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sintetica**

Ai sensi dell'art. 2 comma 3 del D.M.
275 del 30/10/2002

Si dichiara che questo prodotto è
conforme alle normative vigenti e
soddisfa i requisiti essenziali richiesti
dalle direttive

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quando ad esso applicabili

Short Declaration of conformity

We declare this product is complying
with the laws in force and meeting all
the essential requirements as specified
by the directives

2004/108/CE, 2006/95/CE and
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CHAPTER 1: INTRODUCTION

1.1 BEFORE YOU START

Thank you for choosing our product. Before you start installing the motherboard, please make sure you follow the instructions below:

- Prepare a dry and stable working environment with sufficient lighting.
- Always disconnect the computer from power outlet before operation.
- Before you take the motherboard out from anti-static bag, ground yourself properly by touching any safely grounded appliance, or use grounded wrist strap to remove the static charge.
- Avoid touching the components on motherboard or the rear side of the board unless necessary. Hold the board on the edge, do not try to bend or flex the board.
- Do not leave any unfastened small parts inside the case after installation. Loose parts will cause short circuits which may damage the equipment.
- Keep the computer from dangerous area, such as heat source, humid air and water.
- The operating temperatures of the computer should be 0 to 45 degrees Celsius.
- To avoid injury, be careful of:
 - Sharp pins on headers and connectors
 - Rough edges and sharp corners on the chassis
 - Damage to wires that could cause a short circuit

1.2 PACKAGE CHECKLIST

- ☒ Serial ATA Cable x2
- ☒ Rear I/O Panel for ATX Case x1
- ☒ Quick Installation Guide x1
- ☒ Fully Setup Driver DVD x1

Note: The package contents may be different due to the sales region or models in which it was sold. For more information about the standard package in your region, please contact your dealer or sales representative.



1.3 MOTHERBOARD FEATURES

SPEC		
CPU	Socket 1155 Intel Core i7 / i5 / i3 / Pentium / Celeron processor	Supports Execute Disable Bit / Enhanced Intel SpeedStep® / Intel Architecture-64 / Extended Memory 64 Technology / Virtualization Technology / Hyper Threading
Chipset	Intel H61	
Super I/O	IT8772E Provides the most commonly used legacy Super I/O functionality Low Pin Count Interface	Environment Control initiatives Hardware Monitor Controller Fan Speed Controller ITE's "Smart Guardian" function
Main Memory	DDR3 DIMM Slots x 2 Max Memory Capacity 16GB Each DIMM supports 512MB/ 1GB/2GB/4GB/8GB DDR3	Dual Channel Mode DDR3 memory module Supports DDR3 1066 / 1333 Supports DDR3 1600 (depending on CPU) Registered DIMM and ECC DIMM is not supported
SATA 2	Integrated Serial ATA Controller	Data transfer rates up to 3.0 Gb/s SATA Version 2.0 specification compliant
LAN	RTL8111H	10 / 100 / 1000Mb/s auto negotiation
Sound Codec	ALC662	5.1 channels audio out , High Definition Audio
Slots	PCI-E Gen3x16 slot x1 (depending on CPU)	Supports PCI-E Gen2/3 x16 expansion card
	PCI-E Gen2 x1 slot x1	Supports PCI-E Gen2 x1 expansion card
On Board Connectors	SATA2 Connector x4	Each connector supports 1 SATA2 device
	Front Panel Connector x1	Supports front panel facilities
	Chassis Speaker Connector x1	Supports chassis speaker
	Front Audio Connector x1	Supports front panel audio function
	CPU Fan Header x1	CPU Fan power supply (with Smart Fan function)
	System Fan Header x1	System Fan Power supply
	Clear CMOS Header x1	Restore CMOS data to factory default
	USB2.0 Connector x2	Each connector supports 2 front panel USB2.0 ports
	Serial Port Connector x1	Connects to RS-232 Port
	Power Connector (24pin) x1	Connects to Power supply
	Power Connector (4pin) x1	Connects to Power supply
Rear Panel I/O	PS/2 Keyboard/ Mouse x1	Connects to PS/2 Keyboard & Mouse
	VGA Port x1	Connect to D-SUB monitor
	HDMI Port x1	Connect to HDMI monitor
	LAN port x1	Connect to RJ-45 Ethernet cable
	USB2.0 Port x4	Connect to USB2.0 devices
	Audio Jack x3	Provide Audio-In/Out and Mic. Connection
Board Size	170 (W) x 191 (L) mm	
OS Support	Windows XP / Vista / 7 / 8 / 8.1 / 10	Biostar reserves the right to add or remove support for any OS with or without notice



