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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.

### 1.2 PACKAGE CHECKLIST

- ✚ IDE Cable X 1
- ✚ Serial ATA Cable X 1
- ✚ Rear I/O Panel for ATX Case X 1
- ✚ Installation Guide X 1
- ✚ Fully Setup Driver CD X 1 (full version manual files inside)
- ✚ FDD Cable X 1 (optional)
- ✚ USB 2.0 Cable X1 (optional)
- ✚ Serial ATA Power Cable X 1 (optional)

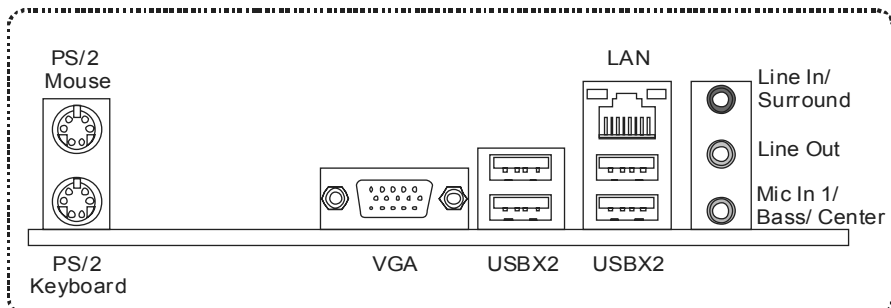
**Note:** The package contents may be differed by area or your motherboard version.

### 1.3 MOTHERBOARD FEATURES

| SPEC                  |                                                                                                                        |                                                                                                                                                                         |
|-----------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU                   | LGA 775<br>Intel Core2Duo / Pentium Dual-Core /<br>Celeron Dual-Core / Celeron 4xx<br>processor<br>(Maximum Watt: 65W) | Supports Hyper-Threading / Execute Disable Bit /<br>Enhanced Intel SpeedStep® / Intel Architecture-64 /<br>Extended Memory 64 Technology / Virtualization<br>Technology |
| FSB                   | Support 800 / 1066 / 1333 MHz                                                                                          |                                                                                                                                                                         |
| Chipset               | Intel G31<br>Intel ICH7                                                                                                |                                                                                                                                                                         |
| Super I/O             | ITE 8712F<br>Provides the most commonly used legacy<br>Super I/O functionality.<br>Low Pin Count Interface             | Environment Control initiatives,<br>Hardware Monitor Controller<br>Fan Speed Controller<br>ITE's "Smart Guardian" function                                              |
| Main<br>Memory        | DIMM Slots x 2<br>Each DIMM supports 256MB / 512MB /<br>1GB / 2GB DDR2<br>Max Memory Capacity 4GB                      | Dual Channel Mode DDR2 memory module<br>Supports DDR2 800/667<br>Registered DIMM and ECC DIMM is not supported                                                          |
| Graphics              | GMA 3100                                                                                                               | Max Shared Video Memory is 256MB                                                                                                                                        |
| IDE                   | Integrated IDE Controller                                                                                              | Ultra DMA 33 / 66 / 100 Bus Master Mode<br>supports PIO Mode 0~4                                                                                                        |
| SATA 2                | Integrated Serial ATA Controller                                                                                       | Data transfer rates up to 3.0 Gb/s.<br>SATA Version 2.0 specification compliant                                                                                         |
| LAN                   | Realtek RTL 8102EL                                                                                                     | 10 / 100 Mb/s auto negotiation<br>Half / Full duplex capability                                                                                                         |
| Sound<br>Codec        | ALC662                                                                                                                 | 5.1 channels audio out<br>High Definition Audio                                                                                                                         |
| Slots                 | PCI slot                                                                                                               | x1 Supports PCI expansion cards                                                                                                                                         |
|                       | PCI Express x 16 slot                                                                                                  | x1 Supports PCI-E x16 expansion cards                                                                                                                                   |
| On Board<br>Connector | Floppy connector                                                                                                       | x1 Each connector supports 2 Floppy drives                                                                                                                              |
|                       | Printer Port Connector                                                                                                 | x1 Each connector supports 1 Printer port                                                                                                                               |
|                       | Serial port Connector (Optional)                                                                                       | x1 Connects to RS-232 Port                                                                                                                                              |

