

TECHNICAL MANUAL
Of
VIA VX900H Chipset
Based
Mini-ITX M/B for VIA Nano Processor

NO. G03-NC74-F

Revision: 1.0

Release date: April, 2011

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.

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.



TABLE OF CONTENT

ENVIRONMENTAL SAFETY INSTRUCTION.....	iii
USER'S NOTICE	iv
MANUAL REVISION INFORMATION.....	iv
ITEM CHECKLIST	iv
CHAPTER 1 INTRODUCTION OF THE MOTHERBOARD	
1-1 FEATURE OF MOTHERBOARD.....	1
1-2 SPECIFICATION	2
1-3 LAYOUT DIAGRAM.....	3
CHAPTER 2 HARDWARE INSTALLATION	
2-1 JUMPER SETTING	8
2-2 CONNECTORS AND HEADERS.....	12
2-2-1 CONNECTORS	12
2-2-2 HEADERS	13
CHAPTER 3 INTRODUCING BIOS	
3-1 ENTERNING SETUP.....	21
3-2 GETTING HELP	21
3-3 THE MAIN MENU.....	21
3-4 STANDARD BIOS FEATURES	23
3-5 ADVANCED BIOS FEATURES	25
3-5-1 CPU FEATURE	26
3-6 ADVANCED CHIPSET FEATURES	27
3-7 INTEGRATED PHERIPHRALS	28
3-7-1 ONBOARD SATA FUNCTION	29
3-7-2 ONBOARD DEVICE FUNCTION.....	30
3-7-3 ONBOARD SUPER IO FUNCTION.....	31
3-8 POWER MANAGEMENT SETUP.....	32
3-9 PNP/PCI CONFIGURATIONS.....	33
3-10 PC HEALTH STATUS.....	34
3-11 MISCELLANEOUS CONTROL.....	35
3-12 PASSWORD SETTING	36
3-13 LOAD OPTIMIZED /STANDARDDEFAULTS	37
3-14 SAVE AND EXIT SETUP/EXIT WITHOUT SAVING	38



Environmental Safety Instruction

- 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.

USER'S NOTICE

COPYRIGHT OF THIS MANUAL BELONGS TO THE MANUFACTURER. NO PART OF THIS MANUAL, INCLUDING THE PRODUCTS AND SOFTWARE DESCRIBED IN IT MAY BE REPRODUCED, TRANSMITTED OR TRANSLATED INTO ANY LANGUAGE IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION OF THE MANUFACTURER.

THIS MANUAL CONTAINS ALL INFORMATION REQUIRED TO USE THIS MOTHER-BOARD SERIES AND WE DO ASSURE THIS MANUAL MEETS USER'S REQUIREMENT BUT WILL CHANGE, CORRECT ANY TIME WITHOUT NOTICE. MANUFACTURER PROVIDES THIS MANUAL "AS IS" WITHOUT WARRANTY OF ANY KIND, AND WILL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING DAMAGES FOR LOSS OF PROFIT, LOSS OF BUSINESS, LOSS OF USE OF DATA, INTERRUPTION OF BUSINESS AND THE LIKE).

PRODUCTS AND CORPORATE NAMES APPEARING IN THIS MANUAL MAY OR MAY NOT BE REGISTERED TRADEMARKS OR COPYRIGHTS OF THEIR RESPECTIVE COMPANIES, AND THEY ARE USED ONLY FOR IDENTIFICATION OR EXPLANATION AND TO THE OWNER'S BENEFIT, WITHOUT INTENT TO INFRINGE.

Manual Revision Information

Reversion	Revision History	Date
1.0	First Edition	April, 2011

Item Checklist

- Motherboard
- User's Manual
- DVD for motherboard utilities
- Cable(s)
- I/O Back panel shield

Chapter 1

Introduction of the Motherboard

1-1 Feature of motherboard

- VIA VX900H chipset.
- Onboard VIA Nano CPU, with low power consumption and never denies high performance
- Support FSB 800MHz
- Support DDRIII SODIMM 1066 MHz up to 8GB
- Onboard REALTEK RTL 8111E Gigabit Ethernet LAN
- Integrated VIA 1705 CE 6-channel HD audio CODEC
- Support USB2.0 data transport demands
- Support RS232/422/485
- Support PCIE slot and Mini-PCIE slot
- Support CPU Smart FAN
- Supports ACPI S3 Function
- Support watchdog function

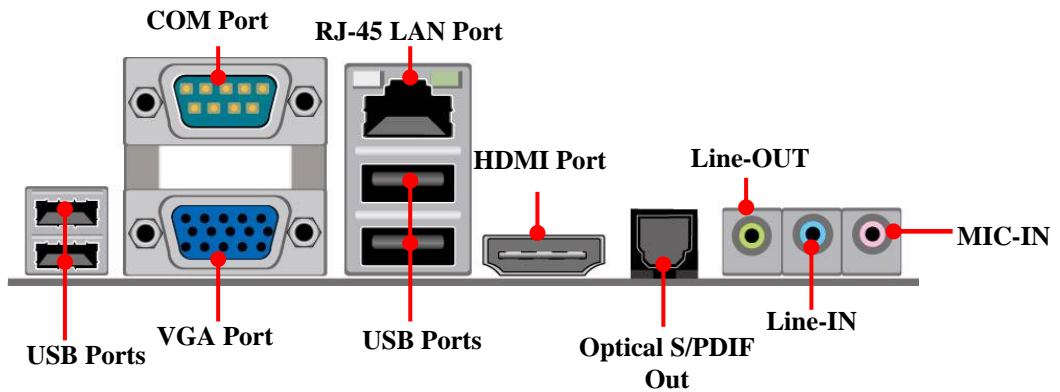
1-2 Specification

Spec	Description
Design	<ul style="list-style-type: none">● Mini-ITX form factor; PCB size: 17.0x17.0cm
Chipset	<ul style="list-style-type: none">● VIA VX900H
CPU	<ul style="list-style-type: none">● VIA Nano processor
Memory Socket	<ul style="list-style-type: none">● DDRIII slot x2● Support 1066 MHz DDRIII DIMM● Expandable to 8 GB
Expansion Slot	<ul style="list-style-type: none">● PCI Express x 16 by 8 Lane x1● Mini-PCIE slot x1
Integrate SATAII	<ul style="list-style-type: none">● Support two internal serial ATAII 3 Gb/s connectors● Support RAID 0/1
Gigabit LAN	<ul style="list-style-type: none">● Integrated RTL8111E Gigabit PCI-E LAN chip● Support Fast Ethernet LAN function of providing 10Mb/100Mb/1000Mb Ethernet data transfer rate
Audio	<ul style="list-style-type: none">● VIA VT 1705CE 6-channel Audio Codec integrated● Audio driver and utility included
BIOS	<ul style="list-style-type: none">● AMI 8MB Flash ROM
Multi I/O	<ul style="list-style-type: none">● Serial port connector x1● VGA port connector x1● USB 2.0 port x 4 and USB 2.0 header x2● RJ-45 LAN connector x1● HDMI connector x1● Optical S/PDIF connector x1● Audio connector x3 (Line-out, Line-in, MIC)● Front panel audio header x1● CDIN header x1● GPIO header x1● Speaker header x1● PWRLED header x1● Front panel header x1