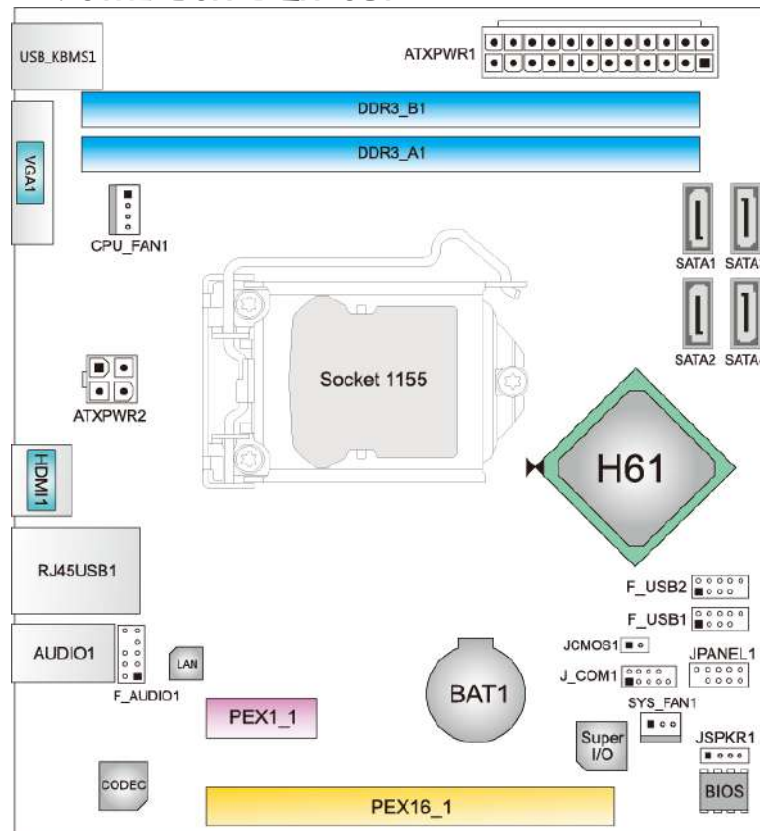
1.4 REAR PANEL CONNECTORS



Note1: VGA Output requires an Intel Core family processor with Intel Graphics Technology.

Note2: VGA Maximum resolution: 2048 x 1536 @75Hz

1.5 MOTHERBOARD LAYOUT

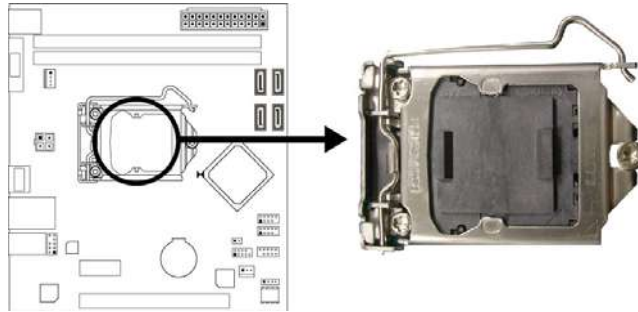


Note1: ■ represents the 1st pin.

