Technical Manual

Of

Intel Cedar Trail Series CPU

& NM10 Chipset

Based

Mini-ITX M/B

NO.G03-NF9C-F

Revision: 2.0

Release date: December, 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

- 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

Manual Revision Information

Reversion	Revision History	Date
2.0	Second Edition	December, 2011

Item Checklist

- ☑ Motherboard
- ☑ Motherboard User's Manual
- ☑ DVD for motherboard utilities
- ☑ Cable(s)
- ☑ Back panel

Chapter 1
Introduction of the Motherboard

1-1 Feature of Motherboard

- Intel ® Cedar Trail series CPU and NM10 Chipset, with low power consumption never denies high performance
- Support DDRIII 800/1066 MHz SO-DIMM (N2600 series only support 800 MHz)
- Onboard Realtek RTL 8111E Gigabit Ethernet LAN
- Integrated ALC662 2-channel HD audio CODEC
- Support DirectX 9 Graphics
- Integrated LVDS
- Support RS232/422/485
- Support Watch dog Technology
- Support Smart Fan function
- Compliance with ErP standard
- Slim & fanless design, within 2cm height

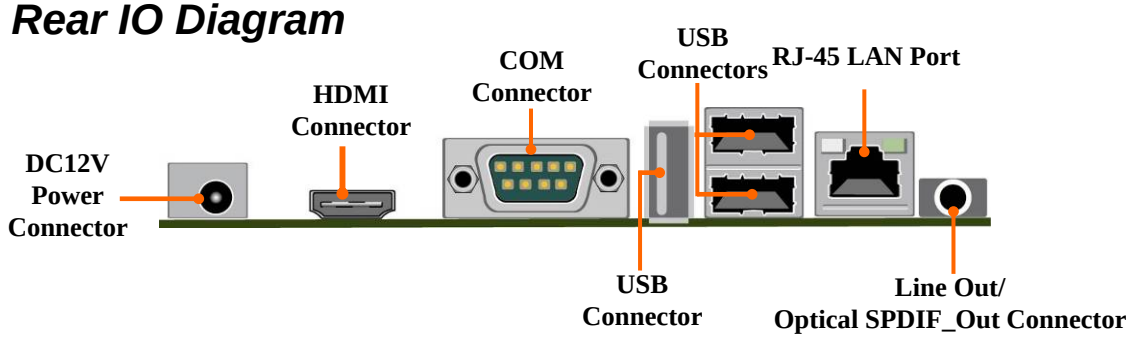
1-2 Specification

Spec	Description
Design	● Mini-ITX form factor 6 layers ; PCB size: 17.0 x17.0cm
Chipset	● Intel®NM10 Express chipset
Embedded CPU	● Intel® Cedar Trail series CPU
Memory Slot	● 2 * SO-DIMM DDRIII slots supports DDRIII 800/1066 MHz SO-DIMM , total maximum to 4GB **Note:** – *N2600 series are with1 * SO-DIMM DDRIII slot for DDRIII 800 MHz SO-DIMM , total maximum to 2GB* – *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)*
Storage	● 1 * Serial ATAII (3Gb/s) connector ● 2 * Serial ATAIII (6Gb/s) connectors
Expansion Slot	● 1 * 32-bit PCI slot ● 1 * Mini-PCI E slot ● 1 * CFast Storage card slot
LAN	● Integrated Realtek RTL8111E PCI-E Gigabit LAN ● Support Fast Ethernet LAN function of providing 10/100/1000Mbps Ethernet data transfer rate
Audio	● ALC 662 2-channel Audio Codec integrated ● Audio driver and utility included
BIOS	● 16MB DIP Flash ROM
Multi I/O	● HDMI port connector x1 ● Serial port connector x1 ● USB 2.0 connector x3 and USB 2.0 header x2 ● RJ-45 LAN connector x1 ● Line out/Optical SPDIF_out connector ● Front audio header x1

	● CDIN header x1 ● HDMI_SPDIF header x1 ● Parallel port header x1 ● VGA port header x1 ● LVDS1 header x 1 and INVERTER1 x 1 (Optional) ● LVDS2 header x1 and INVERTER2 x 1 ● Serial port header x 3 ● RS422/RS485 header x1 ● GPIO header x1 ● Front panel header x1 ● 3-pin Power LED header x1 ● Speaker header x1 ● PS/2 Keyboard & mouse header x1

1-3 Layout Diagram

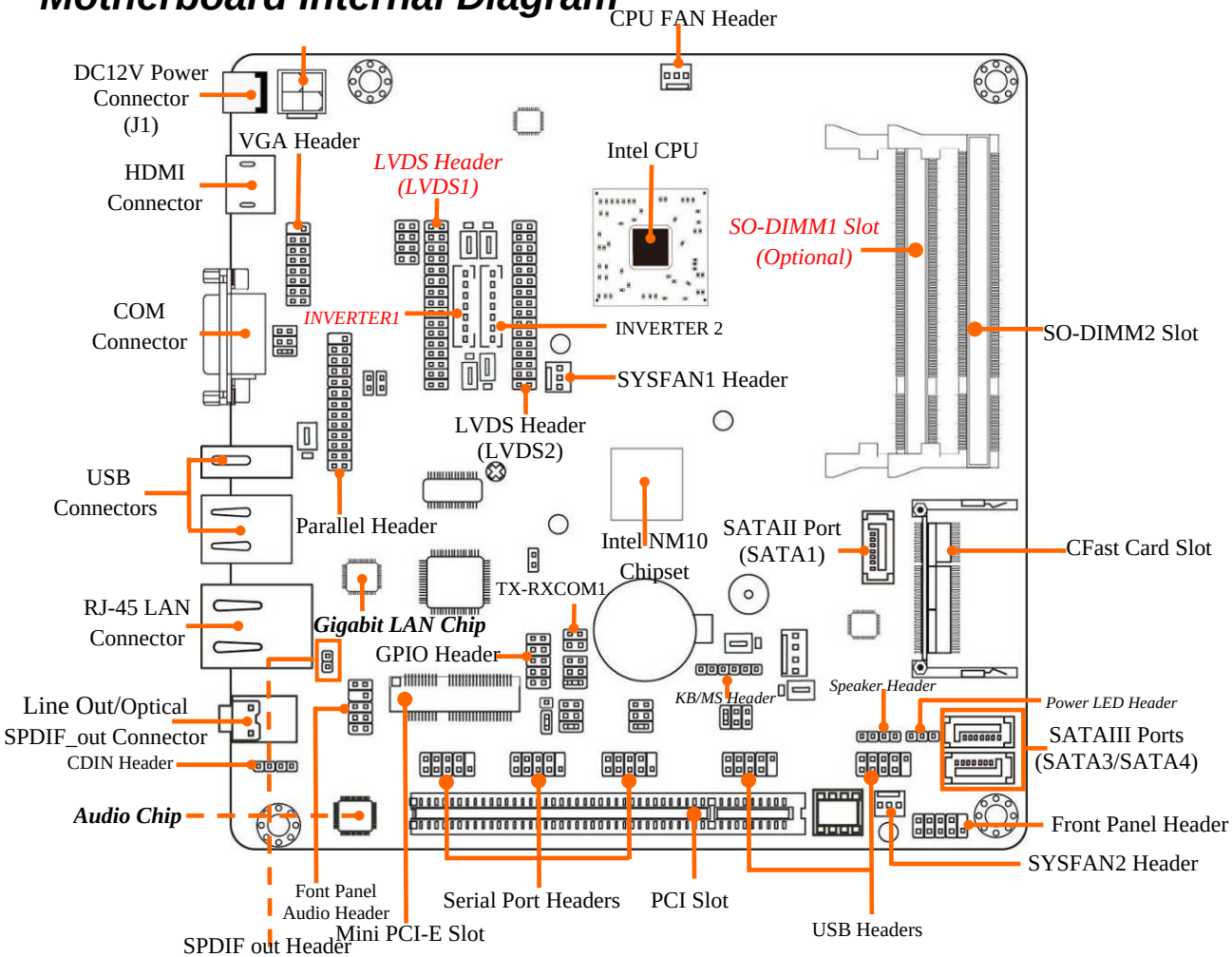
Rear IO Diagram



Warning!

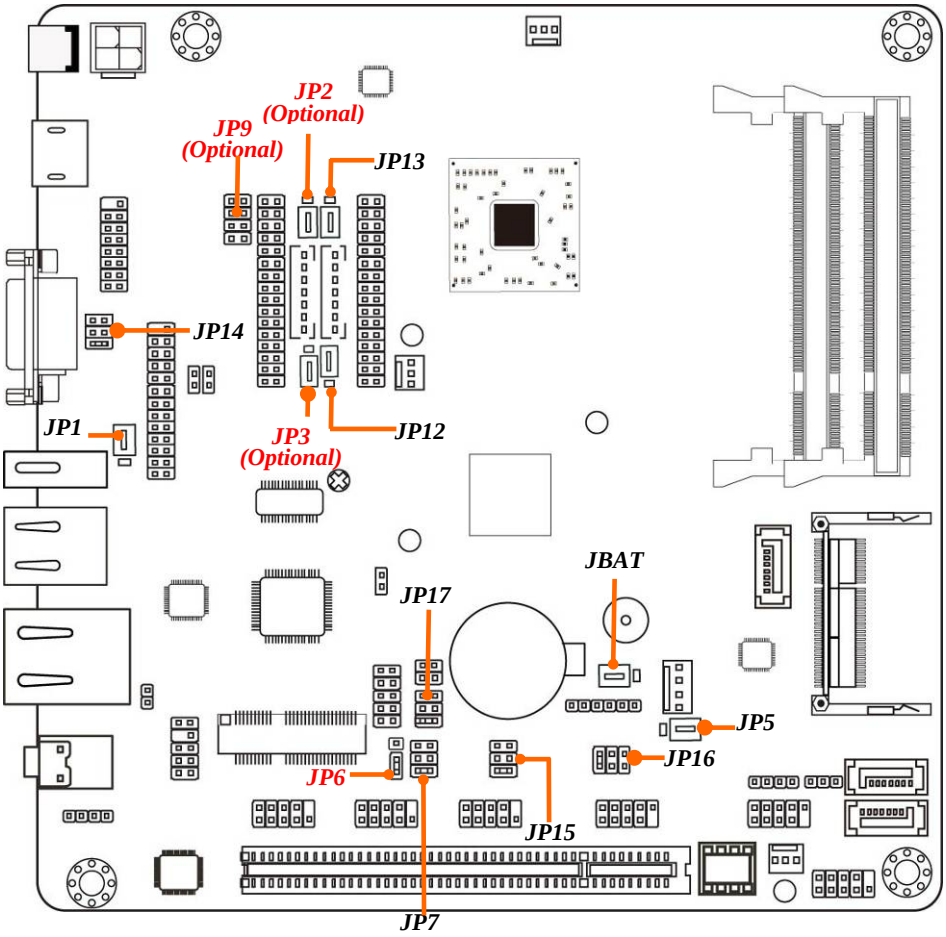
The board has a DC 12V power connector in I/O back panel and an internal ATX12V power connector. User can only connect power supply to one of them.