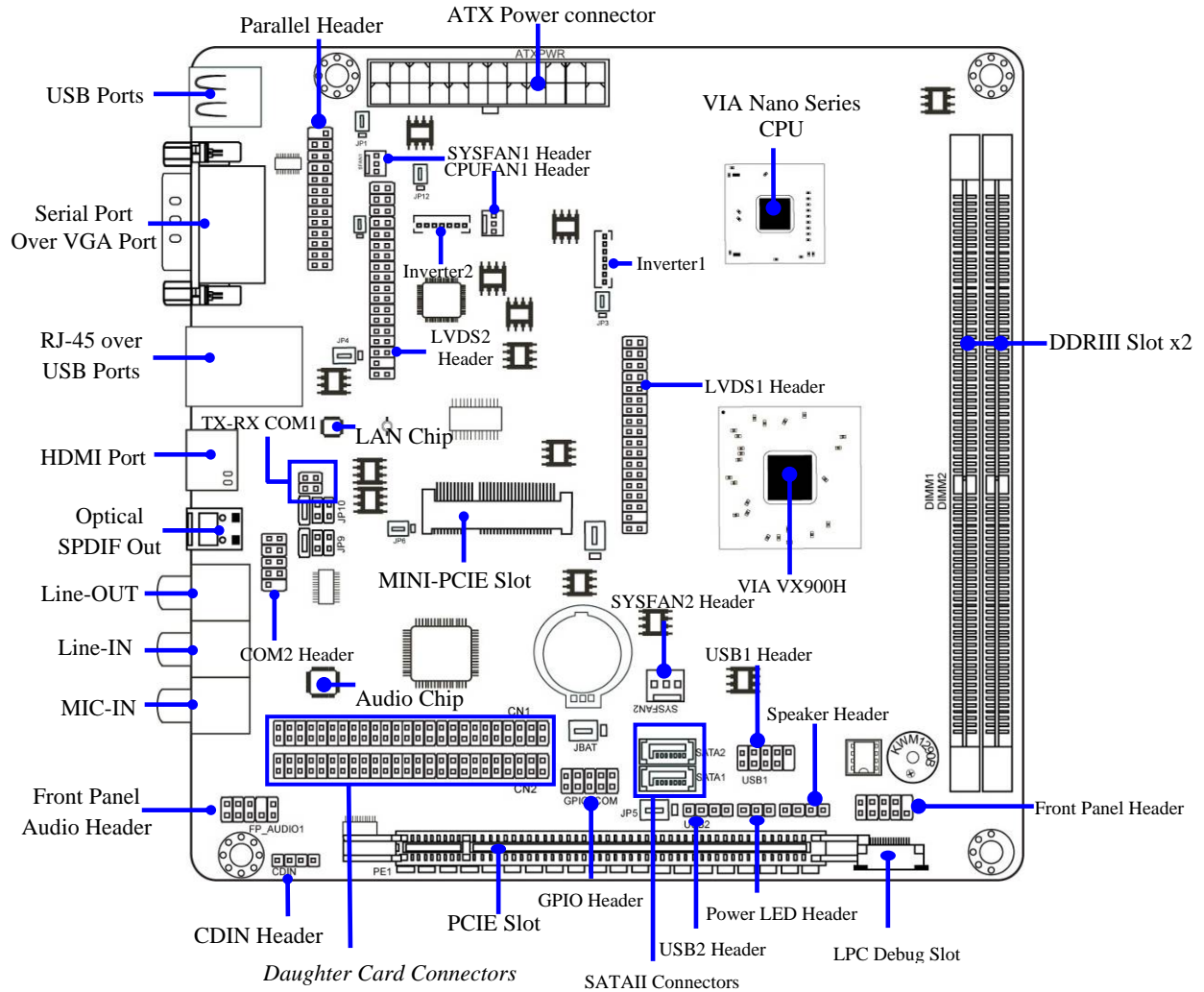
- Parallel port header x1
- Serial port header x1 and RS232/422/RS485 header x1
- LVDS header x2 and LVDS inverter x2

1-3 Layout Diagram

Rear IO Diagram



Motherboard Internal Diagram



Jumper

Jumper	Name	Description
JP1	K/B, USB Power On Function Setting	3-pin Block
JP2	LVDS1 PVCC 5V/3.3V Select	3-pin Block
JP3	LVDS Inverter1 12V/5V Select	3-pin Block
JP4	UL1 Power On Function Setting	3-pin Block
JP5	USB 1/2 Power On Function Setting	3-pin Block
JP6	Mini PCI-E Power VCC3.3V /Dual 3.3V	3-pin Block
JP9	COM2 Power RS232 Function Select	6-pin Block
JP10	COM2 RS232/485/422 Function Select	6-pin Block
JP11	LVDS2 PVCC 5V/3.3V Select	3-pin Block
JP12	LVDS Inverter2 12V/5V Select	3-pin Block
JBAT	CMOS RAM Clear Function Setting	3-pin Block

Connectors

Connector	Name	Description
USB (from UK1/UL1)	USB 2.0 Port	4-pin Connector
COM1	Serial Port COM Connector	9-pin Connector
VGA	Video Graphic Attach Connector	15-pin Female
LAN (from UL1)	RJ-45 LAN Connector	8-pin Connector
HDMI	High-Definition Multimedia Connector	19-pin Connector
SPDIF	Optical S/PDIF Out Connector	1-phone Connector
AUDIO	Line Out /Line In /MIC Audio Connector	3-phone Jack
ATXPWR	ATX Power Connector	24-pin Block
SATA1/SATA2	Serial ATAII Connectors	7-pin Connector

Headers

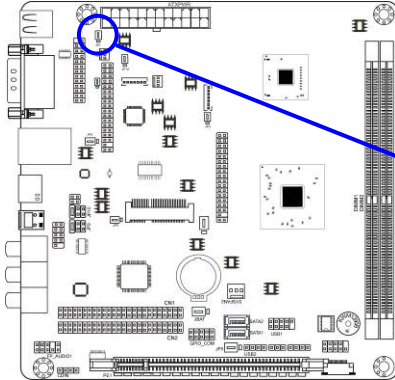
Header	Name	Description
FP_AUDIO	Front panel audio Header	9-pin Block
CDIN	CD Audio-In Header	4-pin Block
GPIO_CON	GPIO Header	10-pin Block
USB1	USB Header	9-pin Block
USB2	USB Header	4-pin Block
SPEAK	Speaker Header	4-pin Block
PWRLED	Power LED	3-pin Block
JW_FP (Front Panel Header)	PWR LED/ HD LED/ /Power Button /Reset	9-pin Block
CPUFAN1,SYSFAN1/2	FAN Speed Headers	3-pin Block
PARALLEL1	Parallel Port Header	25-pin Block
COM2	Serial Port Header	9-pin Block
TX-RXCOM1	RS 232/422/485 port headers	4-pin Block
LVDS 1/2	LVDS Header	36-pin Block
INVERTER 1/2	LVDS Inverter Connector	7-pin Block
CN1; CN2	Jetway Daughter Card Connector	50-pin *2 Block

Chapter 2

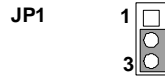
Hardware Installation

2-1 Jumper Setting

(1) JP1 (3-pin): K/B, USB Power on Function Setting

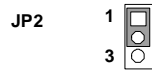
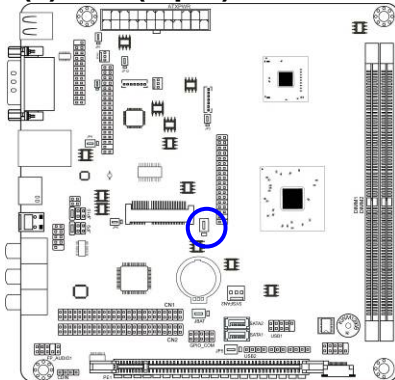