CHAPTER 2: HARDWARE INSTALLATION

2.1 INSTALLING CENTRAL PROCESSING UNIT (CPU)

Step 1: Locate the CPU socket on the motherboard

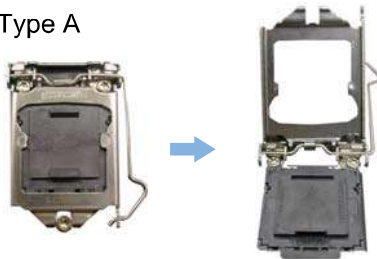


Note1: Remove Pin Cap before installation, and make good preservation for future use. When the CPU is removed, cover the Pin Cap on the empty socket to ensure pin legs won't be damaged.

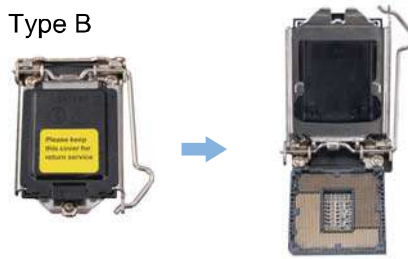
Note2: The motherboard might equip with two different types of pin cap. Please refer below instruction to remove the pin cap.

Step 2: Pull the socket locking lever out from the socket and then raise the lever up.

Type A

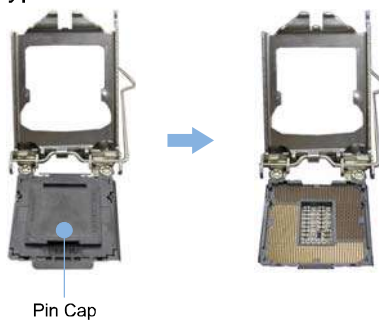


Type B

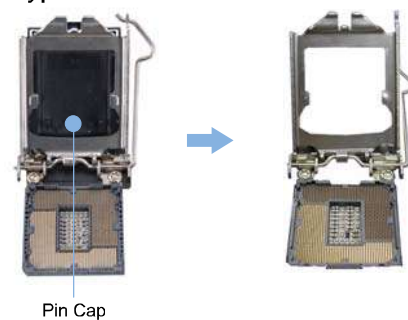


Step 3: Remove the Pin Cap.

Type A



Type B



H61MHV2

Step 4: Hold processor with your thumb and index fingers, oriented as shown. Align the notches with the socket. Lower the processor straight down without tilting or sliding the processor in the socket.



Note: The CPU fits only in one correct orientation. Do not force the CPU into the socket to prevent damaging the CPU.

Step 5: Hold the CPU down firmly, and then lower the lever to locked position to complete the installation.

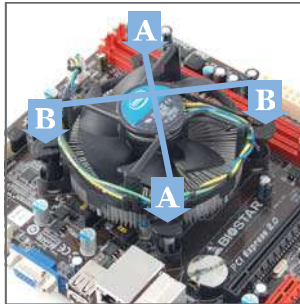


2.2 INSTALL A HEATSINK

Step 1: Place the CPU fan assembly on top of the installed CPU and make sure that the four fasteners match the motherboard holes. Orient the assembly and make the fan cable is closest to the CPU fan connector.



Step 2: Press down two fasteners at one time in a diagonal sequence to secure the CPU fan assembly in place. Ensure that all four fasteners are secured.



Note1: Do not forget to connect the CPU fan connector.

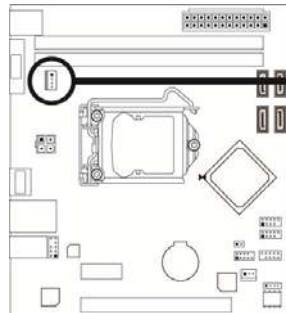
Note2: For proper installation, please kindly refer to the installation manual of your CPU heatsink.



2.3 FAN HEADERS

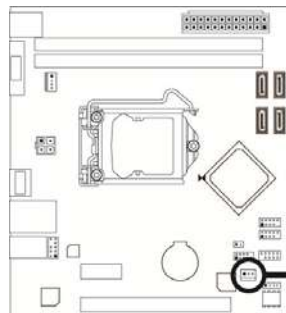
These fan headers support cooling-fans built in the computer. The fan cable and connector may be different according to the fan manufacturer. Connect the fan cable to the connector while matching the black wire to pin#1.