Motherboard Internal Diagram



Note! *When installing only one SODIMM to the board, please always install it in SODIMM2 slot, otherwise system won't start.*

Motherboard Jumper Position



Note: *The diagrams in the manual serve illustration purpose only.* ***SODIMM1, LVDS1 header, INVERTER2 and Jumper JP2 ,JP3 & JP9*** *are only* ***optional*** *with specific modesl. Please refer to the product purchased for actual specification.*

Jumper

Jumper	Name	Description
JBAT	CMOS RAM Clear Function Setting	3-Pin Block
JP1	USB 1/2 Power On Function Setting	3-Pin Block
JP5	USB 3/4 Power On Function Setting	3-Pin Block
JP2 (Optional)	LVDS1 VCC 5V/3.3V Select	3-Pin Block
JP3 (Optional)	INVERTER1 VCC 12V/5V Select	3-Pin Block
JP13	LVDS2 VCC 5V/3.3V Select	3-Pin Block
JP12	INVERTER2 VCC 12V/5V Select	3-Pin Block
JP14	COM1 Header Pin9 Function Select	6-Pin Block
JP7	COM2 Header Pin9 Function Select	6-Pin Block
JP15	COM3 Header Pin9 Function Select	6-Pin Block
JP16	COM4 Header Pin9 Function Select	6-Pin Block
JP17	COM4 RS232/485/422 Function Select	6-Pin Block
COPEN	Case Open Message Display Function	2-Pin Block
JP6	MINIPCIE POWER SB3.3V/3.3V Select	3-Pin Block
JP9 (Optional)	LVDS1 Panel Resolution Type Select	8-Pin Block

Connectors

Connector	Name	Description
J1	DC12V In Power Connector	1-DC Jack
J2	ATX 12V Type Power Connector	4-Pin Block
HDMI	High-Definition Multimedia Interface	10-pin Connector
COM1	Serial Port Connector	9-Pin Male
USB1	USB Port Connector	4-Pin Connector
USB2	USB Port Connector x2	4-Pin Connector
LAN1	RJ-45 LAN Connector	8-Pin Connector
HP_SPDIF1	Line Out /Optical SPDIF Out Connector	1-Phone Jack
PWOUT2	Power Out Connector	4-Pin Connector
SATA1	SATAII Connector	7-Pin Connector
SATA3/SATA4	Serial ATAIII Connector	7-Pin Connector

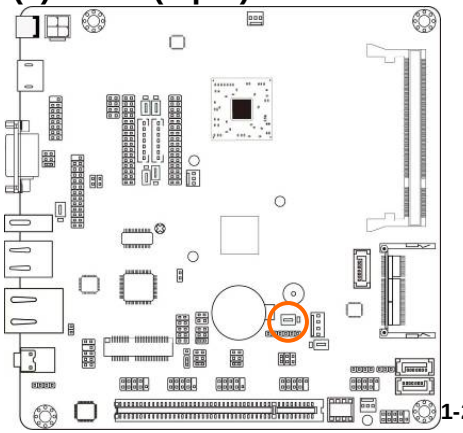
Headers

Header	Name	Description
FP_AUDIO1	Front Panel Audio Header	9-Pin Block
CDIN1	CD Audio-In Header	4-pin Block
SPDIF	SPDIF Out header	2-pin Block
PARALLEL	Parallel Header	25-Pin Block
VGA1	Video Graphic Attach Header	15-Pin Block
LVDS1(optional)/ LVDS2	LVDS Header	32-Pin Block
INVERTER1(optional)/ INVERTER2	LVDS Inverter	7-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
KBMS	PS/2 Keyboard/Mouse Header	6-Pin Block
COM2, COM3, COM4	Serial Port Header	9-Pin Block
TX-RX	RS 232/422/485 port header	4-Pin Block
USB3; USB4	UBS Headers	9-Pin Block
CPUFAN,SYSFAN1,SYSFAN2	Fan Speed Headers	3-Pin Block
GPIO_CON	GPIO Header	10-Pin

Chapter 2
Hardware Installation

2-1 Jumper Setting

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



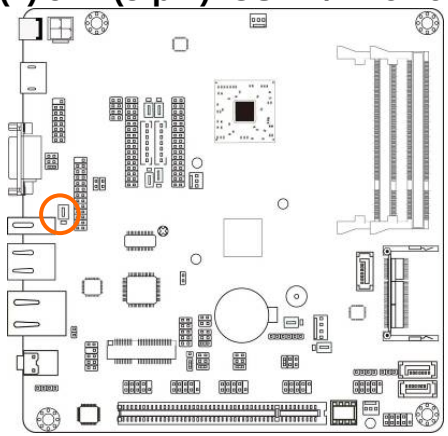
JBAT

1-2 closed: Normal

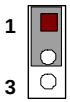
JBAT

2-3 closed : Clear CMOS

(2) JP1 (3-pin): USB 1/2 Power On Function Setting

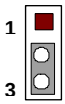


JP1



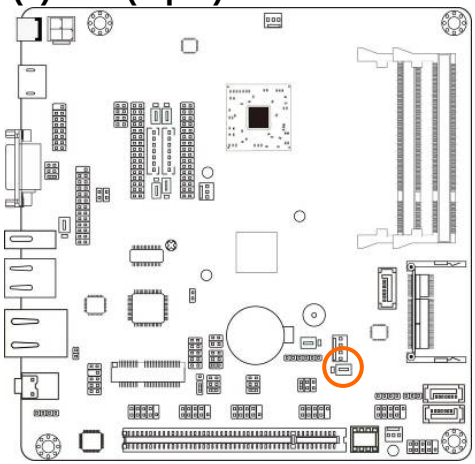
1-2 closed : USB 1/2 Power on Disabled

JP1



2-3 closed: USB 1/2 Power on Enabled(default)

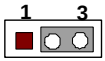
(3) JP5 (3-pin): USB 3/4 Power On Function Setting



JP5

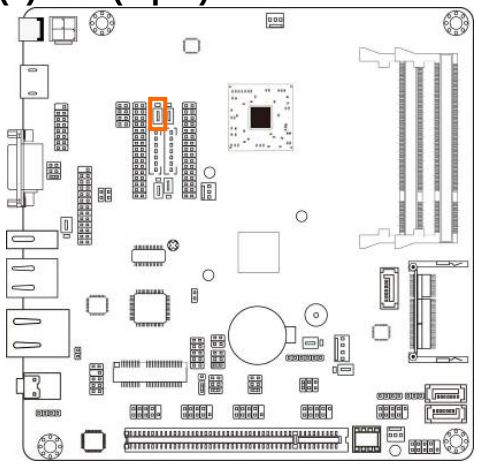
1-2 closed : USB 3/4 Power on Disabled

JP5



2-3 closed: USB 3/4 Power on Enabled(default)

(4) JP2 (3-pin): LVDS1 VCC 5V/3.3V Function Setting



JP2

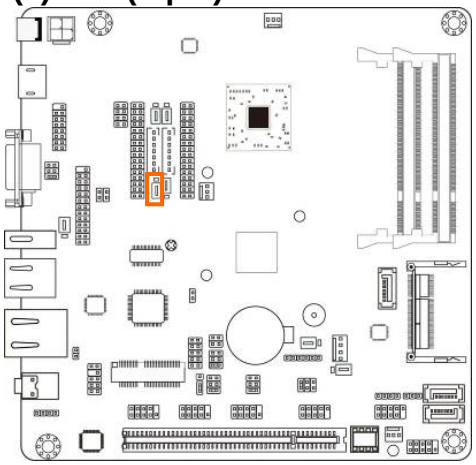
1-2 closed: LVDS1 VCC 5V(default)

JP2

2-3 closed : LVDS1 VCC 3.3V

***Note:** Jumper JP2 is only optional for model with LVDS1 header.*

(5) JP3 (3-pin): INVERTER1 VCC 12V/5V Select



JP3

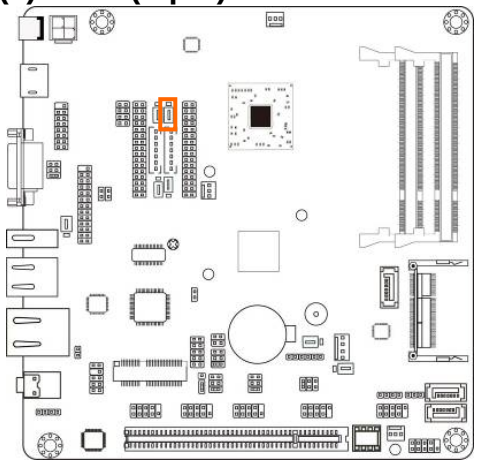
1-2 closed：Inverter1 VCC=12V (default)

