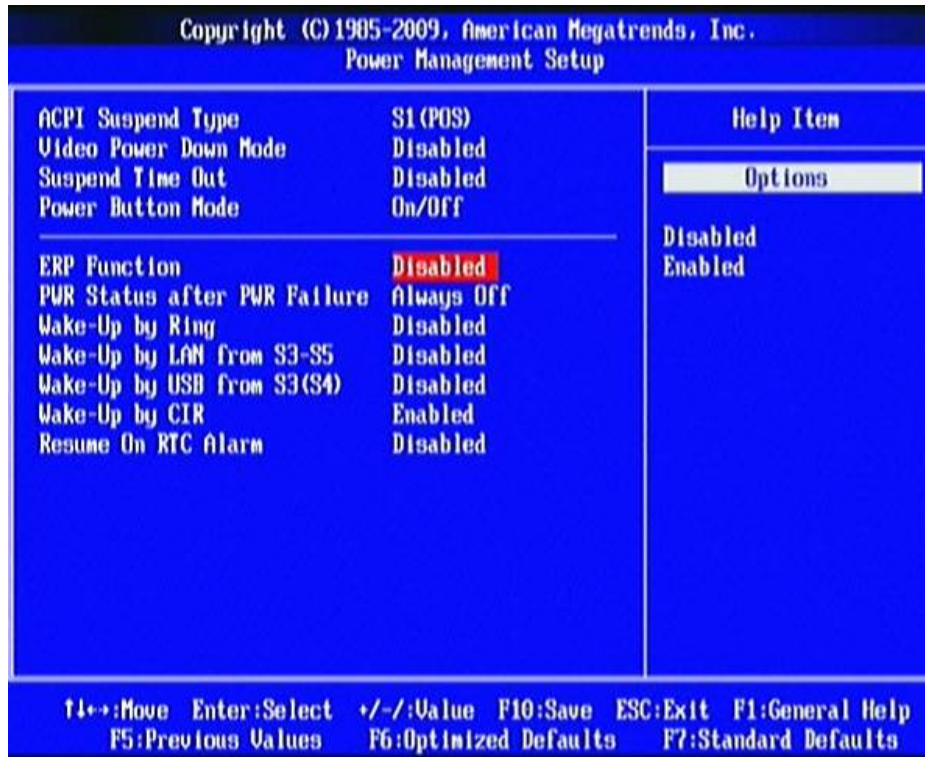
User can type a number in the range of 4 to 255.

### **WatchDog Timer Unit**

The optional settings are: [Sec.]; [Min.].

## **3-8 Power Management Setup**

The Power Management Setup allows you to configure your system to most effectively save energy saving while operating in a manner consistent with your own style of computer use.



### ACPI Suspend Type

Users can select the ACPI state used for system suspend. The optional settings are: [S1(POS)]; [S3(STR)].

### Video Power Down Mode

The optional settings: [Disabled]; [Standby]; [Suspend].

### Suspend Time Out

Use this item to select the specified time for system to go into suspend.

### Power Button Mode

Use this item to go into [On/Off] or [Delay 4 Sec] state when power button is pressed.

### ERP Function

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The optional settings are: [Enabled]; [Disabled]. When set as [Disabled], the following sub-items shall appear:

**PWR Status after PWR Failure**

The optional settings: [Always Off]; [Always On]; [Former Status].

**Wake-Up by Ring**

Use this item to enable or disable the function to wake up system from an ACPI sleep state by a wake-up signal from modem that supports this function,

**Wake-Up by LAN from S3-S5**

When set as [Enabled], system will wake up from S3-S5 by LAN PME.

**Wake-Up by USB from S3 (S4)**

Use this item to enable or disable the USB device wake up function from S3(S4) state.

**Wake-Up by CIR**

Use this item to enable or disable CIR wakeup. The optional settings are: [Enabled]; [Disabled].

**Resume On RTC Alarm.**

When set as [Enable], the system will automatically resume at a fixed time based on system RTC clock.

***When set as [Enabled], The following sub-items shall appear:***

**RTC Alarm Date (Days)**

Use this item to manually set the specific date (days) for system to resume from.

**System Time**

Use this item to manually set the specific time for system to resume from.

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## 3-9 PnP/PCI Configurations



### IRQ Resources

Press [Enter] to view IRQ availability.

[Available]: Specified IRQ is available to be used by PCI/PnP devices.

[Reserved]: Specified IRQ is reserved for use by legacy ISA devices.

## 3-10 PC Health Status

This section shows the Status of you CPU, Fan, and Warning for overall system status.

This is only available if there is Hardware Monitor onboard.



Copyright (C) 1985-2009, American Megatrends, Inc.		
PC Health Status		
Shutdown Temperature	Disabled	Help Item
CPU Thermal-Throttling	Disabled	
▶ Smart FAN Configurations	Press Enter	Options
CPU Temperature	56°C/132°F	Disabled
System Temperature	42°C/107°F	60°C/140°F
		65°C/149°F
CPUFAN Speed	6276 RPM	70°C/158°F
		75°C/167°F
Vcore	1.144 V	
NB 1.05V	1.048 V	
5VSB	5.002 V	
VDIMM	1.493 V	
+ 5V	5.002 V	
+ 12V	12.056 V	
Vcc3V	3.280 V	
3VSB	3.280 V	
VBat	3.328 V	
↑↓←→:Move Enter:Select +/-:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

### Shutdown Temperature

This item can let users set the Shutdown temperature, when CPU temperature over this setting the system will auto shutdown to protect CPU.