1-2 Closed: K/B,USB Power-On Disabled (default)



2-3 closed: K/B,USB Power-On Enabled

(2) JP2 (3-pin): LVDS1 PVCC 5V / 3.3V Function setting

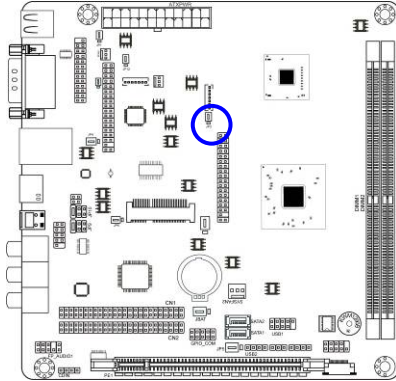


1-2 closed: LVDS1 PVCC 5V

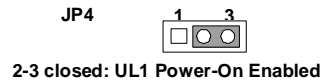
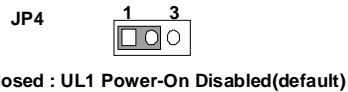
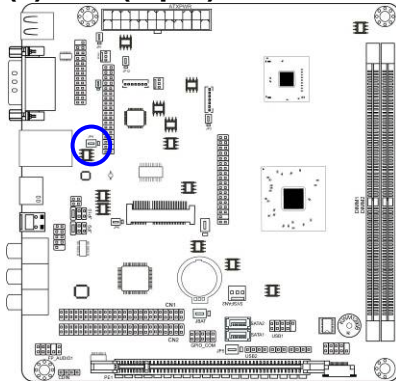


2-3 closed : LVDS1 PVCC 3.3V

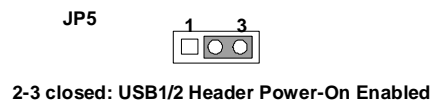
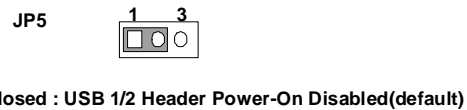
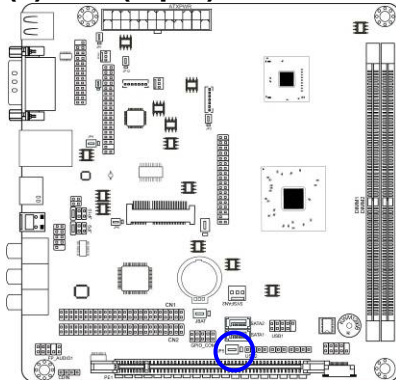
(3) JP3 (3-pin): LVDS INVERTER1 power 12V / 5VSelect



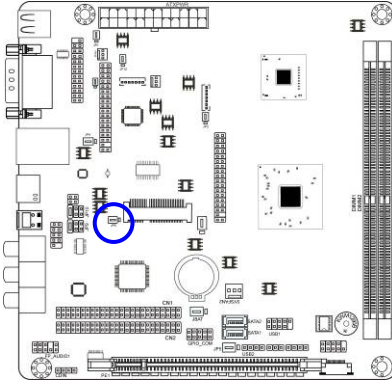
(4) JP4 (3-pin): UL1 Power on Function Setting



(5) JP5 (3-pin): USB 1/2 Power on Function Setting



(6) JP6 (3-pin) : Mini PCI-E Power VCC 3.3V/ Dual 3.3 V Function Select



JP6



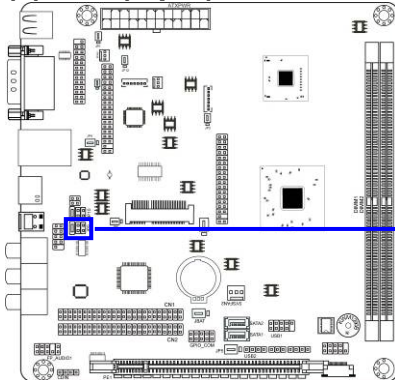
1-2 closed : MINI PCI-E VCC= 3.3V

JP6



2-3 closed : MINI PCI-E VCC= Dual 3.3V

(7) JP9 (6-pin): COM2 Header Pin9 function select



JP9



1-2 closed: RS232

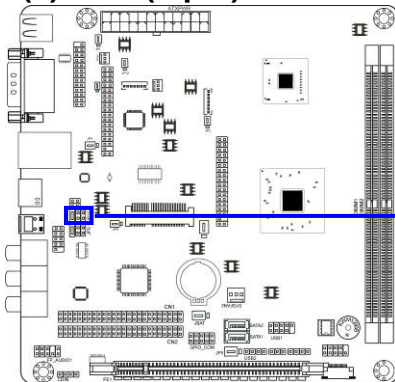


3-4 closed : +12V

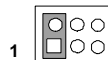


5-6 closed : +5V

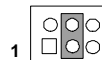
(8) JP10(6-pin): COM2 Header RS232/485/422 Function Select



JP10



1-2 closed: RS232

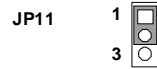
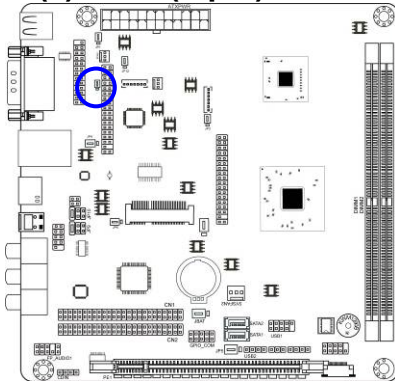


3-4 closed : RS485



5-6 closed : RS422

(9) JP11 (3-pin): LVDS2 PVCC 5V / 3.3V Function setting

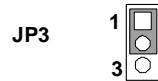
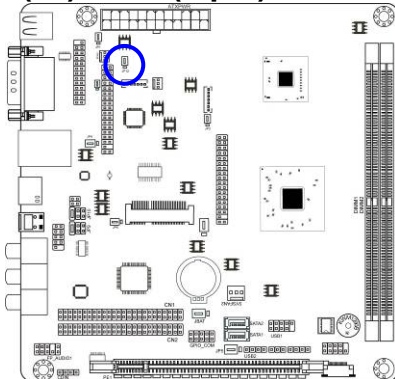


1-2 closed: LVDS2 PVCC 5V

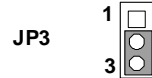


2-3 closed : LVDS2 PVCC 3.3V

(10) JP12 (3-pin): LVDS Inverter2 power 12V / 5VSelect

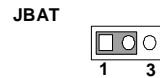
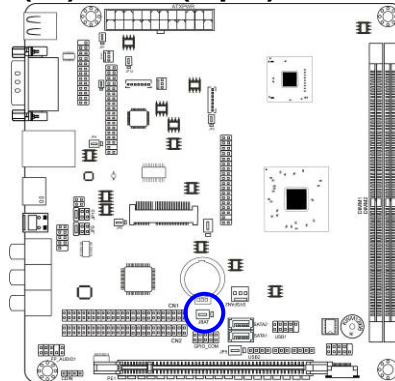