CPU_FAN1: CPU Fan Header



Pin	Assignment
1	Ground
2	+12V
3	FAN RPM rate sense
4	Smart Fan Control (By Fan)

SYS_FAN1: System Fan Header



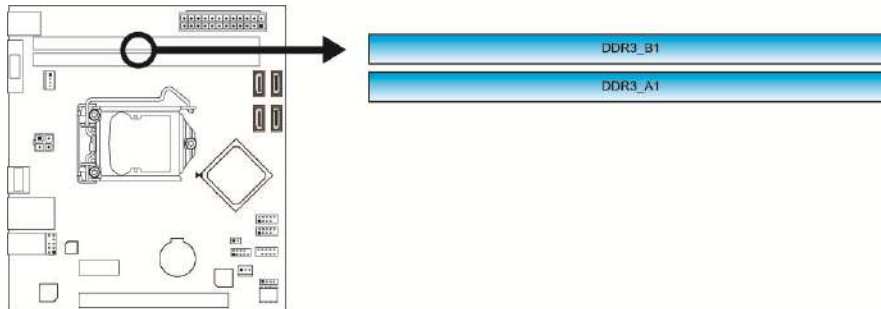
Pin	Assignment
1	Ground
2	+12V
3	FAN RPM rate sense

Note: CPU_FAN1 support 4-pin and 3-pin head connectors. When connecting with wires onto connectors, please note that the red wire is the positive and should be connected to pin#2, and the black wire is Ground and should be connected to GND.
SYS_FAN3 support 3-pin head connectors. When connecting with wires onto connectors, please note that the red wire is the positive and should be connected to pin#2, and the black wire is Ground and should be connected to GND.

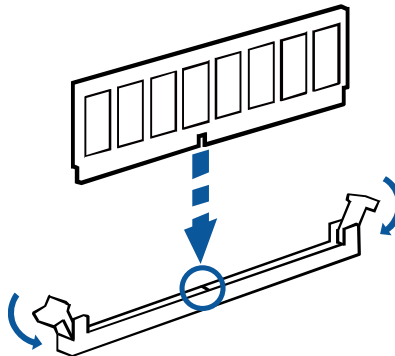


2.4 INSTALLING SYSTEM MEMORY

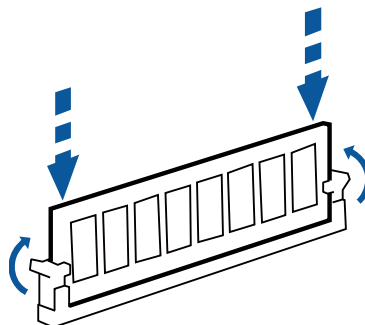
A. Memory Modules



Step 1: Unlock a DIMM slot by pressing the retaining clips outward. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.



Step 2: Insert the DIMM vertically and firmly into the slot until the retaining chip snap back in place and the DIMM is properly seated.



Note: If the DIMM does not go in smoothly, do not force it. Pull it all the way out and try again.



B. Memory Capacity

DIMM Socket Location	DDR3 Module	Total Memory Size
DDR3_A1	512MB/1GB/2GB/4GB/8GB	Max is 16GB.
DDR3_B1	512MB/1GB/2GB/4GB/8GB	

C. Dual Channel Memory Installation

Please refer to the following requirements to activate Dual Channel function:
Install memory module of the same density in pairs, shown in the table.