JP3

2-3 closed：Inverter1 VCC=

**** Note:*** *Jumper JP3 is only optional for model with INVERTER1 header.*

(6) JP13 (3-pin): LVDS2 VCC 5V/3.3V Function Setting



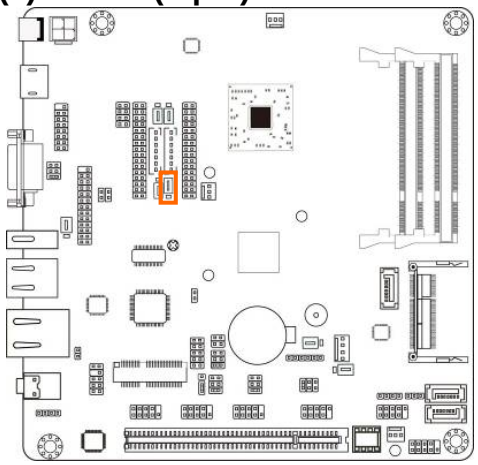
JP13

1-2 closed: LVDS2 VCC 5V(default)

JP13

2-3 closed : LVDS2 VCC 3.3V

(7) JP12 (3-pin): INVERTER2 VCC 12V/5V Select



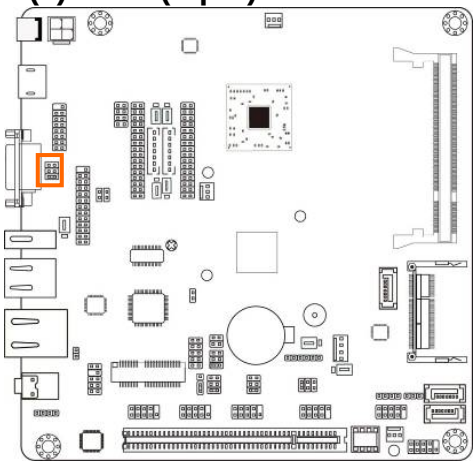
JP12

1-2 closed：Inverter2 VCC=12V (default)

JP12

2-3 closed：Inverter2 VCC=5V

(8) JP14 (6-pin): COM1 Pin9 Function Select



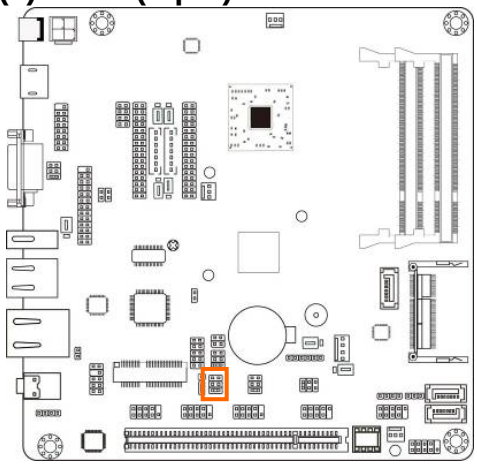
JP14

1-2 closed: RS232

3-4 closed : +12V

5-6 closed : +5V

(9) JP7 (6-pin): COM2 Pin9 Function Select



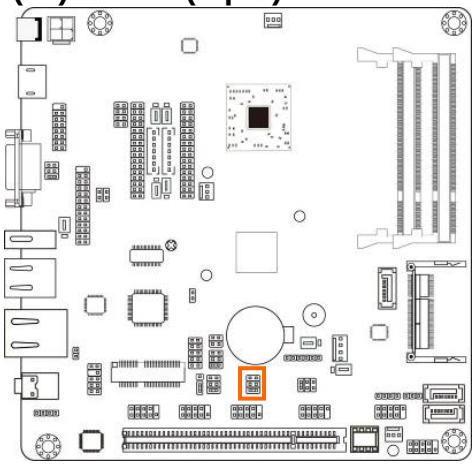
JP7

1-2 closed: RS232

3-4 closed : +12V

5-6 closed : +5V

(10) JP15 (6-pin): COM3 Pin9 Function Select



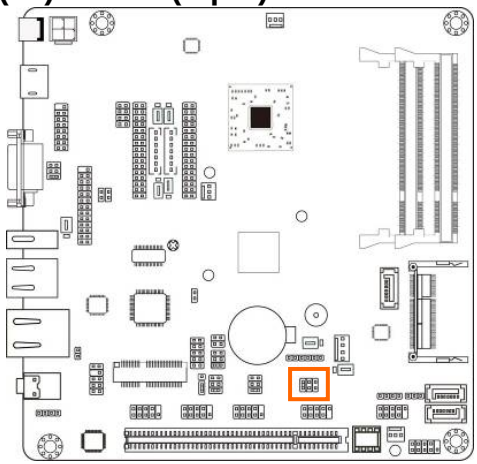
JP15

1-2 closed: RS232

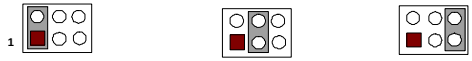
3-4 closed : +12V

5-6 closed : +5V

(11) JP16 (6-pin): COM4 Pin9 Function Select

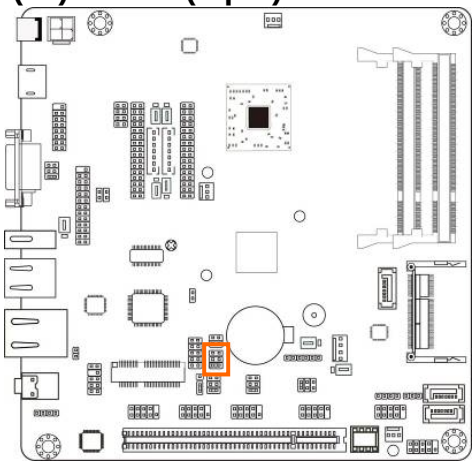


JP16

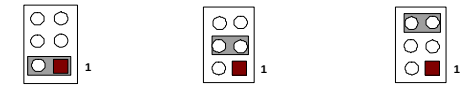


1-2 closed: RS232 3-4 closed : +12V 5-6 closed : +5V

(12) JP17 (6-pin): COM4 RS232/485/422 Function Select

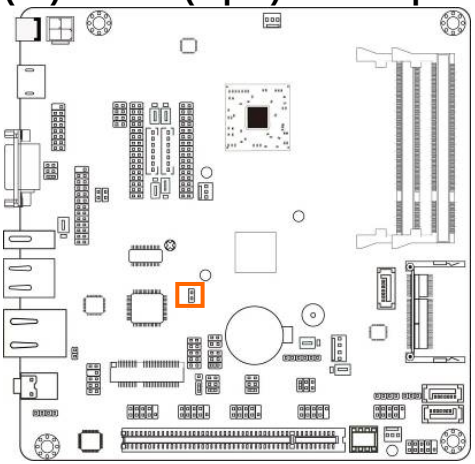


JP17



1-2 closed: RS232 3-4 closed : RS485 5-6 closed : RS422

(13)COPEN (2-pin): Case Open Message Display function select



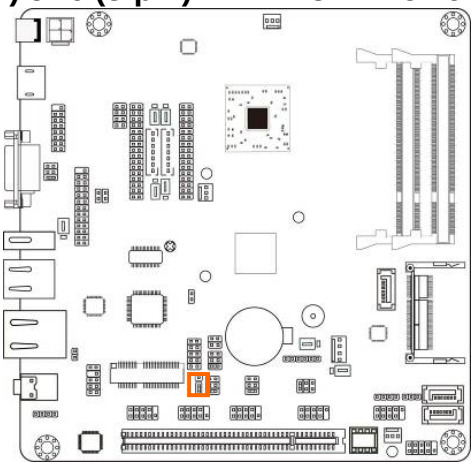
COPEN

1-2 Open： Normal　　1-2 Short： Case Open

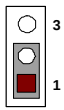
Case Open Display Function

Pin 1-2 shorted: Case open display function enabled. In this case if you case is removed, next time when you restart your computer a message will be displayed onscreen to inform you of this.

(14) JP6 (3-pin): Mini PCI-E Power SB 3.3V/3.3V Function Select

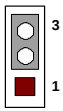


JP6



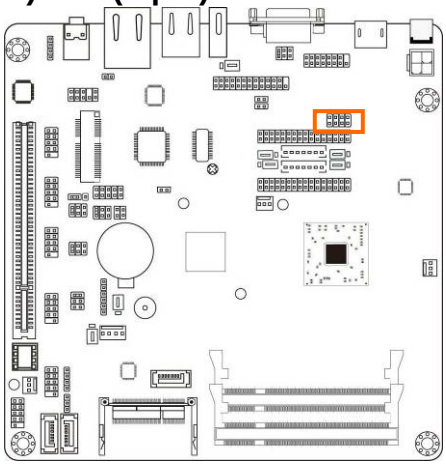
1-2 closed：
MINI PCI-E Power= VCC 3.3V

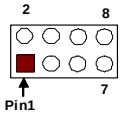
JP6



2-3 closed：
MINI PCI-E Power=3VSB

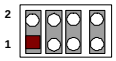
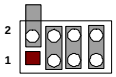
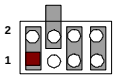
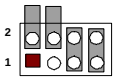
(15) JP9 (8-pin): LVDS1 Panel Resolution Select

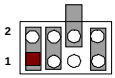
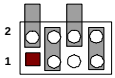
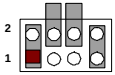
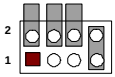
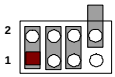
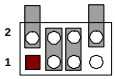
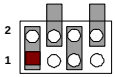
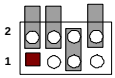
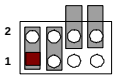
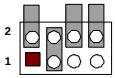
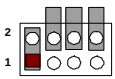


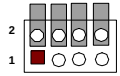


User can select **Panel** resolution by jumper settings. There are two basic setting modes:

- *Short: in which user can close pin 1-pin2, pin3-pin4, pin5-pin6, pin7-pin8 respectively;*
- *Open: in which user leave jumper hat just in pin 2, pin4, pin6 or pin8.*

Jumper Setting	Description	Panel Resolution	Color Depth
	Pin 1-2: Short Pin 3-4: Short Pin 5-6: Short Pin 7-8: Short	640 x 480 @ 60Hz	18-bit
	Pin 1-2: Open Pin 3-4: Short Pin 5-6: Short Pin 7-8: Short	800 x 600 @ 60Hz	18-bit
	Pin 1-2: Short Pin 3-4: Open Pin 5-6: Short Pin 7-8: Short	1024 x 600 @ 60Hz	18-bit
	Pin 1-2: Open Pin 3-4: Open Pin 5-6: Short Pin 7-8: Short	1024 x 768 @ 60Hz	24-bit