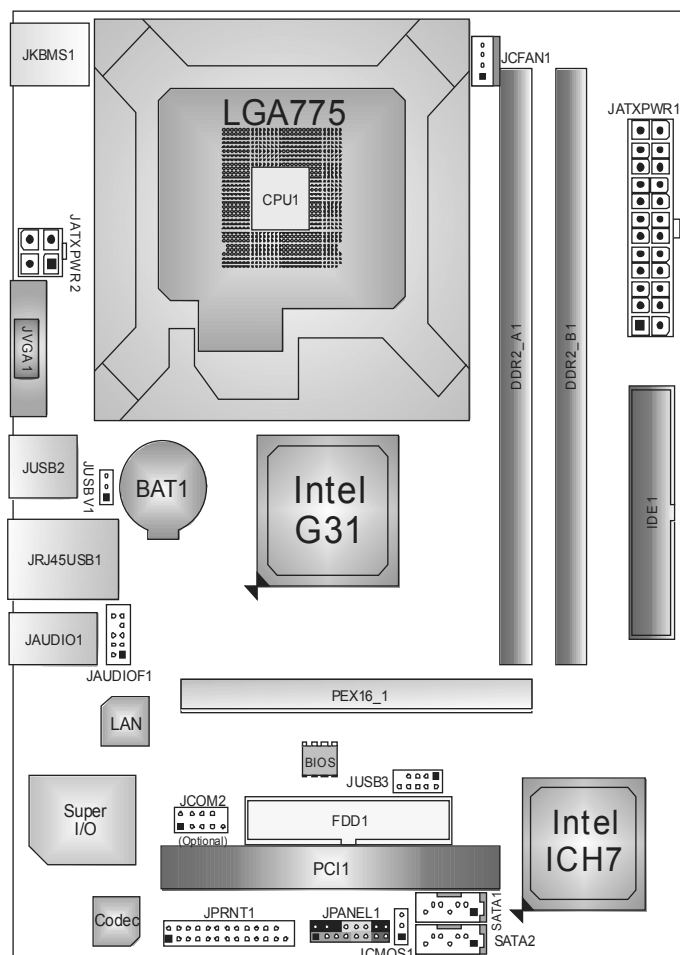
| SPEC              |                                        |    |                                                                                       |
|-------------------|----------------------------------------|----|---------------------------------------------------------------------------------------|
|                   | IDE Connector                          | x1 | Each connector supports 2 IDE device                                                  |
|                   | SATA Connector                         | x2 | Each connector supports 1 SATA devices                                                |
|                   | Front Panel Connector                  | x1 | Supports front panel facilities                                                       |
|                   | Front Audio Connector                  | x1 | Supports front panel audio function                                                   |
|                   | CPU Fan header                         | x1 | CPU Fan power supply (with Smart Fan function)                                        |
|                   | Clear CMOS header                      | x1 | Restore CMOS data to factory default                                                  |
|                   | USB connector                          | x1 | Each connector supports 2 front panel USB ports                                       |
|                   | Power Connector (24pin)                | x1 | Connects to Power supply                                                              |
|                   | Power Connector (4pin)                 | x1 | Connects to Power supply                                                              |
| Back Panel<br>I/O | PS/2 Keyboard                          | x1 | Connects to PS/2 Keyboard                                                             |
|                   | PS/2 Mouse                             | x1 | Connects to PS/2 Mouse                                                                |
|                   | VGA port                               | x1 | Connect to D-SUB monitor                                                              |
|                   | LAN port                               | x1 | Connect to RJ-45 ethernet cable                                                       |
|                   | USB Port                               | x4 | Connect to USB devices                                                                |
|                   | Audio Jack                             | x3 | Provide Audio-In/Out and microphone connection                                        |
| Board Size        | 170 (W) x 225 (L) mm                   |    |                                                                                       |
| OS Support        | Windows 2000 / XP / VISTA 32/ VISTA 64 |    | Biostar Reserves the right to add or remove support for any OS with or without notice |

## 1.4 REAR PANEL CONNECTORS



Since the audio chip supports High Definition Audio Specification, the function of each audio jack can be defined by software. The input / output function of each audio jack listed above represents the default setting. However, when connecting external microphone to the audio port, please use the Line In (blue) and Mic In (Pink) audio jack.

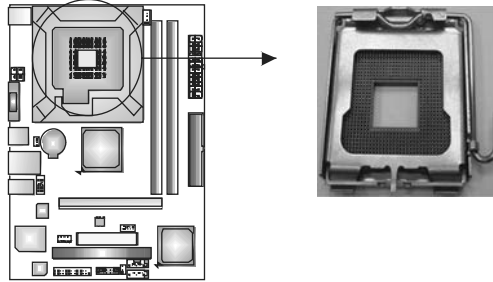
## 1.5 MOTHERBOARD LAYOUT



**Note:** ■ represents the 1<sup>st</sup> pin.

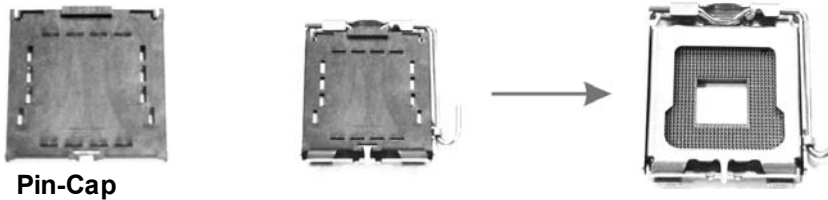
## CHAPTER 2: HARDWARE INSTALLATION

### 2.1 INSTALLING CENTRAL PROCESSING UNIT (CPU)

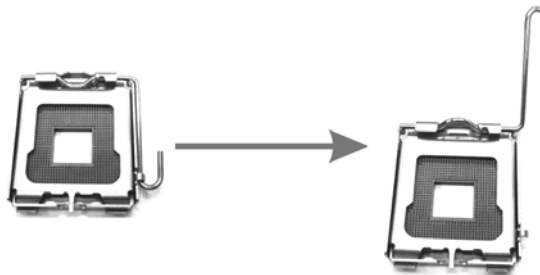


#### *Special Notice:*

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.



**Step 1:** Pull the socket locking lever out from the socket and then raise the lever up to a 90-degree angle.

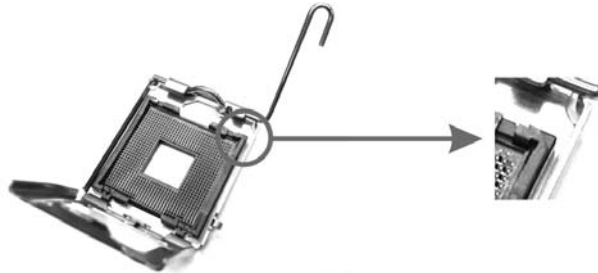


## Motherboard Manual

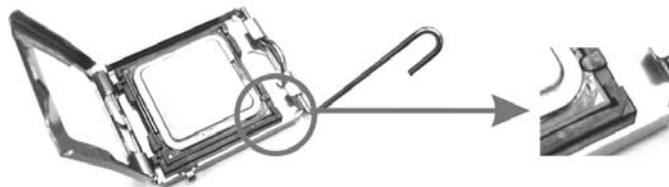
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**Step 2:** Look for the triangular cut edge on socket, and the golden dot on CPU should point forwards this triangular cut edge. The CPU will fit only in the correct orientation.