### CPU Thermal Throttling

The optional settings are: [Disabled]; [Enabled].

***When it is set as [Enabled], use can make settings for the following items that show up:***

### CPU Thermal-Throttling Temp.;

Use can select specific temperature for CPU Thermal Throttling function.

### CPU Thermal-Throttling Duty

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The optional settings are: [87.50%]; [75.00%]; [62.50%]; [50.00%]; [37.50%]; [25.00%]; [12.50%].

**CPU Thermal-Throttling Beep.**

The optional settings are: [Disabled]; [Enabled].

**Smart Fan Configurations**

**CPUFAN Smart Mode**

When set as [Enabled], the following sub-items shall appear:

**CPUFAN Full-Speed Temp**

Use this item to set a degree for CPUFAN. FAN will run at full speed when above this temperature.

**CPUFAN Idle-Speed Temp**

Use this item to set a degree for CPUFAN. FAN will idle speed when below this temperature.

**CPUFAN Idle-Speed Duty**

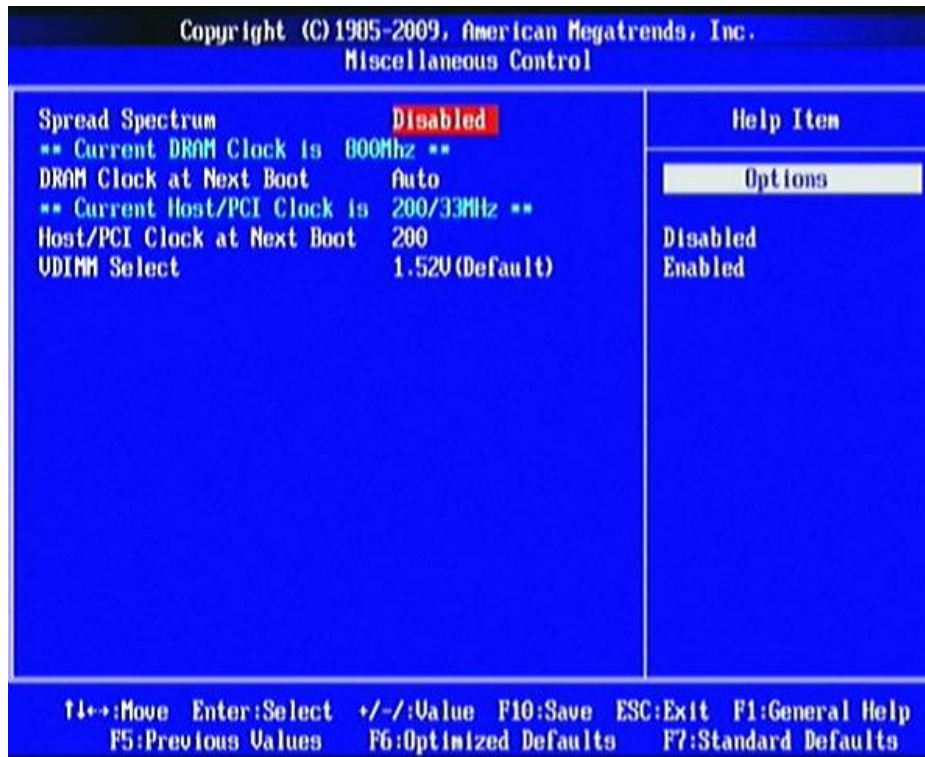
Use this item to set idle speed duty for CPUFAN.

**CPU Temperature/ System Temperature /CPUFAN Speed/  
Vcore/ /NB1.05V/5VSB/VDIMM/ +5V/+12V/Vcc3V/3VSB/VBat**

This will show the CPU/FAN/System voltage chart and FAN Speed, etc.

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## 3-11 Miscellaneous Control



### Spread Spectrum

The optional settings are: [Enabled]; [Disabled].

### DRAM Clock at Next Boot

This item allows you to set DRAM clock. The optional settings are: [Auto]; [667MHz]; [800MHz].

### Host/PCI Clock at Next Boot

The optional settings are from 200 to 300.

### VDIMM Select

The optional settings are: [1.52V (Default)]; [1.55V]; [1.60V]; [1.65V].

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## 3-12 Password Setting

You can set either supervisor or user password, or both of them. The differences are:

**Supervisor password:** Can enter and change the options of the setup menus.

**User password:** Can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

### **ENTER PASSWORD:**

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password. To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm that the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

### **PASSWORD DISABLED.**

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to "System", the password will be required both at boot and at entry to Setup. If set to "Setup", prompting only occurs when trying to enter Setup.

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### 3-13 Load Optimized /Standard Defaults

#### Load Optimized Defaults

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:



Pressing <OK> loads the default values that are factory settings for optimal performance system operations.

#### Load Standard Defaults

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:



Pressing <OK> loads the default values that are factory settings for stable performance system operations.

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## 3-14 Save & Exit Setup/ Exit Without Saving

### Save and Exit Setup

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:



Pressing <OK> save the values you made previously and exit BIOS setup.

### Exit Without Saving

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:



Pressing <OK> to leave BIOS setting without saving previously set values.