1-2 closed:
Inverter1 12V selected



2-3 closed:
Inverter1 5V select

(10) JBAT (3-pin): Clear CMOS



1-2 Short: Normal



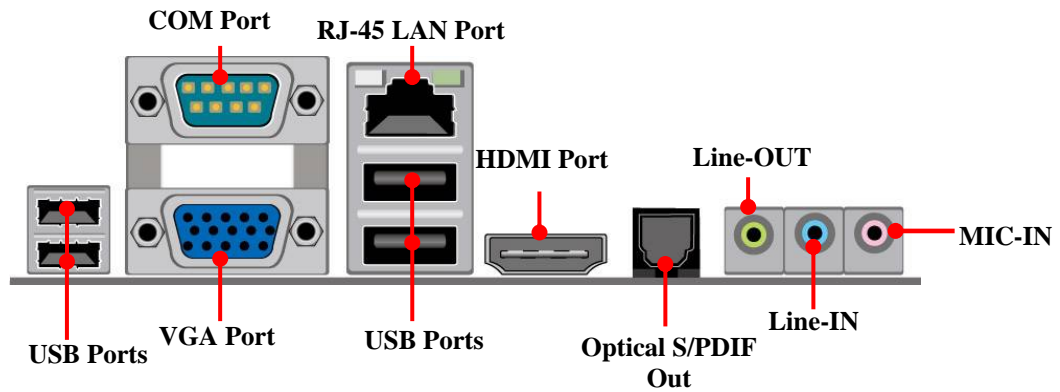
2-3 Short: Clear CMOS

CMOS Clear Setting

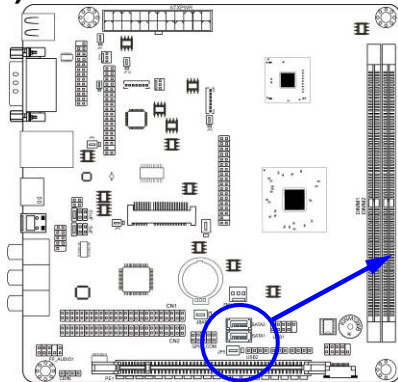
2-2 Connectors and Headers

2-2-1 Connectors

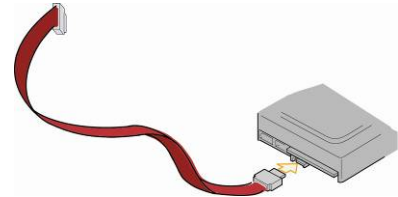
(1) I/O Panel Connector:



(2) Serial-ATA II PortS: SATA1/SATA2



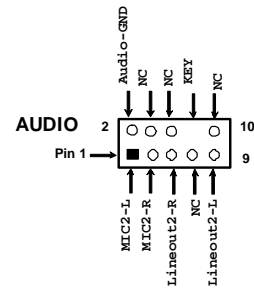
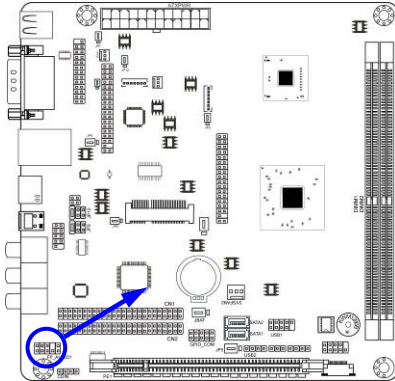
Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND



2-2-2 Headers

(1) Front Panel Audio Line-Out, MIC-In Header (9-pin): FP_AUDIO1

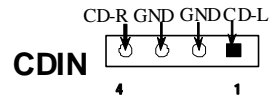
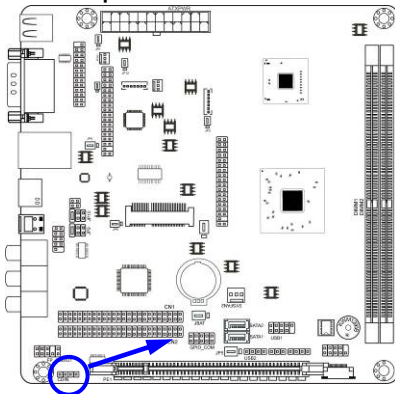
This header connects to front panel Line-out, MIC-In connector with cable.



Line-Out, MIC Headers

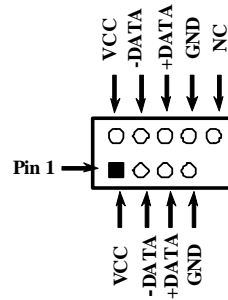
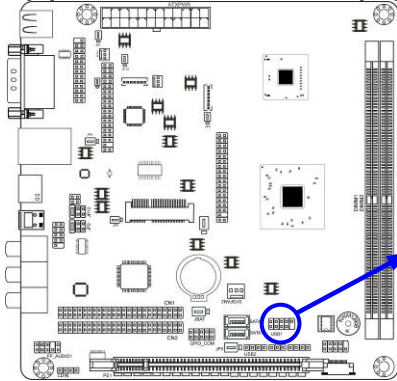
(2) CD AUDIO-In Header (4-pin): CDIN

CDIN header is for CD-Audio Input signal. Please connect it to CD-ROM CD-Audio output connector.



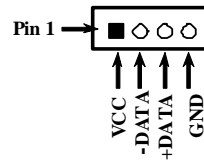
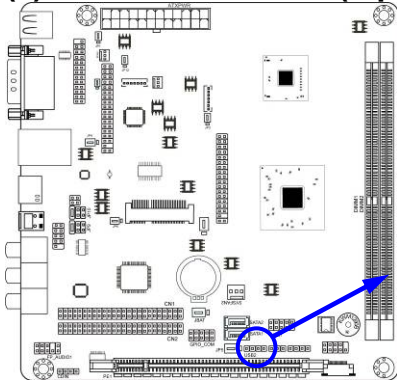
CD Audio-In Headers

(3) USB Port Headers (9-pin): USB1



USB 1 Header

(4) USB Port Headers (4-pin): USB2



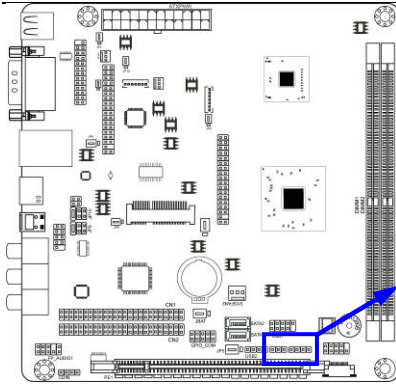
USB2 Header

(5) Speaker connector: SPEAK

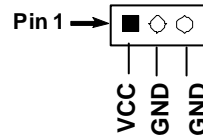
This 4-pin header is to connect the case-mounted speaker. See the figure below.

(6) Power LED: PWRLED

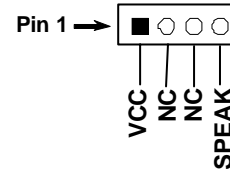
The Power LED is light on while the system power is on. Connect the Power LED from the system case to this pin.