Dual Channel Status	DDR3_A1	DDR3_B1
Disabled	O	X
Disabled	X	O
Enabled	O	O

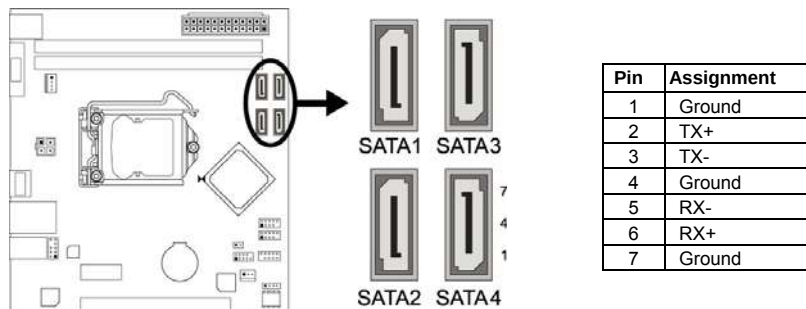
(O means memory installed; X, not installed.)

Note: The DRAM bus width of the memory module must be the same (x8 or x16)

2.5 CONNECTORS AND SLOTS

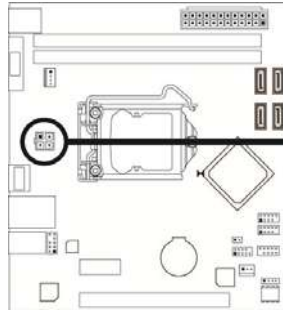
SATA1~SATA4: Serial ATA Connectors

These connectors connect to SATA hard disk drives via SATA cables.
Those satisfy the SATA 2.0 spec and with transfer rate of 3.0Gb/s.



ATXPWR2: ATX Power Source Connector

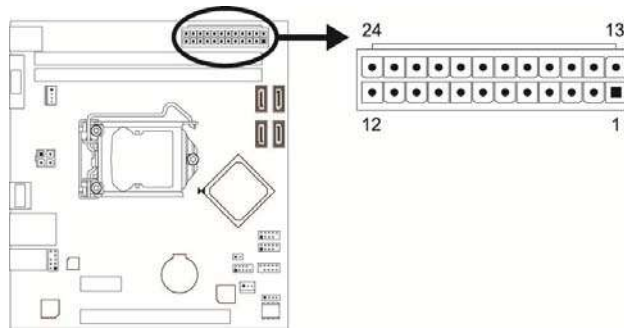
This connector provides +12V to CPU power circuit.



Pin	Assignment
1	+12V
2	+12V
3	Ground
4	Ground

ATXPWR1: ATX Power Source Connector

This connector allows user to connect 24-pin power connector on the ATX power supply.



Pin	Assignment	Pin	Assignment
13	+3.3V	1	+3.3V
14	-12V	2	+3.3V
15	Ground	3	Ground
16	PS_ON	4	+5V
17	Ground	5	Ground
18	Ground	6	+5V
19	Ground	7	Ground
20	NC	8	PW_OK
21	+5V	9	Standby Voltage+5V
22	+5V	10	+12V
23	+5V	11	+12V
24	Ground	12	+3.3V

Note1: Before you power on the system, please make sure that both ATXPWR1 and ATXPWR2 connectors have been plugged-in.

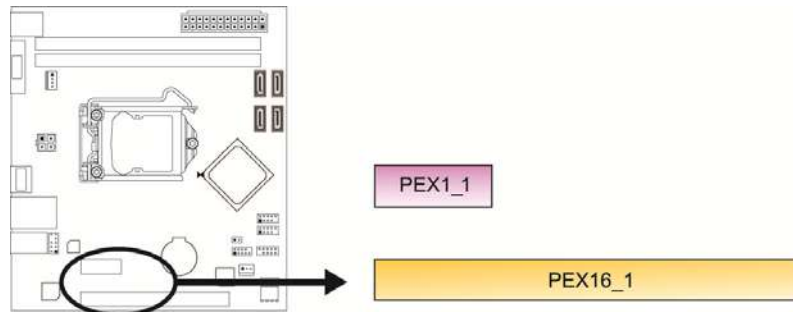
Note2: Insufficient power supplied to the system may result in instability or the peripherals not functioning properly. Use of a PSU with a higher power output is recommended when configuring a system with more power-consuming devices.