*Step 2-1:*



*Step 2-2:*



**Step 3:** Hold the CPU down firmly, and then lower the lever to locked position to complete the installation.

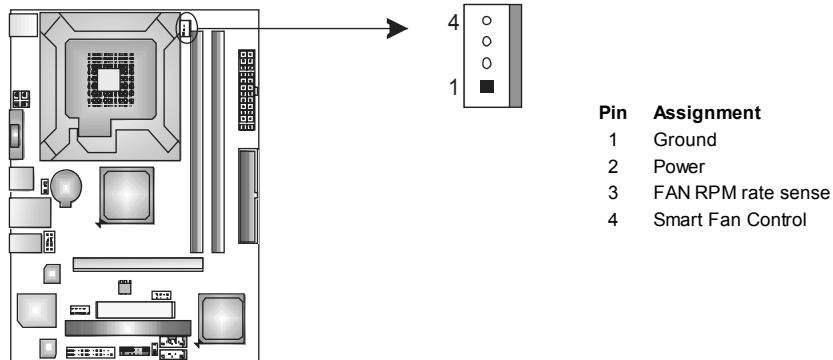


**Step 4:** Put the CPU Fan and heatsink assembly on the CPU and buckle it on the retention frame. Connect the CPU FAN power cable into the JCFAN1. This completes the installation.

## 2.2 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.

### JCFAN1: CPU Fan Header

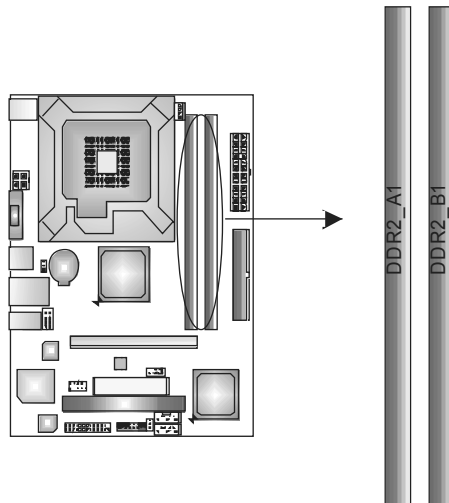


**Note:**

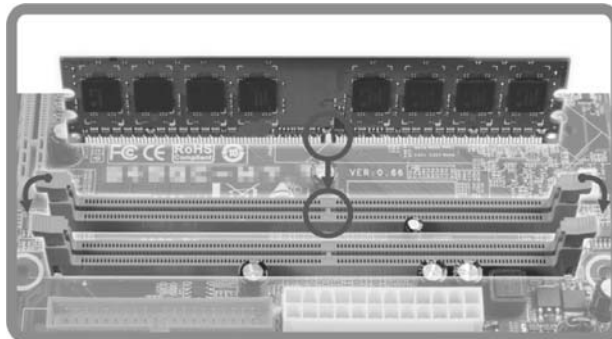
The JCFAN1 supports 4-pin head connector. When connecting with wires onto the connector, please note that the red wire is the positive and should be connected to pin#2, and the black wire is Ground and should be connected to GND.

## 2.3 INSTALLING SYSTEM MEMORY

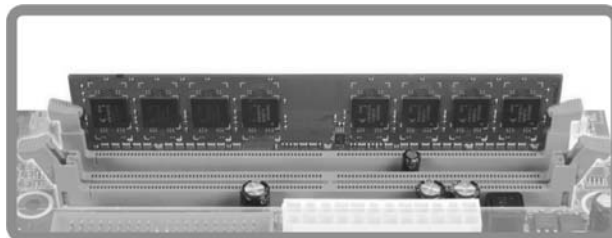
### A. DDR2 module



1. Unlock a DIMM slot by pressing the retaining clips outward. Align a DIMM on the slot so that the notch on the DIMM matches the break on the Slot.



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



**B. Memory Capacity**

| DIMM Socket Location | DDR2 Module         | Total Memory Size |
|----------------------|---------------------|-------------------|
| DDR2_A1              | 256MB/512MB/1GB/2GB | Max is 4GB.       |
| DDR2_B1              | 256MB/512MB/1GB/2GB |                   |

**C. Dual Channel Memory Installation**

To activate the Dual Channel function of the motherboard, the memory module must meet the following requirements:

Install memory module of the same density in pairs, shown in the following table.

| Dual Channel Status | DDR2_A1 | DDR2_B1 |
|---------------------|---------|---------|
| Disabled            | O       | X       |
| Disabled            | X       | O       |
| Enabled             | O       | O       |

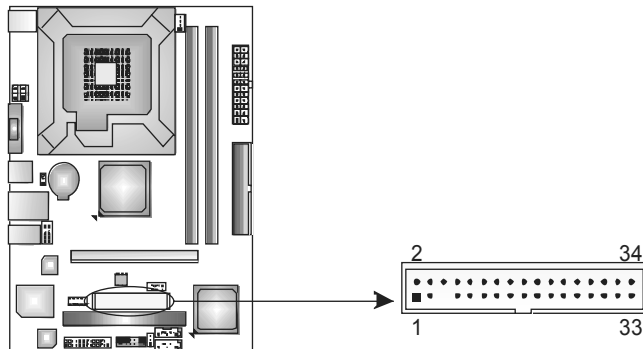
(O means memory installed, X means memory not installed.)

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

## 2.4 CONNECTORS AND SLOTS

### FDD1: Floppy Disk Connector

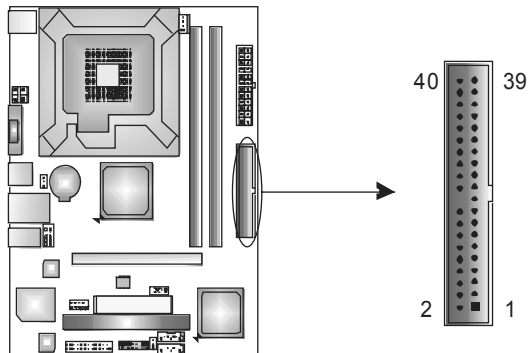
The motherboard provides a standard floppy disk connector that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the provided floppy drive ribbon cables.