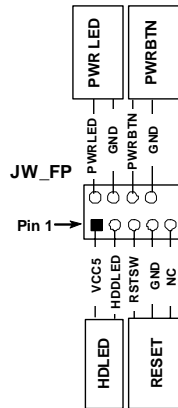
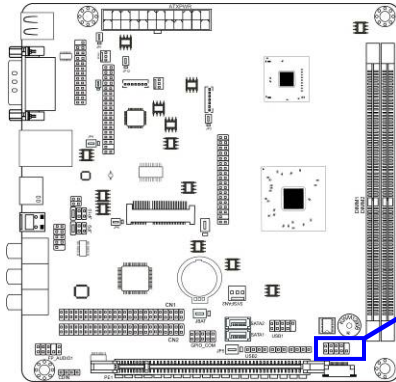
(7) Front Panel Header: JW-FP



PWRLED Header



SPEAK Header



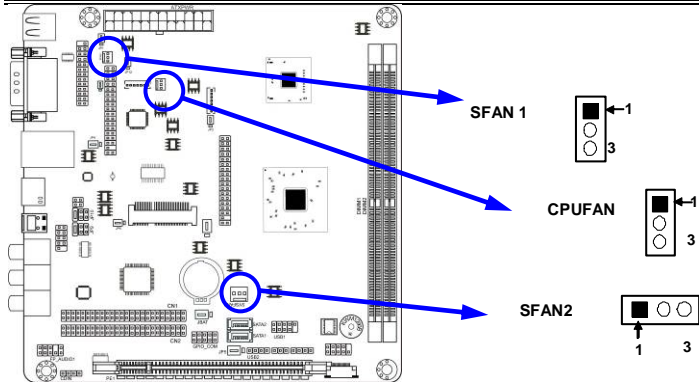
System Case Connections

(8) FAN Speed Headers (3-pin): CPUFAN1, SFAN1, SFAN2

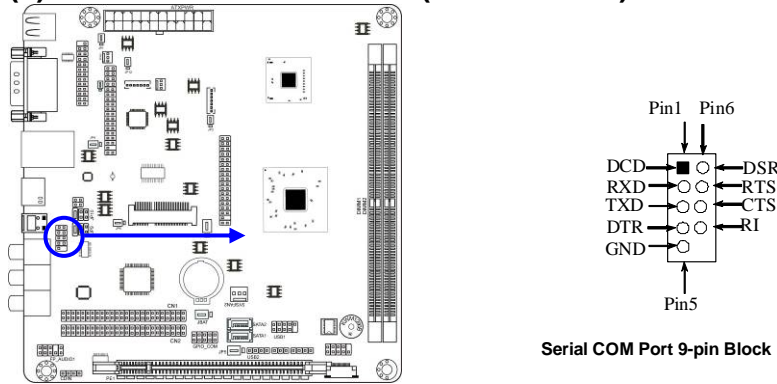
Pin1: GND

Pin2: +12V fan power

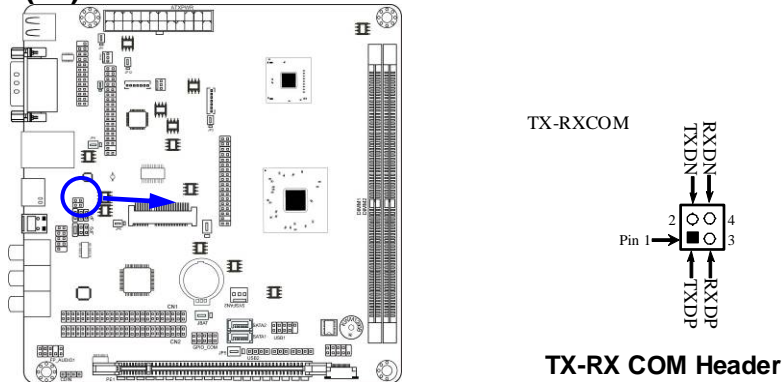
Pin3: Fan Speed



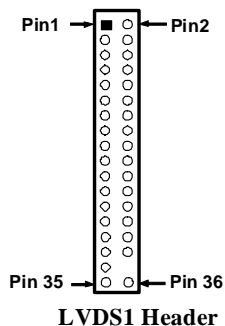
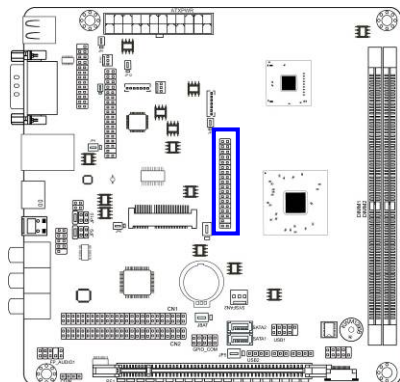
(9) Serial Port Connectors (9-Pin female): COM2



(10) RS232/422/485 Header: TX-RXCOM1

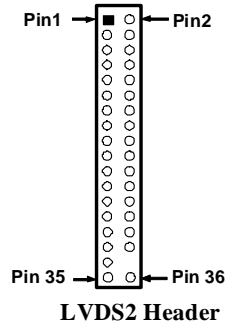
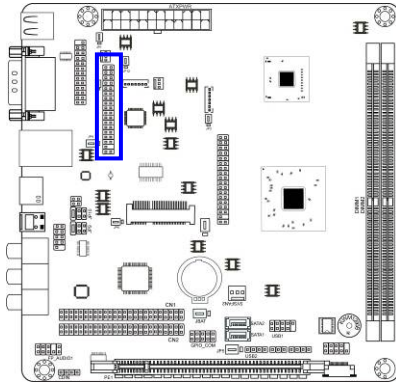


(11) 24-Bit Single Channel LVDS Header (36 Pin): LVDS1



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	LVDS_DDC_DATA	Pin 12	LVDS_DDC_CLK
Pin 13	GND	Pin 14	GND
Pin 15	GND	Pin 16	GND
Pin 17	LVDSA_DATAP3	Pin 18	LVDSA_DATAN3
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	PVDD	Pin 28	PVDD
Pin 29	PVDD	Pin 30	PVDD
Pin 31	GND	Pin 32	GND
Pin 33	+5V	Pin 34	N/A
Pin 35	+12V (Reserved)	Pin 36	+3V

(12) 24-Bit Dual Channel LVDS Header(36 Pin): LVDS2



Pin NO.	Pin Define	Pin NO.	Pin Define
Pin 1	LVDSB_DATAN3	Pin 2	LVDSB_DATAP3
Pin 3	LVDSB_CLKBN	Pin 4	LVDSB_DATABP
Pin 5	LVDSB_DATAN2	Pin 6	LVDSB_DATAP2
Pin 7	LVDSB_DATAN1	Pin 8	LVDSB_DATAP1
Pin 9	LVDSB_DATAN0	Pin 10	LVDSB_DATAP0
Pin 11	LVDS_DDC_DATA	Pin 12	LVDS_DDC_CLK
Pin 13	GND	Pin 14	GND
Pin 15	GND	Pin 16	GND
Pin 17	LVDSA_DATAP3	Pin 18	LVDSA_DATAN3
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	PVDD	Pin 28	PVDD
Pin 29	PVDD	Pin 30	PVDD
Pin 31	GND	Pin 32	GND
Pin 33	+5V	Pin 34	N/A
Pin 35	+12V (Reserved)	Pin 36	+3V

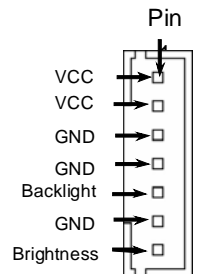
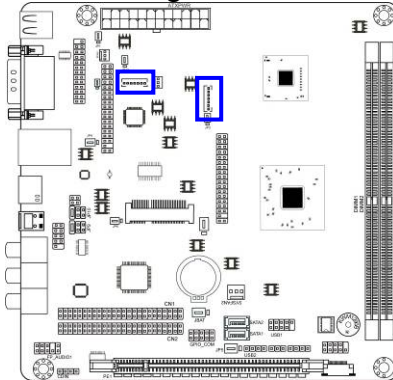
(13) LVDS Inverter headers: INVERTER1/ INVERTER2

Pin 1 and pin2: VCC of inverter

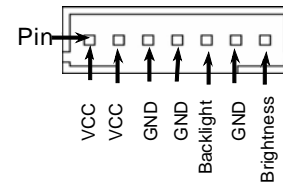
Pin3, pin4 and pin6: GND

Pin5: Backlight

Pin7: Brightness

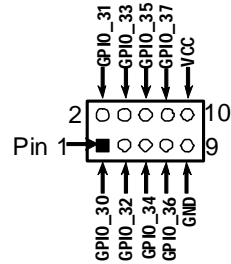
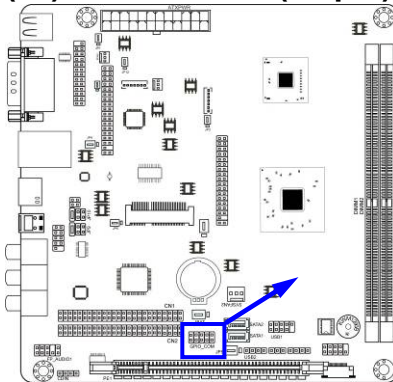


INVERTER 2



INVERTER1

(14) GPIO Header (10-pin): GPIO_CON



GPIO_CON Header

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 form 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 Page Up/Page Down or +/- keys when you want to modify the BIOS parameters for the active option.