PEX16_1: PCI-Express Gen3 x16 Slot

- PCI-Express 3.0 compliant.
- Maximum theoretical realized bandwidth of 16GB/s simultaneously per direction, for an aggregate of 32GB/s totally.
- PCI-E 3.0 is supported by Core i7-3xxx / i5-3xxx CPU.

PEX1_1: PCI-Express Gen2 x1 Slot

- PCI-Express 2.0 compliant.
- Data transfer bandwidth up to 500MB/s per direction; 1GB/s in total.

**Install an Expansion Card**

You can install your expansion card by following steps:

1. Read the related expansion card's instruction document before install the expansion card into the computer.
2. Remove your computer's chassis cover, screws and slot bracket from the computer.
3. Place a card in the expansion slot and press down on the card until it is completely seated in the slot.
4. Secure the card's metal bracket to the chassis back panel with a screw.
5. Replace your computer's chassis cover.
6. Power on the computer, if necessary, change BIOS settings for the expansion card.
7. Install related driver for the expansion card.



CHAPTER 3: HEADERS & JUMPERS SETUP

3.1 HOW TO SETUP JUMPERS

The illustration shows how to set up jumpers. When the jumper cap is placed on pins, the jumper is “close”, if not, that means the jumper is “open”.



Pin opened



Pin closed

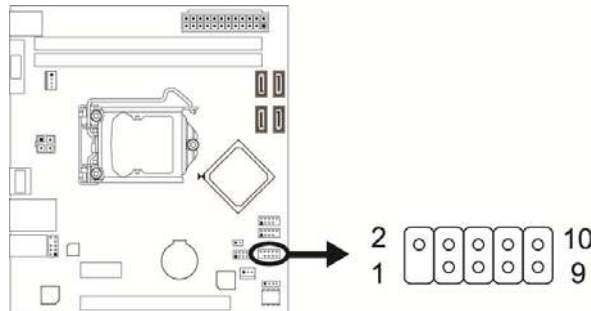


Pin1-2 closed

3.2 DETAIL SETTINGS

JPANEL1: Front Panel Header

This connector includes Power-on, Reset, HDD LED and Power LED connections. It allows user to connect the PC case's front panel switch functions.

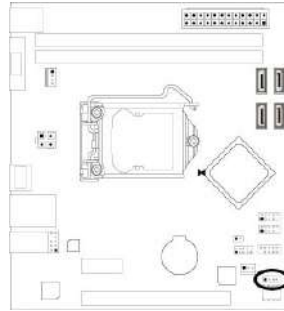


Pin	Assignment	Function	Pin	Assignment	Function
1	N/A	N/A	2	Power LED (+)	Power LED
3	HDD LED(+)	HDD LED	4	Power LED (+)	
5	HDD LED(-)		6	Power LED (-)	
7	Ground	Reset Button	8	Power Button	Power-On Button
9	Reset Control		10	Ground	



JSPKR1: Chassis Speaker Header

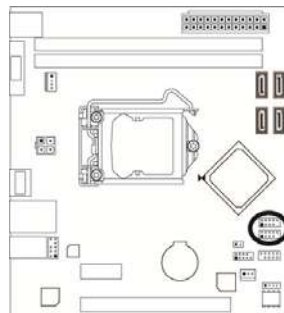
Please connect the chassis speaker to this header.



Pin	Assignment
1	+5V
2	N/A
3	N/A
4	Speaker

F_USB1/F_USB2: Headers for USB 2.0 Ports at Front Panel

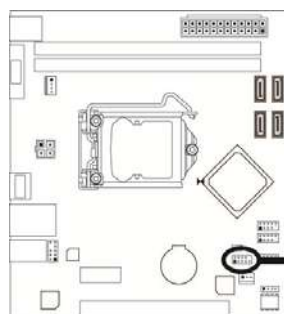
These headers allow users to connect additional USB cable on the PC front panel, and also can be connected with internal USB devices, like USB card reader.