### IDE1: IDE/ATAPI Connector

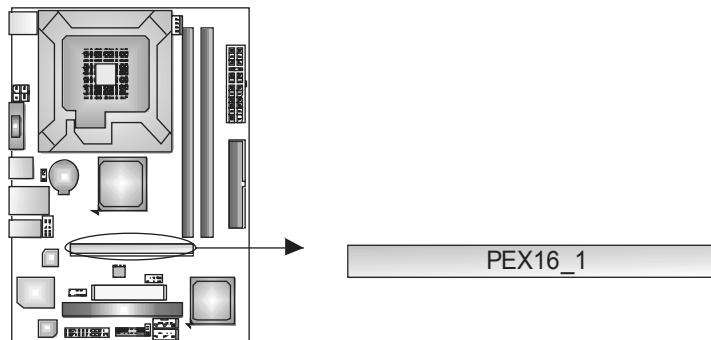
The motherboard has a 32-bit Enhanced PCI IDE Controller that provides PIO Mode 0~4, Bus Master, and Ultra DMA 33/66/100 functionality.

The IDE connector can connect a master and a slave drive, so you can connect up to two drives.

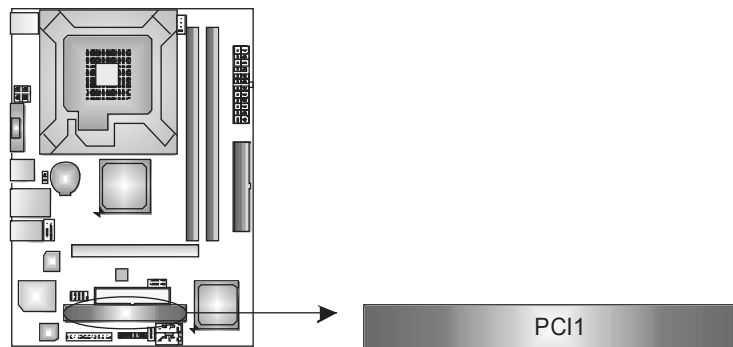


**PEX16\_1: PCI-Express x16 Slot**

- PCI-Express 1.0a compliant.
- Maximum theoretical realized bandwidth of 4GB/s simultaneously per direction, for an aggregate of 8GB/s totally.
- PCI-Express supports a raw bit-rate of 2.5Gb/s on the data pins.
- 2X bandwidth over the traditional PCI architecture.

**PCI1: Peripheral Component Interconnect Slot**

This motherboard is equipped with 1 standard PCI slot. PCI stands for Peripheral Component Interconnect, and it is a bus standard for expansion cards. This PCI slot is designated as 32 bits.



## 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

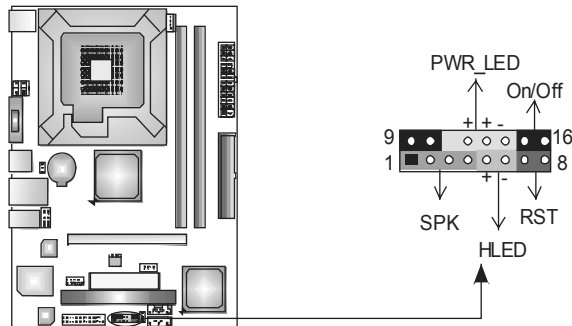


Pin1-2 closed

### 3.2 DETAIL SETTINGS

#### JPANEL1: Front Panel Header

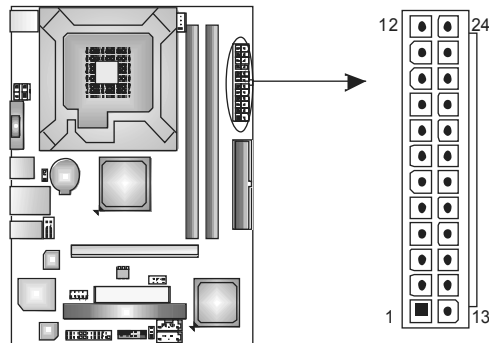
This 16-pin connector includes Power-on, Reset, HDD LED, Power LED, and speaker connection. It allows user to connect the PC case's front panel switch functions.



| Pin | Assignment    | Function          | Pin | Assignment    | Function        |
|-----|---------------|-------------------|-----|---------------|-----------------|
| 1   | +5V           |                   | 9   | N/A           | N/A             |
| 2   | N/A           | Speaker Connector | 10  | N/A           | N/A             |
| 3   | N/A           |                   | 11  | N/A           | N/A             |
| 4   | Speaker       |                   | 12  | Power LED (+) | Power LED       |
| 5   | HDD LED (+)   | Hard drive LED    | 13  | Power LED (+) |                 |
| 6   | HDD LED (-)   |                   | 14  | Power LED (-) |                 |
| 7   | Ground        | Reset button      | 15  | Power button  | Power-on button |
| 8   | Reset control |                   | 16  | Ground        |                 |

### JATXPWR1: ATX Power Source Connector

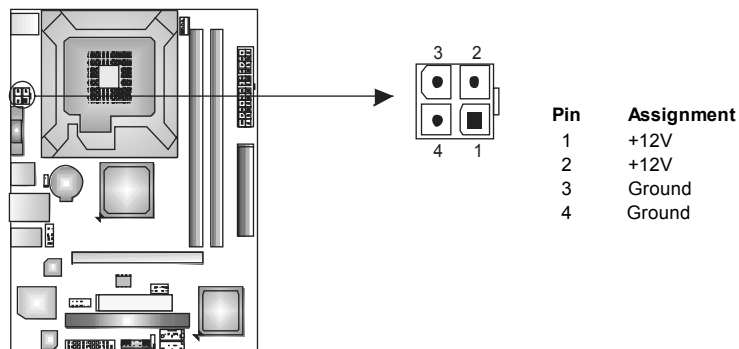
This connector allows user to connect 24-pin power connector on the ATX power supply.



| 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              |

### JATXPWR2: ATX Power Source Connector

By connecting this connector, it will provide +12V to CPU power circuit.



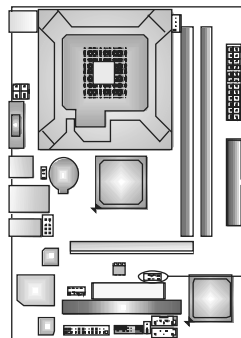
| Pin | Assignment |
|-----|------------|
| 1   | +12V       |
| 2   | +12V       |
| 3   | Ground     |
| 4   | Ground     |

#### Note:

Before power on the system, please make sure that both JATXPWR1 and JATXPWR2 connectors have been plugged-in.