3-1 Entering Setup

Power on the computer and by pressing 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 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.

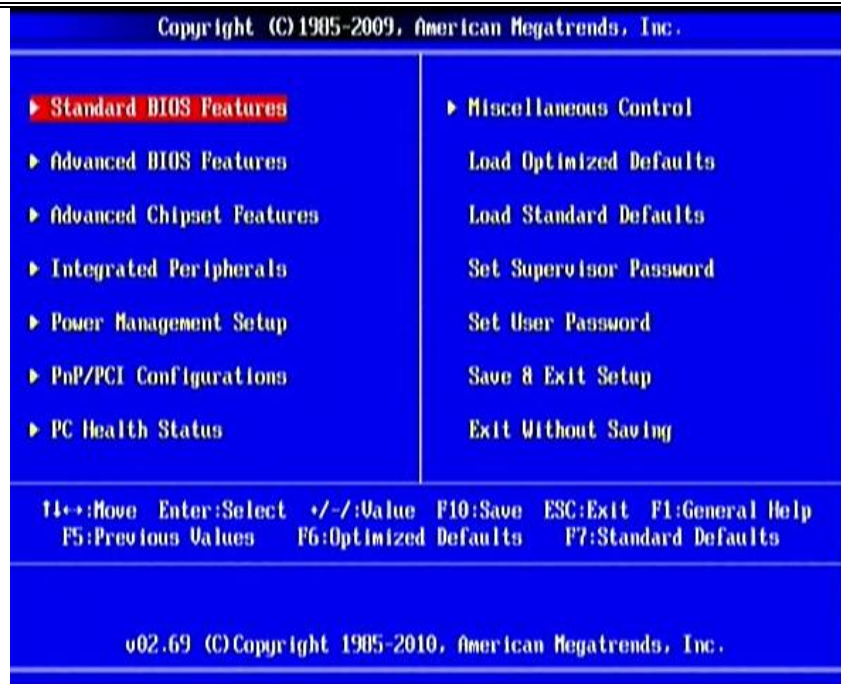


Figure 3-1

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

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	Fr 1 03/11/2011	Help Item
System Time	00:03:01	
▶ SATA 1	Not Detected	Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.
▶ SATA 2	Not Detected	
System Memory Size : 1024MB		Use [+] or [-] to configure system Date.
F1←→:Move Enter:Select +/-:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

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.

System Time

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

SATA 1/SATA 2

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

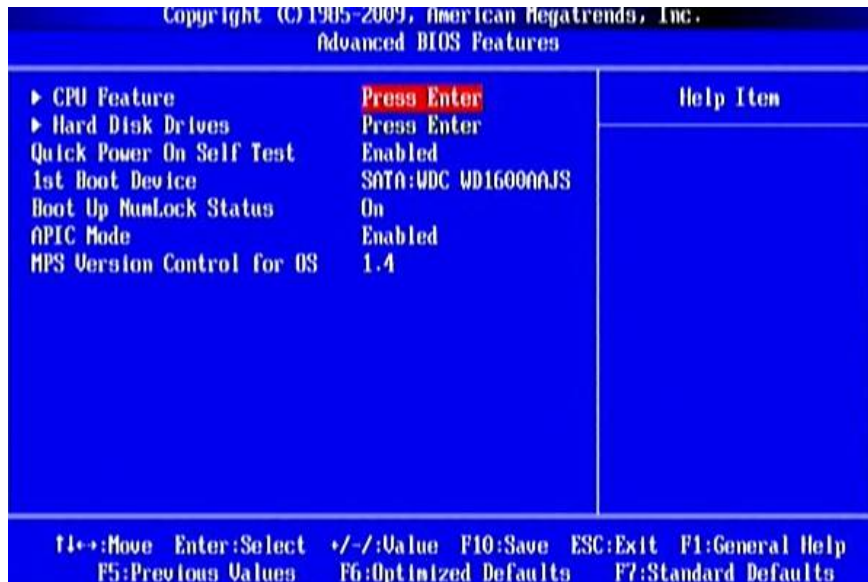
Block (Multi-Sector Transfer): The optional settings are: Disabled and Auto.

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.

3-5 Advanced BIOS Features



Hard Disk Drivers

Press [Enter] to go into sub-items and specify the boot sequence from available devices.

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

The default value is On.

On (default) Keypad is numeric keys.

Off Keypad is arrow keys.

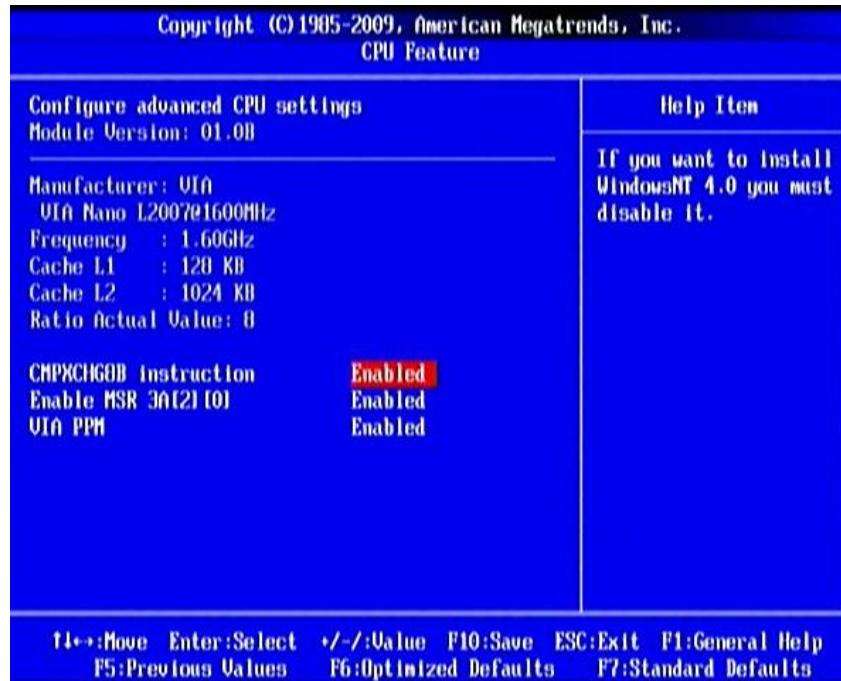
APIC Mode

Use this item to include ACPI APIC table pointer to ESDT pointer list. The optional settings are: 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.

3-5-1 CPU Feature



CMPXCH68B Instruction

The optional settings are: Disabled; Enabled. Please set it as [Disabled] if you want to install Windows NT 4.0.