Pin	Assignment
1	+5V (fused)
2	+5V (fused)
3	USB-
4	USB-
5	USB+
6	USB+
7	Ground
8	Ground
9	Key
10	NC

J_COM1: Serial Port Connector

The motherboard has a Serial Port Connector for connecting RS-232 Port.

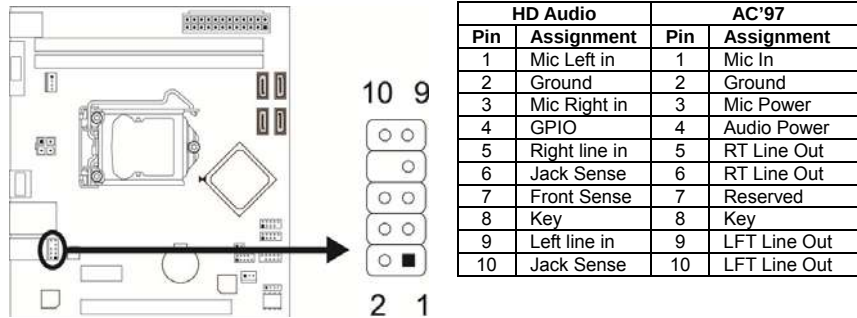


Pin	Assignment
1	Carrier detect
2	Received data
3	Transmitted data
4	Data terminal ready
5	Signal ground
6	Data set ready
7	Request to send
8	Clear to send
9	Ring indicator
10	Key



F_AUDIO1: Front Panel Audio Header

This header allows users to connect the front audio output cable with the PC front panel.

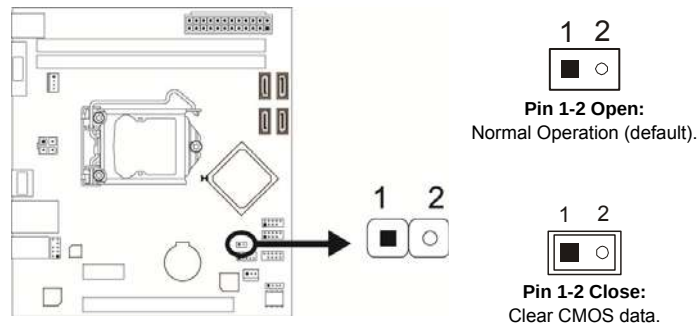


Note1: It is recommended that you connect a high-definition front panel audio module to this connector to avail of the motherboard's high definition audio capability.

Note2: Please try to disable the "Front Panel Jack Detection" if you want to use an AC'97 front audio output cable. The function can be found via O.S. Audio Utility.

JCMOS1: Clear CMOS Jumper

The jumper allows users to restore the BIOS safe setting and the CMOS data. Please carefully follow the procedures to avoid damaging the motherboard.



※ Clear CMOS Procedures:

1. Remove AC power line.
2. Set the jumper to "Pin 1-2 close", you can use a metal object like a screwdriver to touch the two pins.
3. Wait for five seconds.
4. After clearing the CMOS values, be sure the jumper is "Pin 1-2 open".
5. Power on the AC.
6. Load Optimal Defaults and save settings in CMOS.

CHAPTER 4: USEFUL HELP

4.1 DRIVER INSTALLATION NOTE

After you installed your operating system, please insert the Fully Setup Driver DVD into your optical drive and install the driver for better system performance. You will see the following window after you insert the DVD



The setup guide will auto detect your motherboard and operating system.

Note: If this window didn't show up after you insert the Driver DVD, please use file browser to locate and execute the file SETUP.EXE under your optical drive.

A. Driver Installation

To install the driver, please click on the Driver icon. The setup guide will list the compatible driver for your motherboard and operating system. Click on each device driver to launch the installation program.

B. Software Installation

To install the software, please click on the Software icon. The setup guide will list the software available for your system, click on each software title to launch the installation program.