### JUSB3: Header for USB 2.0 Ports at Front Panel

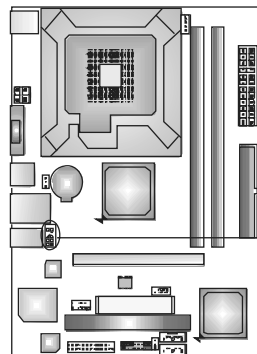
This motherboard provides 1 USB 2.0 header, which allows user to connect additional USB cable on the PC front panel, and also can be connected with internal USB devices, like USB card reader.



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

### JAUDIOF1: Front Panel Audio Header

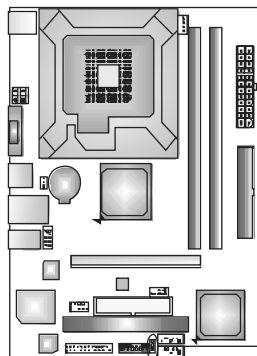
This header allows user to connect the front audio output cable with the PC front panel. This header allows only HD audio front panel connector; AC'97 connector is not acceptable.



| Pin | Assignment    |
|-----|---------------|
| 1   | Mic Left in   |
| 2   | Ground        |
| 3   | Mic Right in  |
| 4   | GPIO          |
| 5   | Right line in |
| 6   | Jack Sense    |
| 7   | Front Sense   |
| 8   | Key           |
| 9   | Left line in  |
| 10  | Jack Sense    |

### JCMOS1: Clear CMOS Header

Placing the jumper on pin2-3 allows user to restore the BIOS safe setting and the CMOS data, please carefully follow the procedures to avoid damaging the motherboard.



**Pin 1-2 Close:**  
Normal Operation  
(Default).



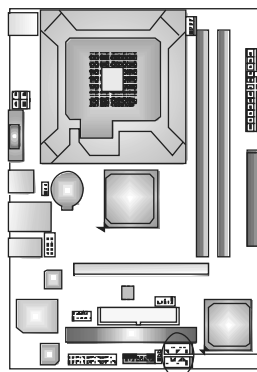
**Pin 2-3 Close:**  
Clear CMOS data.

#### ※ Clear CMOS Procedures:

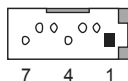
1. Remove AC power line.
2. Set the jumper to "Pin 2-3 close".
3. Wait for five seconds.
4. Set the jumper to "Pin 1-2 close".
5. Power on the AC.
6. Reset your desired password or clear the CMOS data.

### SATA1/SATA2: Serial ATA Connectors

The motherboard has a PCI to SATA Controller with 2channels SATA interface, it satisfies the SATA 2.0 spec and with transfer rate of 3Gb/s.



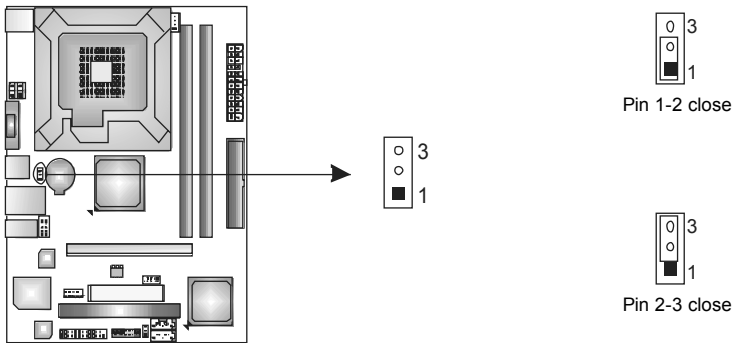
SATA1  
SATA2



| Pin | Assignment |
|-----|------------|
| 1   | Ground     |
| 2   | TX+        |
| 3   | TX-        |
| 4   | Ground     |
| 5   | RX-        |
| 6   | RX+        |
| 7   | Ground     |

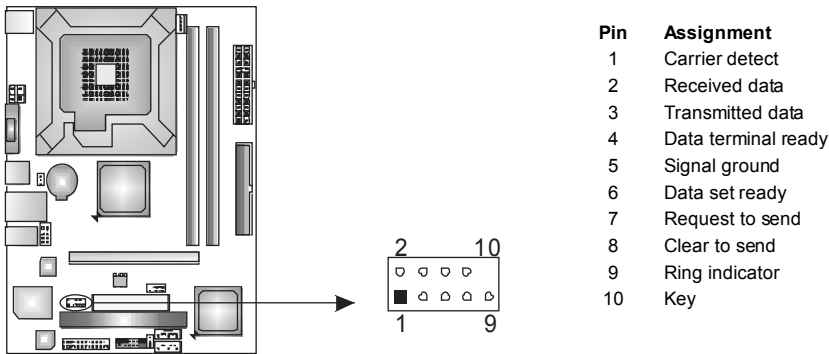
JUSBV1: Power Source Header for USB Ports

- Pin 1-2 Close:  
+5V for USB ports at JUSB2/JRJ45USB1.
- Pin 2-3 Close:  
+5V STB for USB ports at JUSB2/JRJ45USB1.