	Pin 1-2: Short Pin 3-4: Short Pin 5-6: Open Pin 7-8: Short	1280 x 720 @ 60Hz	18-bit
	Pin 1-2: Open Pin 3-4: Short Pin 5-6: Open Pin 7-8: Short	**800 x 480 @ 60Hz**	**18-bit**
	Pin 1-2: Short Pin 3-4: Open Pin 5-6: Open Pin 7-8: Short	1366 x 768 @ 60Hz	18-bit
	Pin 1-2: Open Pin 3-4: Open Pin 5-6: Open Pin 7-8: Short	**1440 x 900 @ 60Hz**	**18-bit**
	Pin 1-2: Short Pin 3-4: Short Pin 5-6: Short Pin 7-8: Open	1366 x 768 @ 60Hz	24-bit
	Pin 1-2: Open Pin 3-4: Short Pin 5-6: Short Pin 7-8: Open	1440 x 900 @ 60Hz	24-bit
	Pin 1-2: Short Pin 3-4: Open Pin 5-6: Short Pin 7-8: Open	1280 x 1024 @ 60Hz	24-bit
	Pin 1-2: Open Pin 3-4: Open Pin 5-6: Short Pin 7-8: Open	1440 x 1050 @ 60Hz	24-bit
	Pin 1-2: Short Pin 3-4: Short Pin 5-6: Open Pin 7-8: Open	1600 x 900 @ 60Hz	24-bit
	Pin 1-2: Open Pin 3-4: Short Pin 5-6: Open Pin 7-8: Open	1680 x 1050 @ 60Hz	24-bit
	Pin 1-2: Short Pin 3-4: Open Pin 5-6: Open Pin 7-8: Open	1600 x 1200 @ 60Hz	24-bit

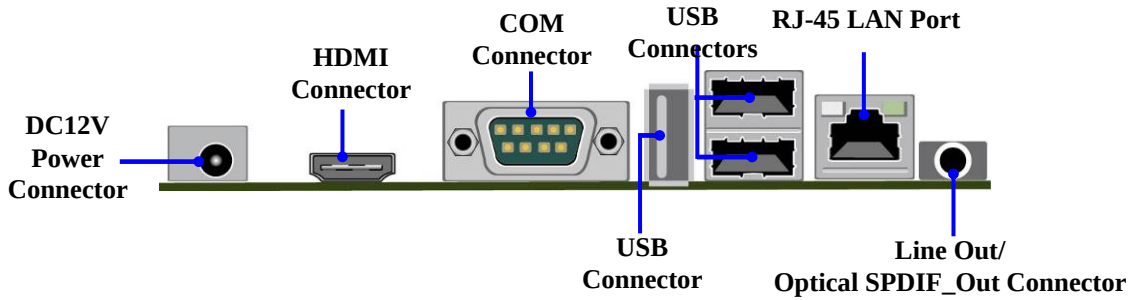
	Pin 1-2: Open Pin 3-4: Open Pin 5-6: Open Pin 7-8: Open	1920 x 1080 @ 60Hz	24-bit

**** Note:** Jumper JP9 is only optional for model with LVDS1 header.*

2-2 Connectors and Headers

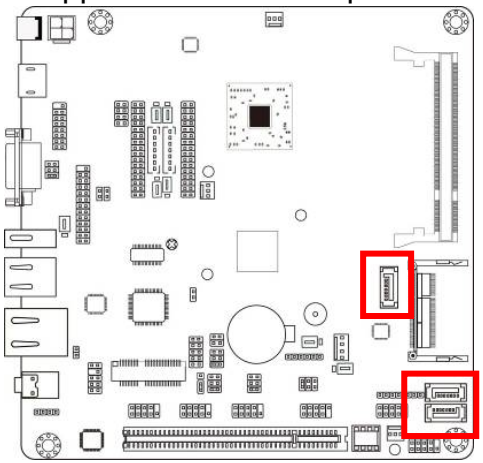
2-2-1 Connectors

(1) Rear I/O Connectors

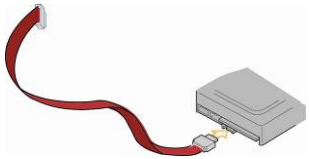


(2) Serial-ATA Port connector: SATA1, SATA3, SATA4

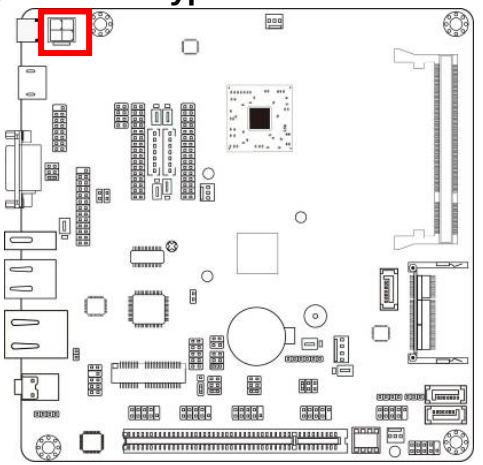
SATA1 connector is an SATAII connector that supports SATA 3Gb/s specification. SATA3 and SATA4 connectors are SATAIII connectors that support SATA 6Gb/s specification.

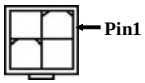


Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

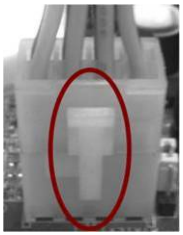


(3) ATX12V Type Power Connector (4-pin block):J2



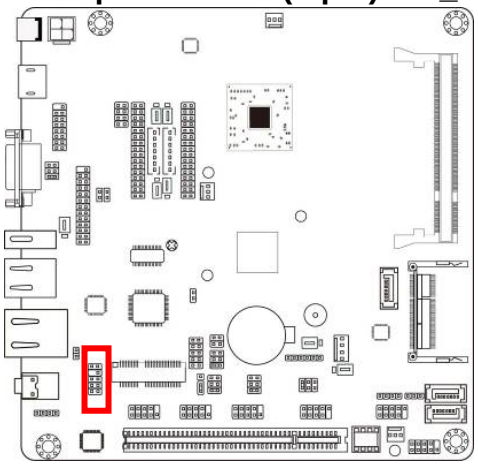


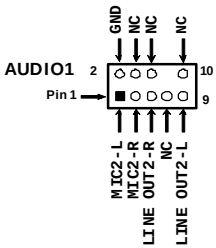
Pin No.	Definition
1	GND
2	GND
3	+12V
4	+12V



2-2-2 Headers

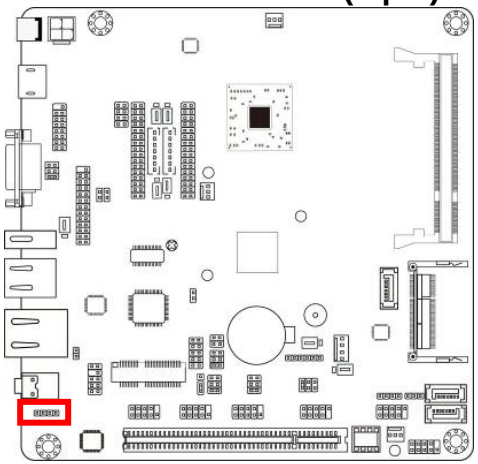
(1) Front panel audio (9-pin): FP_AUDIO1

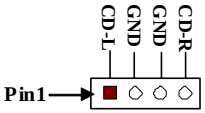




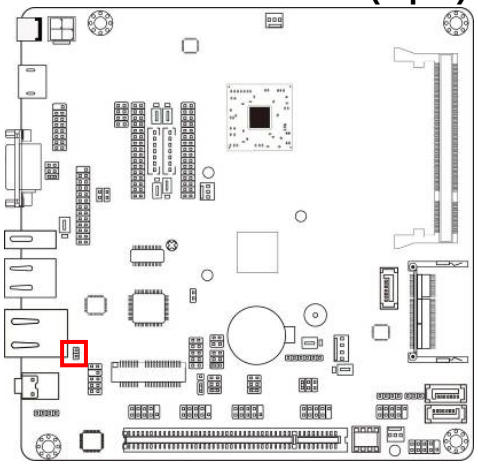
Line-Out, MIC Headers

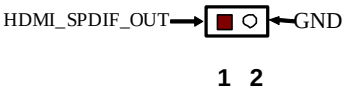
(2) CD AUDIO-In Header (4-pin): CDIN1





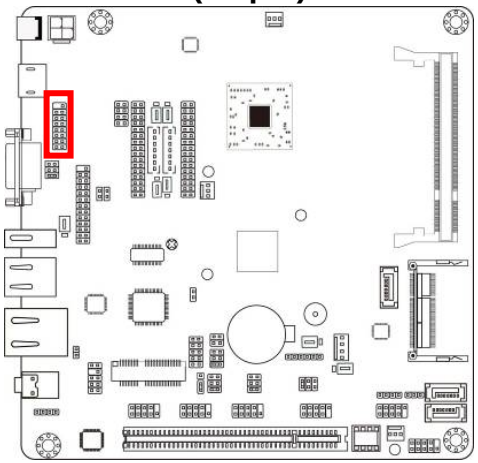
(3) HDMI-SPDIF Out header (2-pin): SPDIF