C. Manual

Aside from the paperback manual, we also provide manual in the Driver DVD. Click on the Manual icon to browse for available manual.

Note: You will need Acrobat Reader to open the manual file. Please download the latest version of Acrobat Reader software from <http://get.adobe.com/reader/>



4.2 BIOS UPDATE

There are three ways to update the BIOS: BIOS-FLASHER.

Note: The programming procedure may take minutes, please do not make any operation during the programming process.

BIOSTAR BIOS Flasher

BIOSTAR BIOS Flasher is a BIOS flashing utility providing you an easy and simple way to update your BIOS via USB pen drive.

The BIOS-FLASHER is built in the BIOS ROM. To enter the utility, press **<F12>** during the **Power-On Self Tests (POST)** procedure while booting up.

Note1: This utility only allows storage device with FAT32/16 format and single partition.

Note2: Shutting down or resetting the system while updating the BIOS will lead to system boot failure.

Updating BIOS with BIOS-FLASHER

1. Go to the website to download the latest BIOS file for the motherboard.
2. Then, copy and save the BIOS file into a USB flash (pen) drive.
3. Insert the USB pen drive that contains the BIOS file to the USB port.
4. Power on or reset the computer and then press **<F12>** during the **POST** process.

5. After entering the POST screen, the BIOS-FLASHER utility pops out. Choose [fs0] to search for the BIOS file.



6. Select the proper BIOS file, and a message asking if you are sure to flash the BIOS file. Click Yes to start updating BIOS.



7. A dialog pops out after BIOS flash is completed, asking you to restart the system. Press the [Y] key to restart system.



8. While the system boots up and the full screen logo shows up, press  <Delete> key to enter BIOS setup.

After entering the BIOS setup, please go to the **Save & Exit**, using the **Restore Defaults** function to load Optimized Defaults, and select **Save Changes and Reset** to restart the computer. Then, the BIOS Update is completed.



4.3 AMI BIOS BEEP CODE

Boot Block Beep Codes

Number of Beeps	Description
Continuing	Memory sizing error or Memory module not found

POST BIOS Beep Codes

Number of Beeps	Description
1	Success booting.
8	Display memory error (system video adapter)

4.4 TROUBLESHOOTING

Probable	Solution
- There is no power in the system. Power LED does not shine; the fan of the power supply does not work - Indicator light on keyboard does not shine.	- Make sure power cable is securely plugged in. - Replace cable. - Contact technical support.
System is inoperative. Keyboard lights are on, power indicator lights are lit, and hard drives are running.	Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.
System does not boot from a hard disk drive, but can be booted from optical drive.	- Check cable running from disk to disk controller board. Make sure both ends are securely plugged in; check the drive type in the standard CMOS setup. - Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.
System only boots from an optical drive. Hard disks can be read, applications can be used, but system fails to boot from a hard disk.	- Back up data and applications files. - Reformat the hard drive. Re-install applications and data using backup disks.
Screen message shows "Invalid Configuration" or "CMOS Failure."	Review system's equipment. Make sure correct information is in setup.
System cannot boot after the user installs a second hard drive.	- Set master/slave jumpers correctly. - Run SETUP program and select correct drive types. Call the drive manufacturers for compatibility with other drives.



CPU Overheated

If the system shutdown automatically after power on system for seconds, that means the CPU protection function has been activated.

When the CPU is over heated, the motherboard will shutdown automatically to avoid a damage of the CPU, and the system may not power on again.

In this case, please double check:

1. The CPU cooler surface is placed evenly with the CPU surface.
2. CPU fan is rotated normally.
3. CPU fan speed is fulfilling with the CPU speed.

After confirmed, please follow steps below to relief the CPU protection function.

1. Remove the power cord from power supply for seconds.
2. Wait for seconds.
3. Plug in the power cord and boot up the system.

Or you can:

1. Clear the CMOS data.
(See "Close CMOS Header: JCMOS1" section)
2. Wait for seconds.
3. Power on the system again.