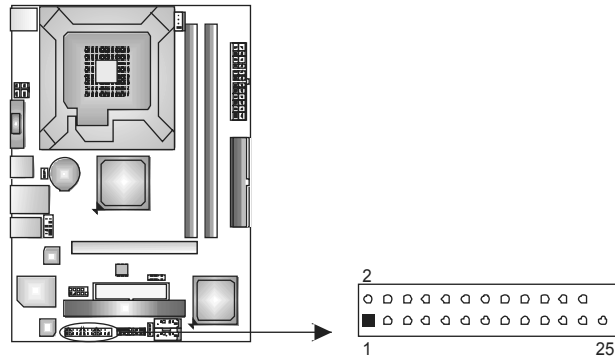
JCOM2: Serial port Connector (Optional)

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



**JPRNT1: Printer Port Connector**

This header allows you to connector printer on the PC.



| Pin | Assignment | Pin | Assignment |
|-----|------------|-----|------------|
| 1   | -Strobe    | 14  | Ground     |
| 2   | -ALF       | 15  | Data 6     |
| 3   | Data 0     | 16  | Ground     |
| 4   | -Error     | 17  | Data 7     |
| 5   | Data 1     | 18  | Ground     |
| 6   | -Init      | 19  | -ACK       |
| 7   | Data 2     | 20  | Ground     |
| 8   | -Scltin    | 21  | Busy       |
| 9   | Data 3     | 22  | Ground     |
| 10  | Ground     | 23  | PE         |
| 11  | Data 4     | 24  | Ground     |
| 12  | Ground     | 25  | SCLT       |
| 13  | Data 5     | 26  | Key        |

## CHAPTER 4: USEFUL HELP

### 4.1 DRIVER INSTALLATION NOTE

After you installed your operating system, please insert the Fully Setup Driver CD into your optical drive and install the driver for better system performance.

You will see the following window after you insert the CD



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

**Note:**

If this window didn't show up after you insert the Driver CD, 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 CD. 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://www.adobe.com/products/acrobat/readstep2.html>

## 4.2 SOFTWARE

### Installing Software

1. Insert the Setup CD to the optical drive. The drivers installation program would appear if the Autorun function has been enabled.
2. Select **Software Installation**, and then click on the respective software title.
3. Follow the on-screen instructions to complete the installation.

### Launching Software

After the installation process, you will see the software icon “eHOT Line” / “BIOS Update” appears on the desktop. Double-click the icon to launch the utility.

### eHot-Line (Optional)

eHot-Line is a convenient utility that helps you to contact with our Tech-Support system. This utility will collect the system information which is useful for analyzing the problem you may have encountered, and then send these information to our tech-support department to help you fix the problem.



Before you use this utility, please set Outlook Express as your default e-mail client application program.

\*represents important information that you must provide. Without this information, you may not be able to send out the mail.

This block will show the information which would be collected in the mail.

\*Describe condition of your system.

Base board information :  
Caption : Base Board  
CreationClassName : Win32\_Base  
Description : Base Board  
HostingBoard : TRUE  
HotSwappable : FALSE  
Manufacturer : BIOSTAR Group  
Name : Base Board  
PoweredOn : TRUE  
Product : TA780G M2+  
Removable : FALSE  
Replaceable : TRUE  
RequiresDaughterBoard : FALSE  
SerialNumber : None  
Status : OK  
Tag : Base Board  
Version : 6.0

Symptom Description :

Region :

CC E-mail :

Memory Module Manufacture :

Power Supply Manufacture/model :

Send Save As... Exit

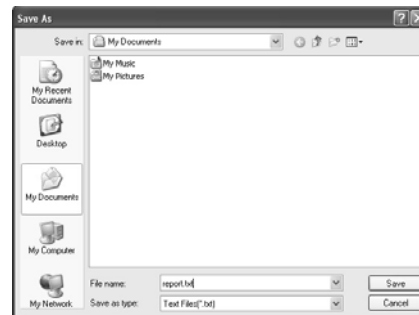
Send the mail out. Save these information to a .txt file Exit this dialog.

After filling up this information, click **“Send”** to send the mail out. A warning dialog would appear asking for your confirmation; click **“Send”** to confirm or **“Do Not Send”** to cancel.



If you want to save this information to a .txt file, click **“Save As...”** and then you will see a saving dialog appears asking you to enter file name.

Enter the file name and then click **“Save”**. Your system information will be saved to a .txt file.



Open the saved .txt file, you will see your system information including motherboard/BIOS/CPU/video/device/OS information. This information is also concluded in the sent mail.



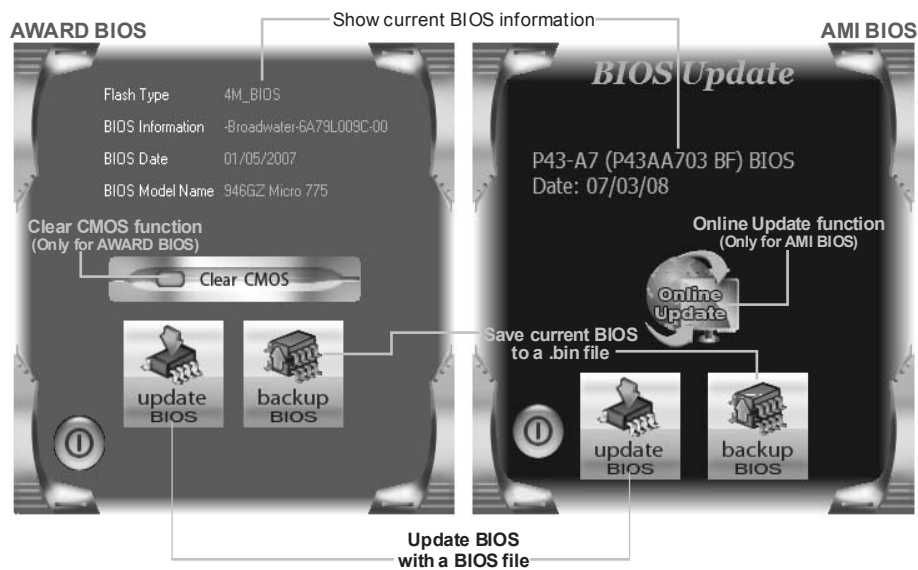
**We will not share customer's data with any other third parties,** so please feel free to provide your system information while using eHot-Line service.



If you are not using Outlook Express as your default e-mail client application, you may need to save the system information to a .txt file and send the file to our tech support with other e-mail application. Go to the following web <http://www.biostar.com.tw/app/en-us/about/contact.php> for getting our contact information.