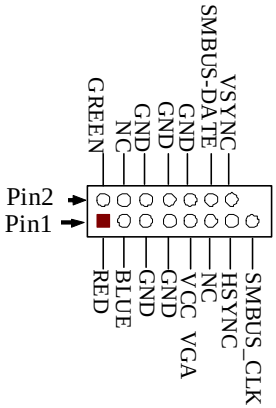




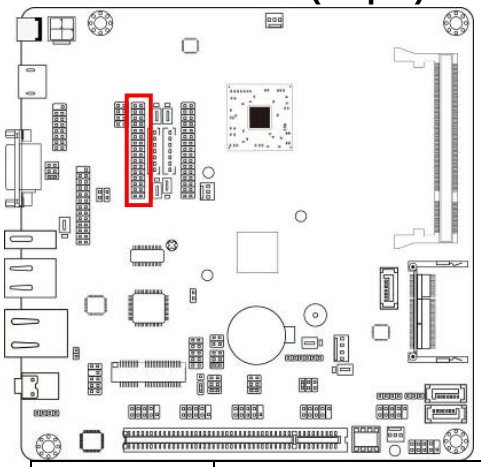
HDMI_SPDIF Header

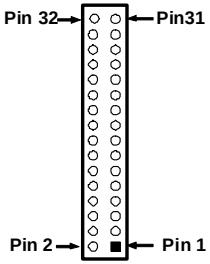
(4) VGA Header (15-pin): VGA1





(5) 24-bit LVDS Header (32-pin): LVDS1 (Optional)

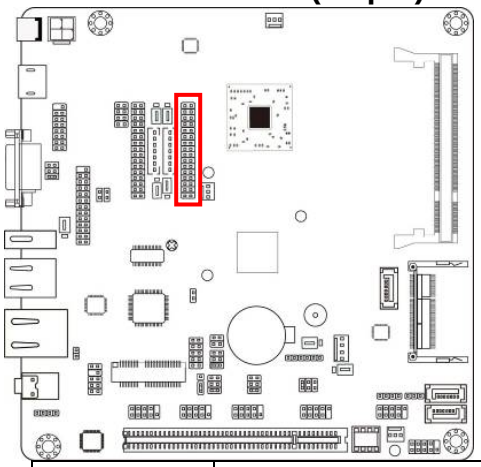


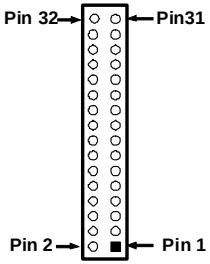


LVDS1 Header

Pin NO.	Pin Define	Pin NO.	Pin Define
Pin 1	LVDSB_DATAN3	Pin 2	LVDSB_DATAP3
Pin 3	LVDS_CLKBN	Pin 4	LVDS_CLKBP
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	NC/LVDSA_DATAP3	Pin 18	NC/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

(6) 18-bit LVDS Header (32-pin): LVDS2

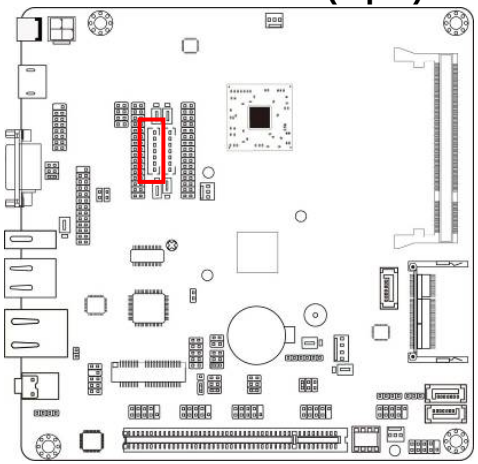


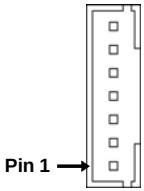


LVDS2 Header

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	LVDS_DDC_DATA	Pin 12	LVDS_DDC_CLK
Pin 13	GND	Pin 14	GND
Pin 15	GND	Pin 16	GND
Pin 17	NC/LVDSA_DATAP3	Pin 18	NC/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

(7) LVDS Inverter Header (7-pin): INVERTER1 (Optional)

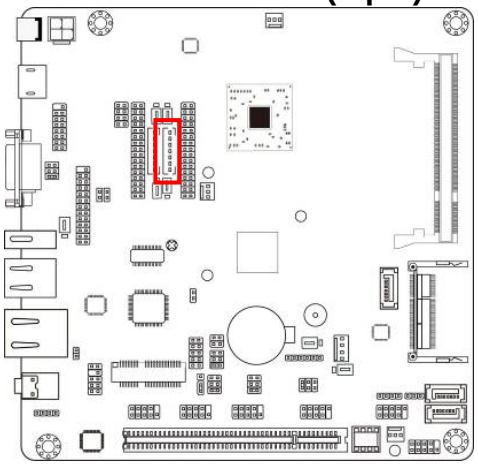


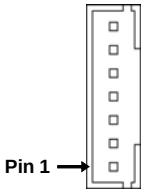


INVERTER1

Pin No.	Definition
1	VCC
2	VCC
3	GND
4	GND
5	Backlight
6	GND
7	Brightness

(8) LVDS Inverter Header (7-pin): INVERTER2





INVERTER2

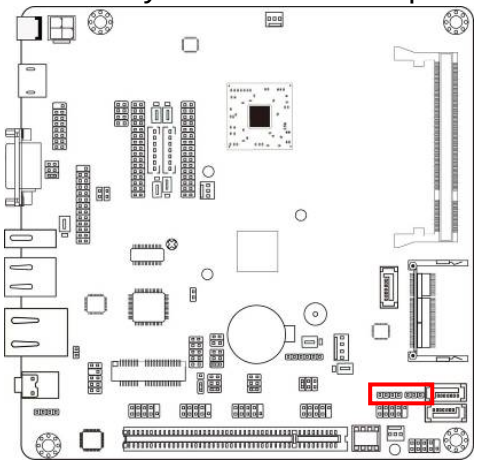
Pin No.	Definition
1	VCC
2	VCC
3	GND
4	GND
5	Backlight
6	GND
7	Brightness

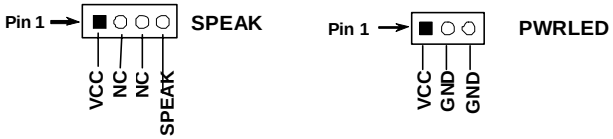
(9) Speaker Header (4-pin): SPEAK

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

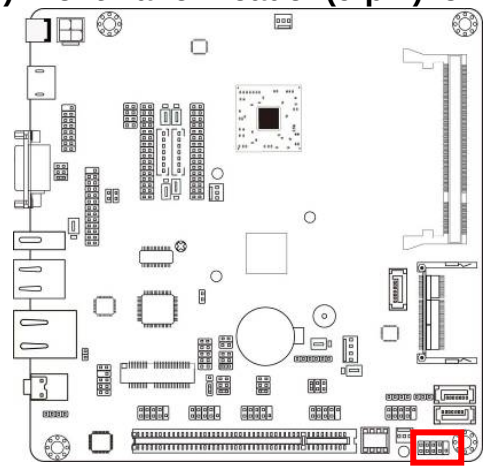
(10) Power LED Header (3-pin): PWR LED

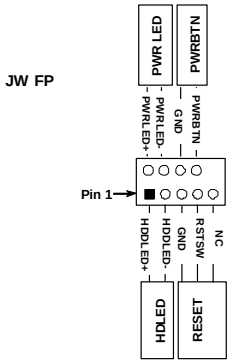
The Power LED is light on while the system power is on. Connect the Power LED from the system case to this pin header.



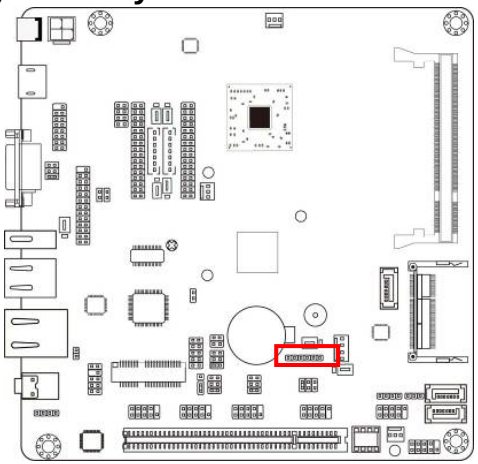


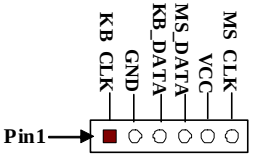
(11) Front Panel Header (9-pin): JW-FP



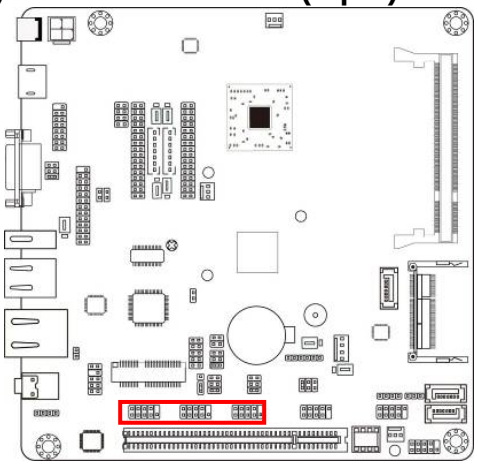


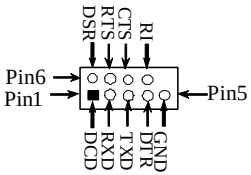
(12) PS/2 Keyboard & Mouse Header (6-pin): KBMS





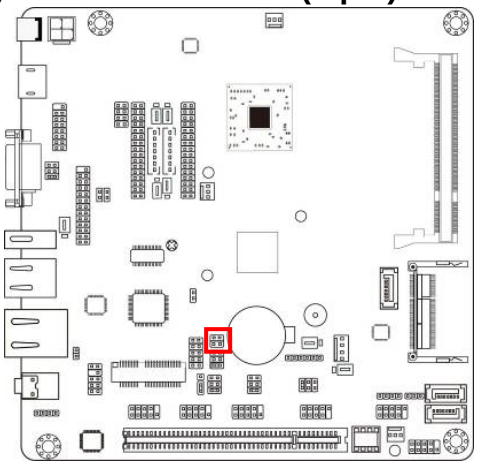
(13) Serial Port Header (9-pin): COM2, COM3, COM4