Enable MSR 3A [2][0]

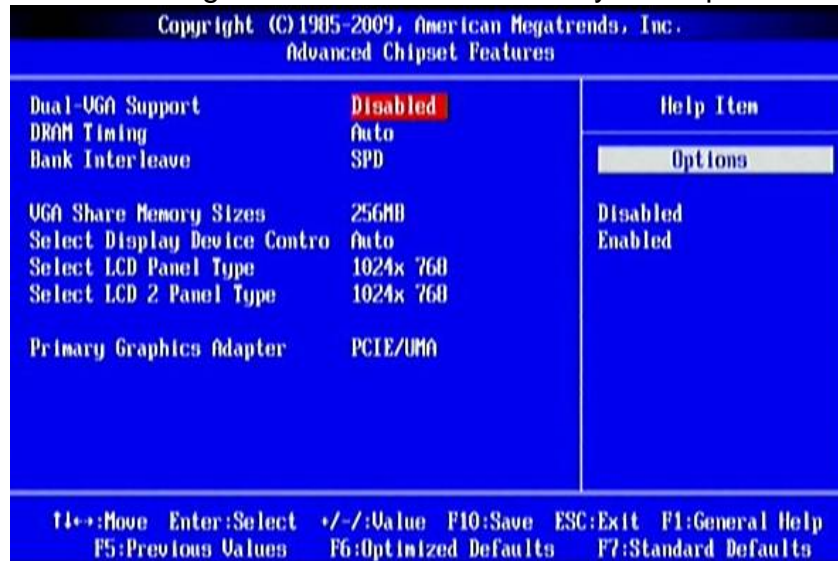
The optional settings are: Disabled; Enabled.

VIA PPM

This item is for VIA processor power management. Use this item to change the processor performance state on ACPI OS.

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.



Dual VGA Support

The optional settings are: Disabled; Enabled.

DRAM Timing

The optional settings are: Auto; Manual.

When set as [Manual], user can make settings for the showing up sub-items manually:

- DRAM CAS Latency Time
- DRAM Cycle Time
- DRAM RAS# Precharge Time
- DRAM RAS# to CAS# Delay

Bank Interleave

The optional settings are: SPD; Non-Page; 2-Way; 4-Way; 8-Way.

VGA Share Memory Size

Use this item to select VGA share memory size.

Select Display Device Control

The optional settings are: Auto; Manual.

When set as [Manual], user can make settings for the showing up sub-items manually:

- Select Display Device 1
- Select Display Device 2

Select LCD Panel Type/Select LCD Panel2 Type

This item allows user to select LCD panel 1/2 type.

Primary Graphic Adapter

The optional settings are: UMA/PCIE; PCIE/UMA. Select which graphic controller to use as the primary boot device.

3-7 Integrated Peripherals



3-7-1 Onboard SATA Function



SATA Configure as

The optional settings are: IDE; RAID.

Channel Operating Mode

The optional settings are: Compibility; Native PCI.

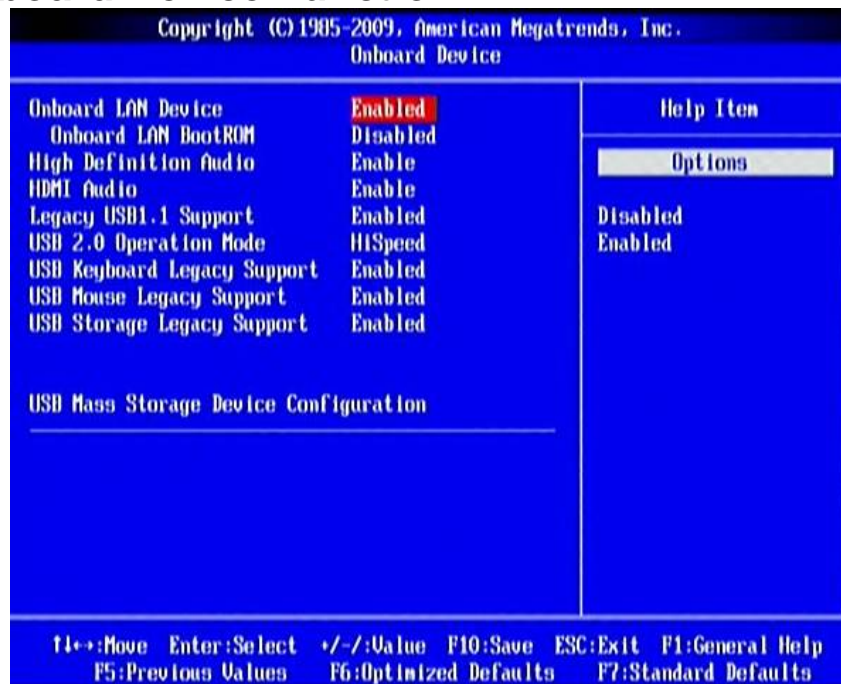
Enhance SATA Power Management

The optional settings are: Disabled; Enabled.

VIA SATA Driver Cap Port0/1

The optional settings are: Hot Plug; Link PM.

3-7-2 Onboard Device Function



Onboard LAN Device

The optional settings are: Enabled; Disabled.

Onboard LAN BootROM

The optional settings are: Enabled; Disabled.

High Definition Audio

This item allows you to decide to auto /disable the chipset family to support HD Audio.

The settings are: Enabled; Disabled.

HDMI Audio

The settings are: Enabled; Disabled.

Legacy USB 1.1 Support

The settings are: Enabled; Disabled.

USB 2.0 Operation Mode

The settings are: FullSpeed; HiSpeed.

USB Keyboard Legacy/Mouse Legacy /Storage Legacy Support

Select enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB mouse /keyboard/USB storage device. The settings are: Enabled, Disabled.

3-7-3 Onboard Super IO Function

Copyright (C) 1985-2009, American Megatrends, Inc. Onboard Super IO Function		
Serial Port1 Address	3F8/IRQ4	Help Item Allows BIOS to Select Serial Port1 Base Addresses.
Serial Port2 Address	2F0/IRQ3	
Serial Port2 RS485 Select	Disabled(RS232)	
Parallel Port Address	370	
Parallel Port Mode	Normal	
WatchDog Timer Control	Disabled	
↑↓←→:Move Enter:Select +/-:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

Serial Port 1/2 Address

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

Serial Port 2 RS485 Select

The optional settings are: Disabled(RS232); Enabled(RS485)

Parallel Port Address

Use this item to allow BIOS to select parallel port base addresses.

Parallel Port Mode

The optional settings are: Normal; Bi-Directional; ECP; EPP; ECP & EPP.

Watchdog Timer Control

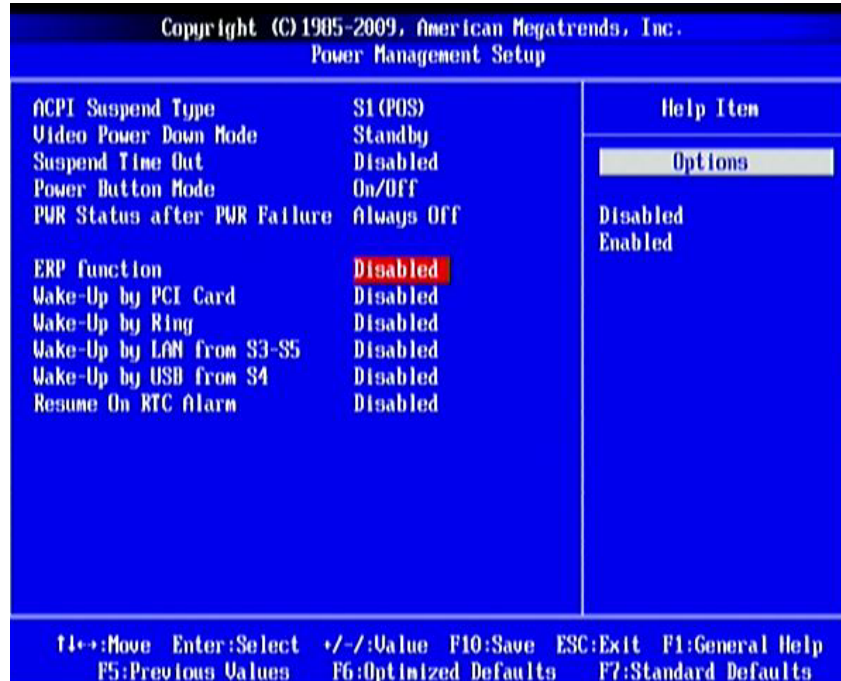
This item is used to activate the watchdog function. The optional settings are: Enabled; Disabled.