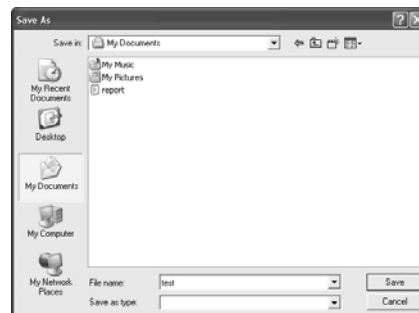
## BIOS Update

BIOS Update is a convenient utility which allows you to update your motherboard BIOS under Windows system.



### <Backup BIOS>

Once click on this button, the saving dialog will show. Choose the position to save file and enter file name. (We recommend that the file name should be English/number and no longer than 7 characters.) Then click **Save**.

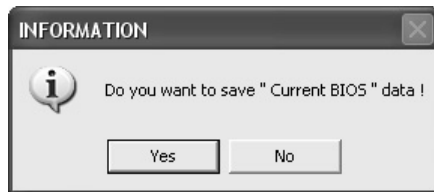


After the saving process, finish dialog will show. Click on **OK** to complete the BIOS Backup procedure.

### <Update BIOS>

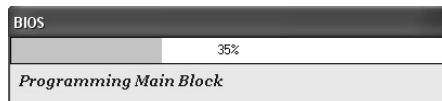
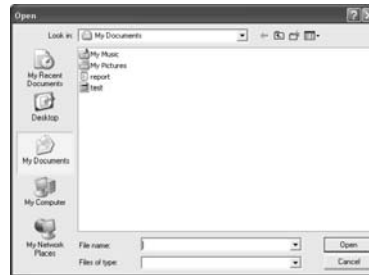
Before doing this, please download the proper BIOS file from the website.

For AWARD BIOS, update BIOS procedure should be run with Clear CMOS function, so please check on Clear CMOS first.



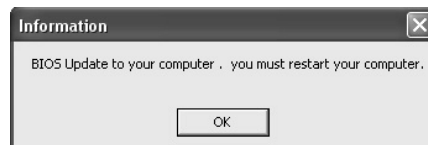
Then click Update BIOS button, a dialog will show for asking you backup current BIOS. Click **Yes** for BIOS backup and refer to the Backup BIOS procedure; or click **No** to skip this procedure.

After the BIOS Backup procedure, the open dialog will show for requesting the BIOS file which is going to be updated. Please choose the proper BIOS file for updating, then click on **Open**.



The utility will update BIOS with the proper BIOS file, and this process may take minutes. Please do not open any other applications during this process.

After the BIOS Update process, click on **OK** to restart the system.



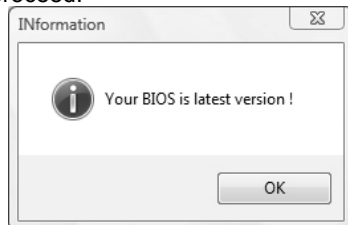
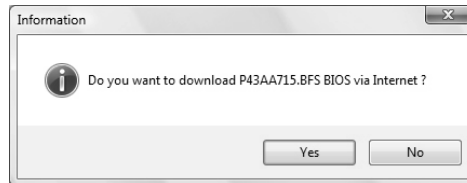
While the system boots up and the full screen logo shows, press  <Delete> key to enter BIOS setup.

In the BIOS setup, use the **Load Optimized Defaults** function and then **Save and Exit Setup** to exit BIOS setup. BIOS Update is completed.

**<Online Update> (for AMI BIOS only)**

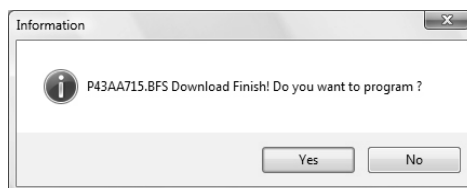
Automatically download and update the latest BIOS via internet; **make sure that the computer is connected to the internet before using this function.**

After clicking on the **Online Update** button, the utility will search for the latest BIOS from internet. If there is a new BIOS version, the utility will ask you to download it. Click **Yes** to proceed.

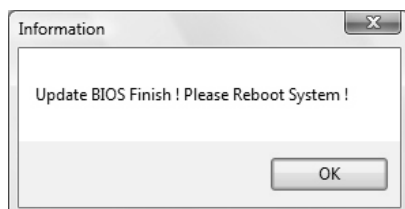


If there is no other newer BIOS version, the utility will also tell you that your BIOS has been the latest version.

Download completes; the utility will ask you to program (update) the BIOS. Click **Yes** to proceed.



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



After the updating process, the utility will ask you to reboot the system. Click **OK** to reboot.

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

In the BIOS setup, use the **Load Optimized Defaults** function and then **Save and Exit Setup** to exit BIOS setup. Online Update is completed.



All the information and content above about the T-Series software are subject to be changed without notice. For better performance, the software is being continuously updated. The information and pictures described above are for your reference only. The actual information and settings on board may be slightly different from this manual.

### 4.3 EXTRA INFORMATION

#### ***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.

## BIO-Flasher

BIO-Flasher is a BIOS flashing utility providing you an easy and simple way to update your BIOS via USB pen drive or floppy disk.

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

### Updating BIOS with BIO-Flasher

1. Go to the website to download the latest BIOS file for the motherboard.
2. Then, save the BIOS file into a USB pen drive or a floppy disk.
3. Insert the USB pen drive or the floppy disk that contains the BIOS file to the USB port or the floppy disk drive.
4. Power on or reset the computer and then press **<F12>** during the **POST** process. A select dialog as the picture on the right appears. Select the device contains the BIOS file and press **<Enter>** to enter the utility.



5. The utility will show the BIOS files and their respective information. Select the proper BIOS file and press **<Enter>** then **<Y>** to perform the BIOS update process.

6. After the update process, the utility will ask you to reboot the system. Press **<Y>** to proceed. BIOS update completes.



- This utility only allows storage device with FAT32/16 format and single partition.
- Shutting down or resetting the system while updating the BIOS will lead to system boot failure.