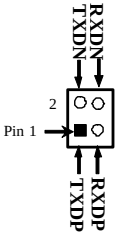




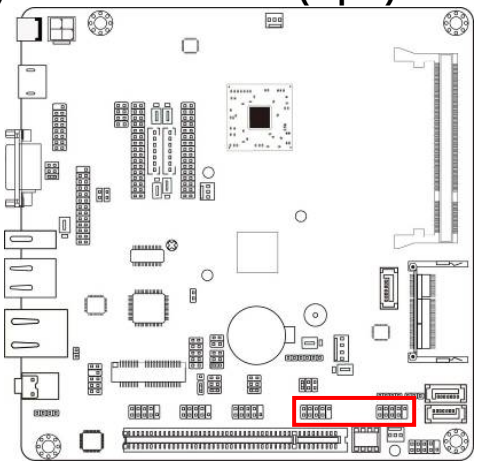
Serial COM Port 9-pin Block

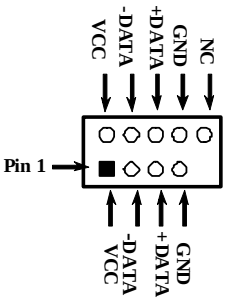
(14) RS422/485 Header (4-pin): TX-RX





(15) USB Port Headers (9-pin): USB3, USB4



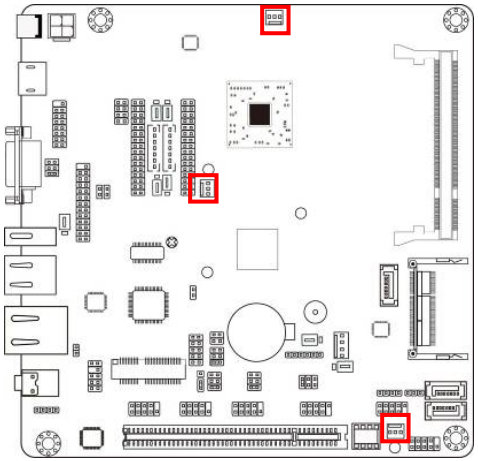


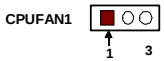
(16)FAN Speed Headers (3-pin): CPUFAN1, SYSFAN1, SYSFAN2

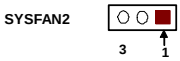
Pin1: GND

Pin2: +12V fan power

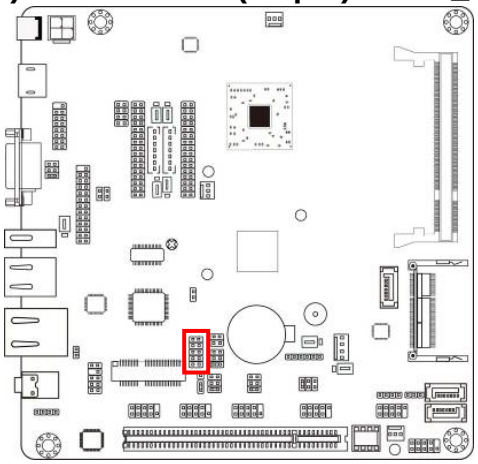
Pin3: Fan Speed

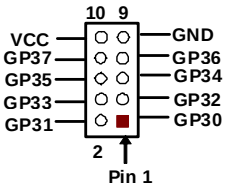






(17) GPIO Header (10-pin): GPIO_CON





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.

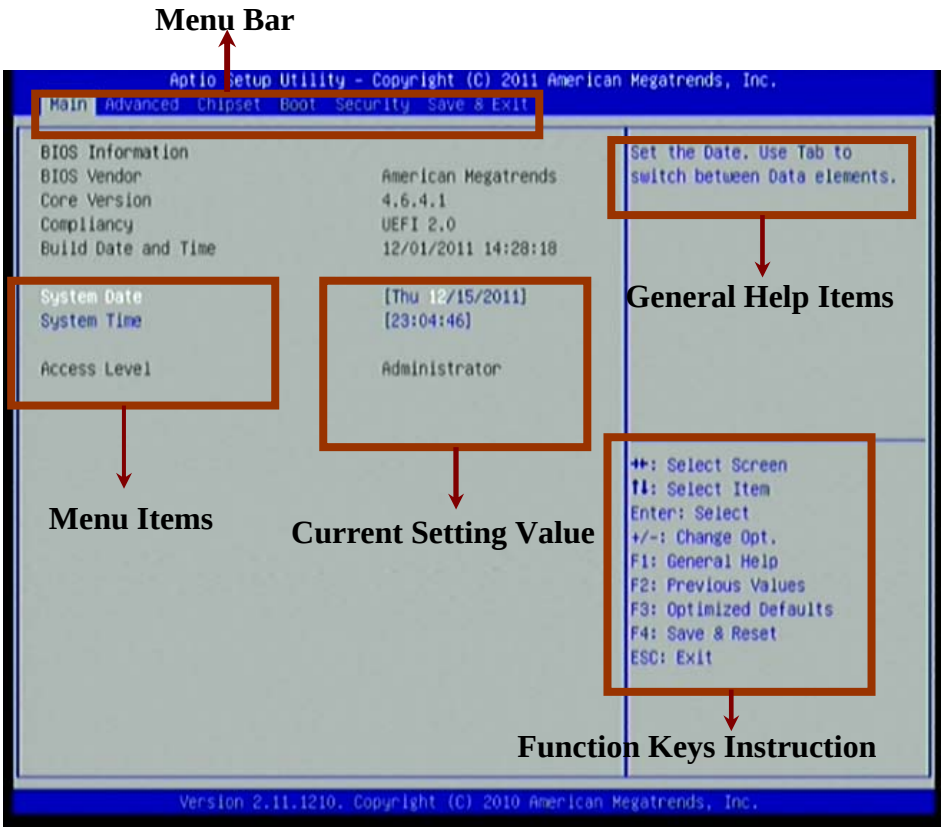
3-1 Entering Setup

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 BIOS Menu Screen

The following diagram show a general BIOS menu screen:



3-3 Function Key

In the above BIOS Setup main menu, 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←→ (left, right) to select screen;
- Press ↑↓ (up, down) to choose the item you want to confirm or to modify in the main menu.
- Press <Enter> to select.
- Press <+>/<–> key when you want to modify the BIOS parameters for the active option.
- [F1]: Press to general help information.
- [F2]: Press to load previous value.
- [F3]: Press to load optimized defaults.
- [F4]: Save and Reset.
- Press <Esc> to exit from BIOS Setup.

3-4 Getting Help

Main Menu

The on-line description of the highlighted setup function is displayed at the top right corner 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>.

3-5 Menu Bar

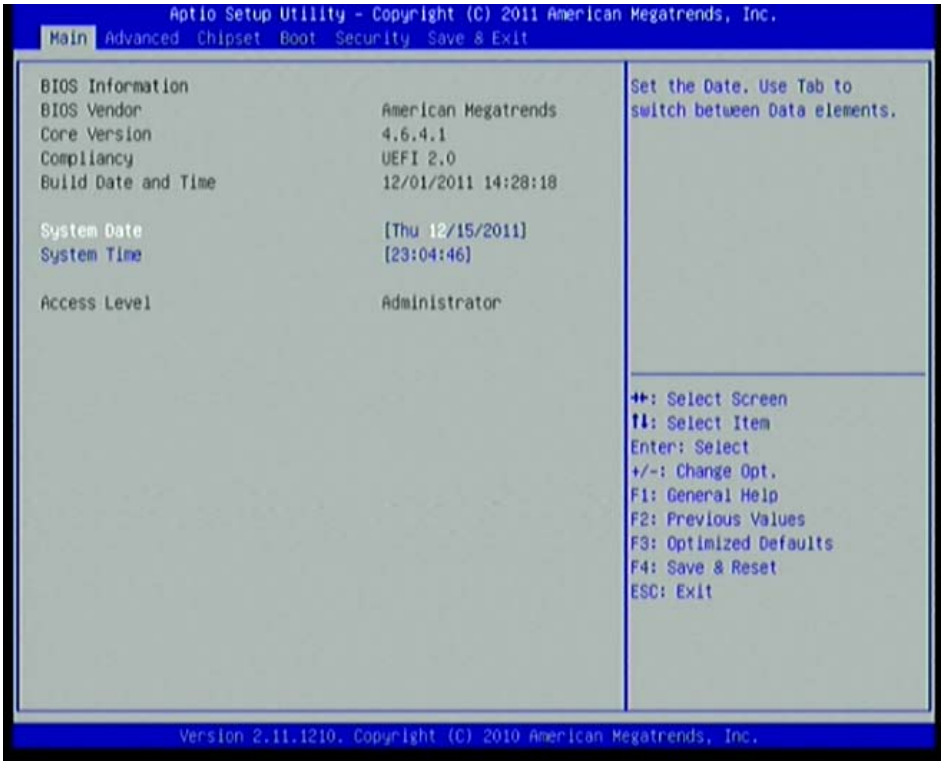
There are six menu bars on top of BIOS screen:

Main	To change system basic configuration
Advanced	To change system advanced configuration
Chipset	To change chipset configuration
Boot	To change boot settings
Security	Password settings
Save & Exit	Save setting, loading and exit options.

User can press the ←/→ (left, right) arrow key on the keyboard to switch from menu bar. The selected one is highlighted.

3-6 Main Menu

Main menu screen includes some basic system information. Highlight the item and then use the <+> / <-> key or numerical keyboard keys to select the value you want in each item.