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 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 Suspend when power button is pressed.

PWR State after PWR Failure

The optional settings are: Always Off; Always On; Former Status.

Notice! 'PWR State after PWR Failure' is synchronic with 'ERP Function'. User need to set 'ERP Function' item as [Disabled] for 'PWR State after PWR Failure' to show up.

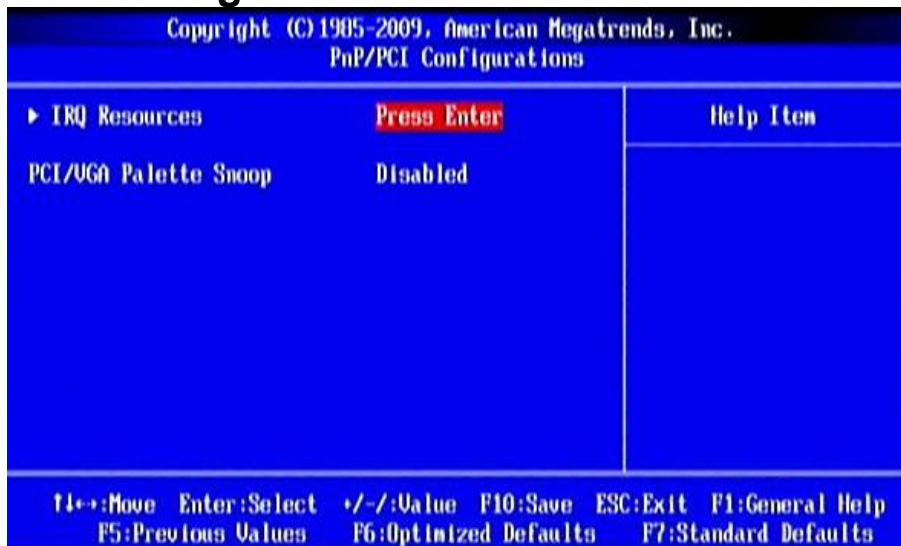
ERP (EUP) Function

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

Wake-Up by PCI Card; Power On by Ring; Wake Up by LAN from S3-S5; Wake Up by USB from S4; Resume On RTC Alarm.

User can set them as Enabled or Disable for to enable or disable respective functions.

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.

PCI/VGA Palette Snoop

The optional settings are: Enabled; Disabled.

Enabled: to inform the PCI devices that an ISA graphics device is installed in the system so the card will function correctly.

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	63°C/145°F	Disabled 60°C/140°F 65°C/149°F 70°C/158°F 75°C/167°F
System Temperature	40°C/104°F	
CPUFAN Speed	N/A	
SYSFAN1 Speed	N/A	
SYSFAN2 Speed	N/A	
Vcore	1.144 V	
UDD 1.20	1.192 V	
5USB	5.002 V	
VDIMM	1.517 V	
+ 5V	5.061 V	
+ 12V	11.968 V	
Vcc3V	3.376 V	
3USB	3.392 V	
VBat	3.360 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 setting 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] user could set value for the following sub-items:

- CPU Thermal-Throttling Temp.
- CPU Thermal-Throttling Duty.

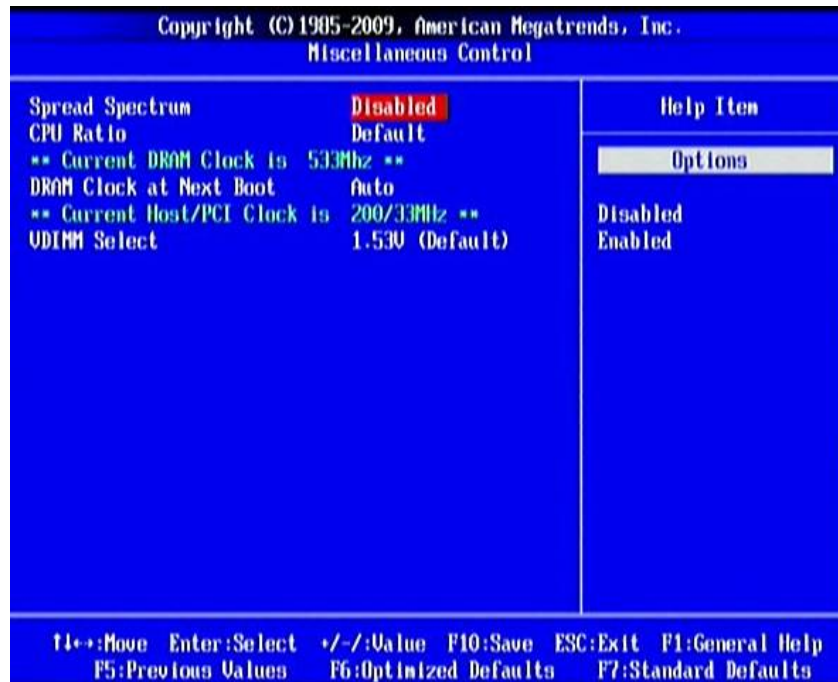
Smart Fan Configuration

Press [Enter] to set certain values for the following three items: **CPUFAN Smart Mode** , **SYSFAN1 Smart Mode** and **SYSFAN2 Smart Mode** to set respectively for value in Full-Speed Temp.; Idle Temp. and Idle-Speed Duty .

CPU Temperature/ System Temperature/ /CPUFAN/ SYSFAN1/SYSFAN2 Speed/ Vcore/VDD 1.2V/5VSB/VDIMM/ +5V/+12V/5 /Vcc3V/3VSB/VBat /

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

3-11 Miscellaneous Control



Spread Spectrum

The optional settings are: Enabled; Disabled.

CPU Ratio

Use this item to set CPU ratio to run at specific ratio.

DRAM Clock at Next Boot

This item allows you to set DRAM clock.

VDIMM Select

The optional settings are: 1.53V(Default); 1.65V; 1.81V; 1.93V.

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.

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:

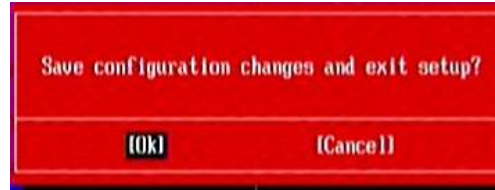


Pressing <OK> loads the default values that are factory settings for stable performance system operations.

3-14 Save & Exit Setup/ Exit Without Saving

Save and Exit Setup

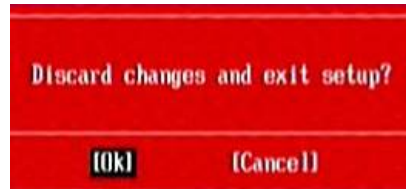
When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:



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.