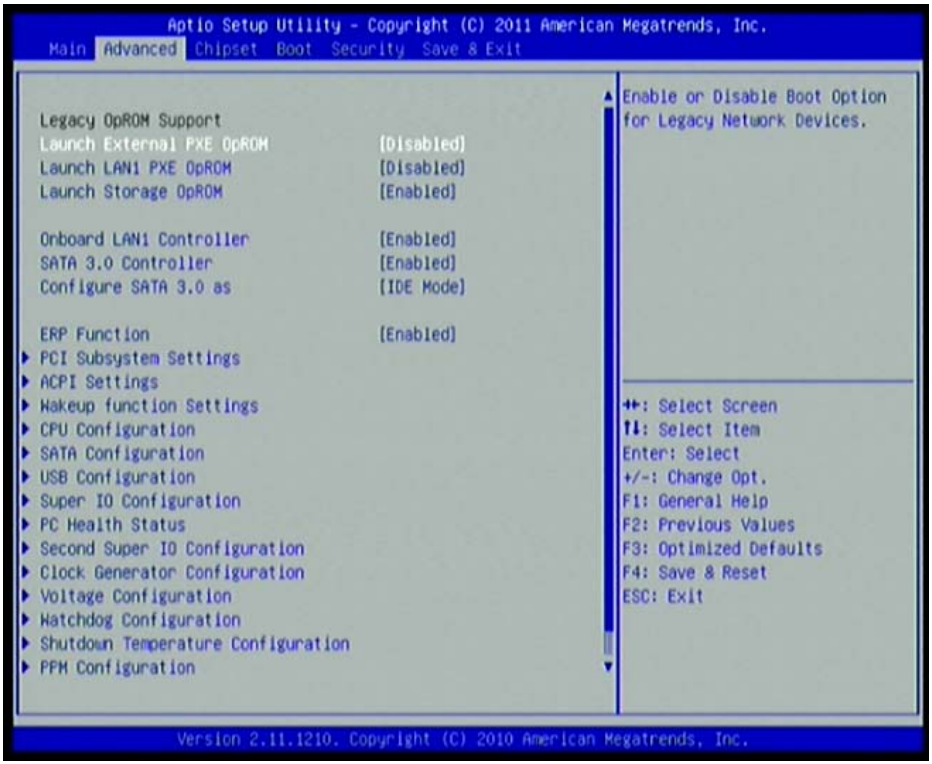
System Date

Set the date. Please use [TAB] to switch between data elements.

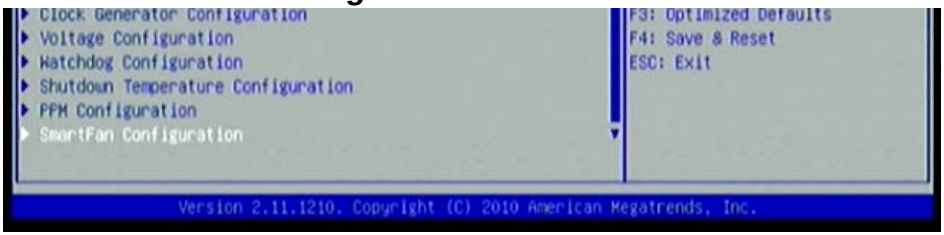
System Time

Set the time. Please use [TAB] to switch between time elements.

3-7 Advanced Menu



Scroll down to view more setting items…



Launch External PxE OpROM/Launch LAN1 PXE OpROM

Use this item to enable or disable boot option for legacy network devices.

Launch Storage OpROM

Use this item to enable or disable boot option for legacy mass storage devices with option ROM.

Onboard LAN 1 Controller

Use this item to enable or disable PCI Express root port 1.

SATA 3.0 Controller

Use this item to enable or disable SATA 3.0 controller.

Configure SATA 3.0 as

Use this item to select an operative mode for SATA 3.0 controller. The optional settings are: [IDE Mode]; [AHCI Mode].

ERP Function

Use this item to enable or disable ERP function for this board.

PCI Subsystem Settings

Press [Enter] to enter and make settings for the following sub-items:

PCI ROM Priority

In the case of multiple option ROMs(Legacy and EFI compatible), specifies what PCI option ROM to launch. The optional settings: [Legacy ROM]; [EFI Compatible ROM].

PCI Common Settings:

PCI Latency Timer

Use this item to set value to be programmed into PCI latency timer register.

VGA Palette Snoop

Use this item to enable or disable VGA palette register snooping.

PERR# Generation

Use this item to enable or disable PCI device to generate PERR#.

SERR# Generation

Use this item to enable or disable PCI device to generate SERR#.

ACPI Settings

ACPI Sleep State

Use this item to select the highest ACPI sleep state the system will enter when the suspend button is pressed.

The optional settings are: [S1(CPU Stop Clock)]; [S3 (Suspend to ROM)].

Wakeup Function Settings

Wake System with Fixed Time

Use this item to enable or disable system wake on alarm event. When set as [Enabled], system will wake on the hour/min/sec specified.

PS2 KB/MS Wakeup

Use this item to enable or disable PS2 KB/MS wakeup function. This function is only supported when ERP function is set as [Disabled].

PCI PME Wakeup

Use this item to enable or disable S3/S4/S5 PCI PME wakeup. This function is only supported when ERP function is set as [Disabled].

CPU Configuration

Hyper-Threading

The optional settings are: [Disabled]; [Enabled].Set as [Enabled] for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and [Disabled] for

other OS (OS not optimized for Hyper-Threading Technology).

Execute Disable Bit

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

Limit CPUID Maximum

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

This item should be set as [Disabled] for Windows XP.

SATA Configuration

SATA Controller(s)

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

Configure SATA as

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

USB Configuration

Legacy USB Support

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

EHCI Hand-off

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

USB Transfer time-out

Use this item to set the time-out value for control, bulk, and interrupt transfers.

Device reset time-out

Use this item to set USB mass storage device start unit command time-out.

Device power-up delay

Use this item to set maximum time the device will take before it properly reports itself to the host controller. ‘Auto’ uses default value: for a root port it is 100 ms, for a hub port the delay is taken from hub descriptor. The optional settings: [Auto];

[Manual].Select [Manual] you can set value for the following sub-item:

Device Power-up delay in seconds, the delay range in from 1 to 40 seconds in one second increments.

Super I/O Configuration

COM1 Port Configuration/ COM2 Port Configuration

Press [Enter] to make settings for the following items:

Serial Port

Use this item to enable or disable serial port (COM).

Change Settings

Use this item to select an optimal setting for super IO device.

Parallel Port Configuration

Press [Enter] to make settings for the following items:

Parallel Port

Use this item to enable or disable parallel port (LPT/LPTE).

Change Settings

Use this item to select an optimal setting for super IO device.

Device Mode

Use this item to change the printer port mode.

PS2 KB/MS Connect

Use this item to set PS2 connect primary device. The optional settings are: [Keyboard First]; [Mouse First].

Case Open Detect

To detect if the case has bee opened or not.The optional settings are: [Enabled]; [Disabled].

PC Health Status

Press [Enter] to view hardware health status.

Second Super I/O Configuration

COM3 Port Configuration

Press [Enter] to make settings for the following items:

Serial Port

Use this item to enable or disable serial port (COM).

Change Settings

Use this item to select an optimal setting for super IO device.

COM4 Port Configuration

Press [Enter] to make settings for the following items:

Serial Port

Use this item to enable or disable serial port (COM).

Change Settings

Use this item to select an optimal setting for super IO device.

Serial Port Mode Select

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

Clock Generator Configuration

Clockgen Spread Spectrum

Use this item to enable or disable spread spectrum function.

IO Output Voltage

Use this item to set IO output voltage.

Voltage Configuration

DIMM Voltage

The optional settings are: [Default]; [+50mV]; [+100mV]; [+150mV].

WatchDog Configuration

WatchDog Timer Control

Use this item to enable or disable WatchDog Timer Control. When set as [Enabled], the following sub-items shall appear:

WatchDog Timer Value

User can set a value in the range of 4 to 255.

WatchDog Timer Unit

The optional settings are: [Second];[Minute].

Shutdown Temperature Configuration

Use this item to select system shutdown temperature.

PPM Configuration

Use this item to set PPM configuration parameters. Press [Enter] to make settings for the following sub-items:

EIST

Use this item to enable or disable Intel Speed Step.

CPU C-State Report

Use this item to enable or disable CPUC-state report to OS.

Enhanced C-state

Use this item to enable or disable enhanced CPU C-state.

SmartFan Configuration

CPUFAN / SYSFAN1/SYSFAN2 SmartFan Mode

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

CPUFAN / SYSFAN1/SYSFAN2 Full Speed Temp

Use this item to set a degree for CPU/System fan1/ System fan2 FAN will run at full speed when above the specific temperature set.

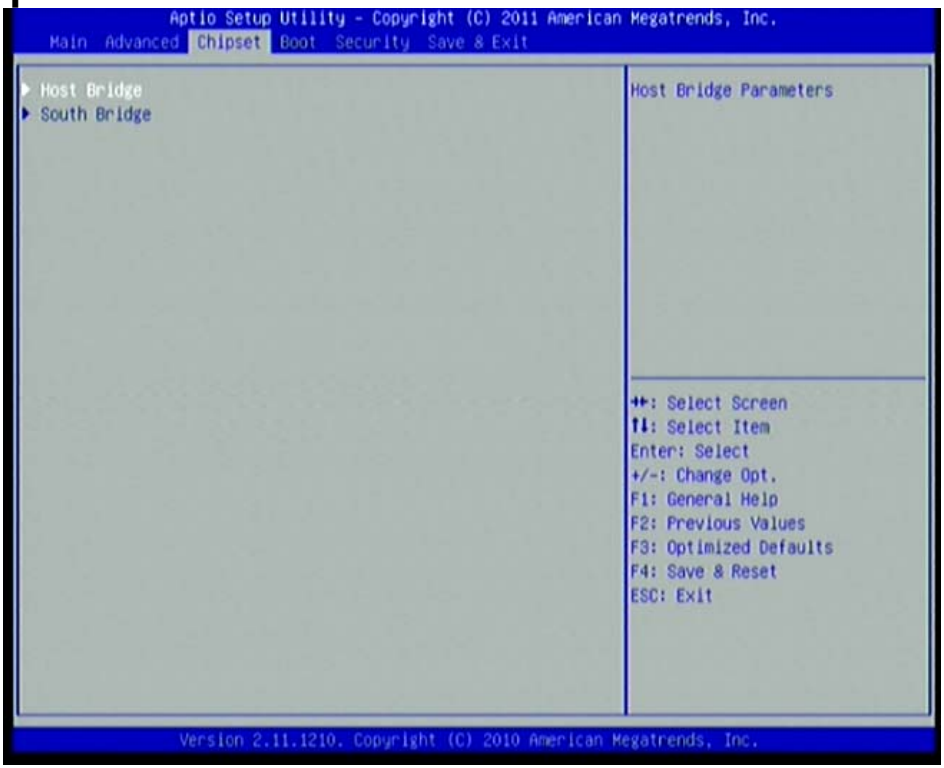
CPUFAN / SYSFAN1/SYSFAN2 Idle Temp

Use this item to set a degree for CPU/System fan1/ System fan2. FAN will idle speed when below this temperature.

CPUFAN / SYSFAN1/SYSFAN2 Stop Temp

Use this item to set a degree for CPU/System fan1/ System fan2. CPU FAN will stop when below this temperature.

3-8 Chipset Menu



Host Bridge

Press [Enter] to make settings for Intel IGD Configuration:

Internal Graphics:

Use this item to keep IGD enabled based on the setup options. The optional settings are: [Disabled]; [Auto].

IGFX-Boot Type

Use this item to set the video device which will be activated during POST. This has no effect if external graphics presents.

The optional settings are: [VBIOS Default]; [CRT]; [HDMI]; [LVDS2]; [LVDS1]; [CRT+HDMI]; [LVDS1+HDMI]; [CRT+LVDS2]; [CRT+LVDS1].

Active LFP

The optional settings are: [Disable LVDS]; [Enable LVDS].

In the case **IGFX-Boot Type** is set as **[LVDS2], [CRT+LVDS2]** the following setting item shall appear:

LCD Panel Type:

The optional settings are: [1024 x 600]; [800 x 600]; [1024 x 768 18bit]; [1366 x 768]; [1200 x 800].

South Bridge

Azalia Controller

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

UHCI #1 (Ports 0 and 1)/ UHCI #2 (Ports 2 and 3)/UHCI #3 (Ports 4 and 5)/UHCI #4 (Ports 6 and 7)

Use this item to control the USB UHCI (USB 1.1) functions. The optional settings are: [Enabled]; [Disabled].

USB 2.0 (EHCI) Support

Use this item to enable or disable USB 2.0 (EHCI) support. The optional settings are: [Enabled]; [Disabled].

High Precision Event Timer Configuration:

High Precision Timer

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

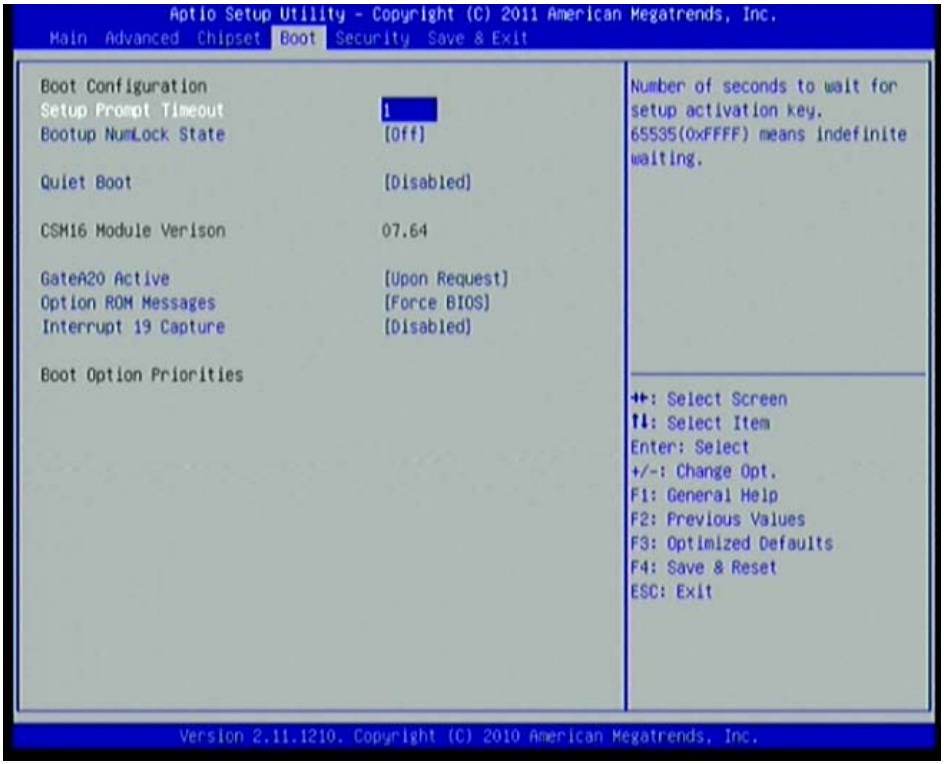
SLP_S4 Assertion Width

Use this item to select a minimum assertion width of the SLP_S4# signal.

Restore AC Power Loss

Use this item to select AC power state when power is re-applied after a power failure (G3 State). The optional settings are: [Power Off]; [Power On]; [Last State].

3-9 Boot Menu



Setup Prompt Timeout

Use this item to set number of seconds to wait for setup activation key.

Bootup Numlock State

Use this item to select keyboard numlock state. The optional settings are: [On]; [Off].

Quiet Boot

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

Gate A20 Active

The optional settings are: [Upon Request]; [Always].

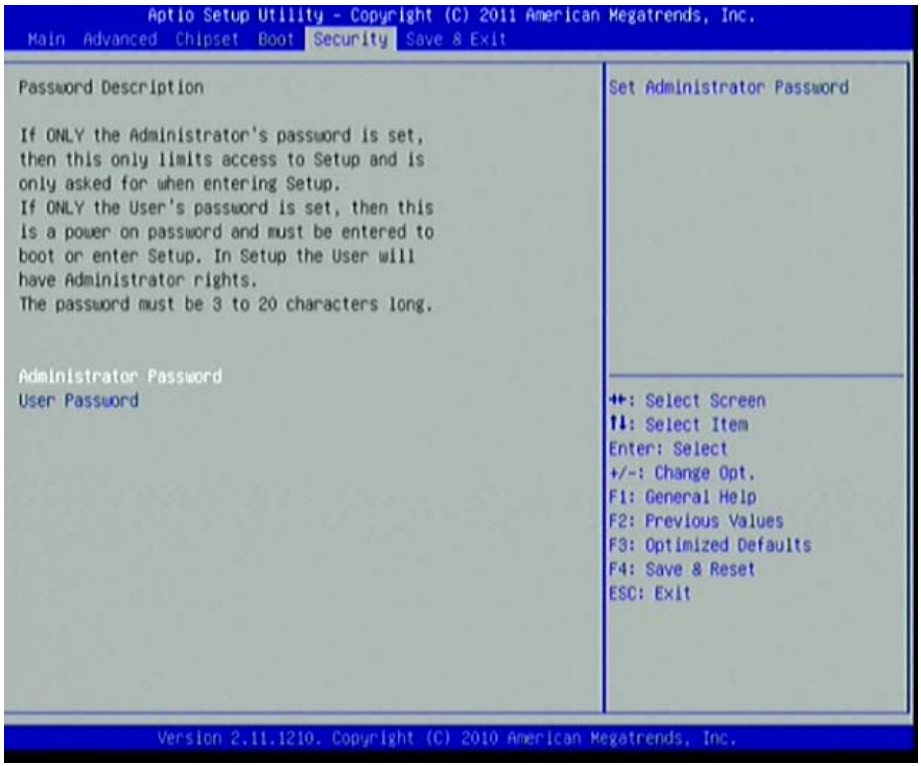
Option ROM Message

Use this item to set display mode for option ROM. The optional settings are: [Force BIOS]; [Keep Current].

Interrupt 19 Capture

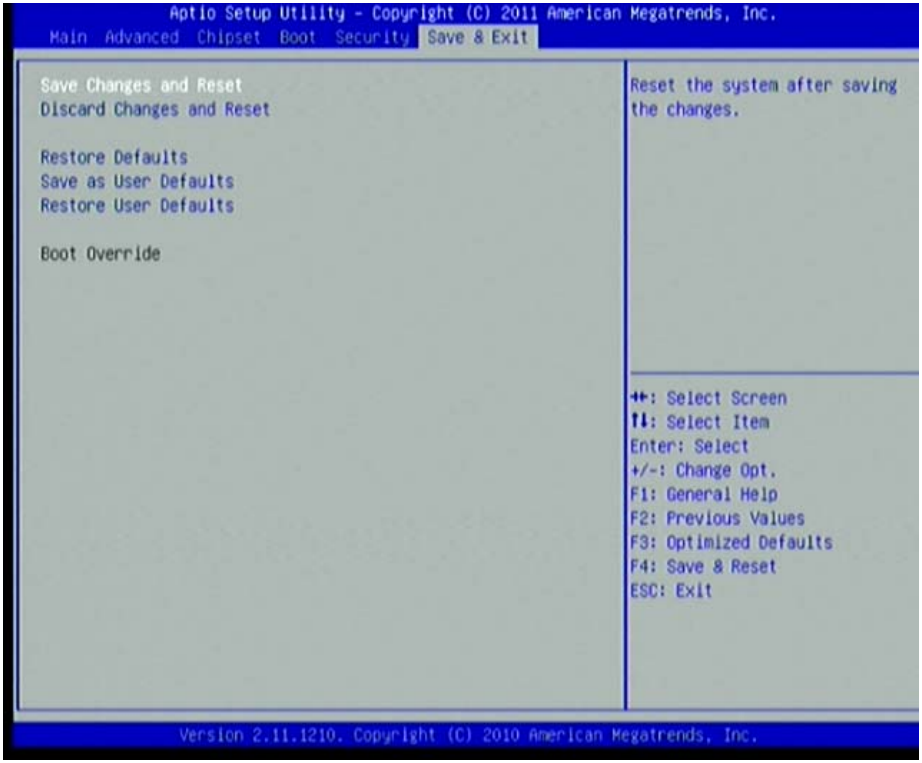
The optional settings are: [Enabled]; [Disabled].

3-10 Security Menu



Security menu allow users to change administrator password and user password settings.

3-11 Save & Exit Menu



Save Changes and Reset

This item allows user to reset the system after saving the changes.

Discard changes and Reset

This item allows user to reset the system without saving any changes.

Restore Defaults

Use this item to restore /Load default values for all the setup options.

Save as User Defaults

Use this item to save the changes done so far as user defaults.

Restore User Defaults

Use this item to restore defaults to all the setup options.