## 4.4 AMI BIOS BEEP CODE

### Boot Block Beep Codes

| Number of Beeps | Description                                                                        |
|-----------------|------------------------------------------------------------------------------------|
| 1               | No media present. (Insert diskette in floppy drive A:)                             |
| 2               | "AMIBOOT.ROM" file not found in root directory of diskette in A:                   |
| 3               | Insert next diskette if multiple diskettes are used for recovery                   |
| 4               | Flash Programming successful                                                       |
| 5               | File read error                                                                    |
| 7               | No Flash EPROM detected                                                            |
| 10              | Flash Erase error                                                                  |
| 11              | Flash Program error                                                                |
| 12              | "AMIBOOT.ROM" file size error                                                      |
| 13              | BIOS ROM image mismatch (file layout does not match image present in flash device) |

### POST BIOS Beep Codes

| Number of Beeps | Description                                                   |
|-----------------|---------------------------------------------------------------|
| 1               | Memory refresh timer error                                    |
| 3               | Base memory read/write test error                             |
| 6               | Keyboard controller BAT command failed                        |
| 7               | General exception error (processor exception interrupt error) |
| 8               | Display memory error (system video adapter)                   |

### Troubleshooting POST BIOS Beep Codes

| Number of Beeps | Troubleshooting Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1, 3            | Reseat the memory, or replace with known good modules.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6, 7            | <p>Fatal error indicating a serious problem with the system. Consult your system manufacturer. Before declaring the motherboard beyond all hope, eliminate the possibility of interference by a malfunctioning add-in card. Remove all expansion cards except the video adapter.</p> <ul style="list-style-type: none"> <li>● If beep codes are generated when all other expansion cards are absent, consult your system manufacturer's technical support.</li> <li>● If beep codes are not generated when all other expansion cards are absent, one of the add-in cards is causing the malfunction. Insert the cards back into the system one at a time until the problem happens again. This will reveal the malfunctioning card.</li> </ul> |
| 8               | If the system video adapter is an add-in card, replace or reseat the video adapter. If the video adapter is an integrated part of the system board, the board may be faulty.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## 4.5 TROUBLESHOOTING

| Probable                                                                                                                                                                                                              | Solution                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. No power to the system at all. Power light don't illuminate, fan inside power supply does not turn on.</li> <li>2. Indicator light on keyboard does not turn on.</li> </ol> | <ol style="list-style-type: none"> <li>1. Make sure power cable is securely plugged in.</li> <li>2. Replace cable.</li> <li>3. Contact technical support.</li> </ol>                                                                                                                                                              |
| System inoperative. Keyboard lights are on, power indicator lights are lit, and hard drive is spinning.                                                                                                               | Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.                                                                                                                                                                                                                                |
| System does not boot from hard disk drive, can be booted from optical drive.                                                                                                                                          | <ol style="list-style-type: none"> <li>1. 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.</li> <li>2. Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.</li> </ol> |
| System only boots from optical drive. Hard disk can be read and applications can be used but booting from hard disk is impossible.                                                                                    | <ol style="list-style-type: none"> <li>1. Back up data and applications files.</li> <li>2. Reformat the hard drive. Re-install applications and data using backup disks.</li> </ol>                                                                                                                                               |
| Screen message says "Invalid Configuration" or "CMOS Failure."                                                                                                                                                        | Review system's equipment. Make sure correct information is in setup.                                                                                                                                                                                                                                                             |
| Cannot boot system after installing second hard drive.                                                                                                                                                                | <ol style="list-style-type: none"> <li>1. Set master/slave jumpers correctly.</li> <li>2. Run SETUP program and select correct drive types. Call the drive manufacturers for compatibility with other drives.</li> </ol>                                                                                                          |

## APPENDIX: SPEC IN OTHER LANGUAGES

### GERMAN

| Spezifikationen           |                                                                                                                            |                                                                                                                                                                            |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU                       | LGA 775<br>Intel Core2Duo / Pentium Dual-Core /<br>Celeron Dual-Core / Celeron 4xx<br>Prozessoren<br>(Maximales Watt: 65W) | Unterstützt Hyper-Threading / Execute Disable Bit /<br>Enhanced Intel SpeedStep® / Intel Architecture-64 /<br>Extended Memory 64 Technology / Virtualization<br>Technology |
| FSB                       | 800 / 1066 / 1333 MHz                                                                                                      |                                                                                                                                                                            |
| Chipsatz                  | Intel G31<br>Intel ICH7                                                                                                    |                                                                                                                                                                            |
| Super E/A                 | ITE 8712F<br>Bietet die häufig verwendeten alten Super<br>E/A-Funktionen.<br>Low Pin Count-Schnittstelle                   | Umgebungskontrolle,<br>Hardware-Überwachung<br>Lüfterdrehzahl-Controller/-Überwachung<br>"Smart Guardian"-Funktion von ITE                                                 |
| Arbeitsspeicher           | DDR2 DIMM-Steckplätze x 2<br>Jeder DIMM unterstützt 256MB / 512MB /<br>1GB / 2GB DDR2.<br>Max. 4GB Arbeitsspeicher         | Dual-Kanal DDR2 Speichermodul<br>Unterstützt DDR2 800/667<br>registrierte DIMMs. ECC DIMMs werden nicht<br>unterstützt.                                                    |
| Grafik                    | GMA 3100                                                                                                                   | Max. 256MB gemeinsam benutzter Videospeicher                                                                                                                               |
| IDE                       | Integrierter IDE-Controller                                                                                                | Ultra DMA 33 / 66 / 100 Bus Master-Modus<br>Unterstützt PIO-Modus 0~4,                                                                                                     |
| SATA                      | Integrierter Serial ATA-Controller                                                                                         | Datentransferrate bis zu 3.0Gb/s<br>Konform mit der SATA-Spezifikation Version 2.0.                                                                                        |
| LAN                       | Realtek RTL 8102EL                                                                                                         | 10 / 100 Mb/s Auto-Negotiation<br>Halb-/ Vollduplex-Funktion                                                                                                               |
| HD<br>Audio-Unterstützung | ALC662                                                                                                                     | Unterstützt High-Definition Audio<br>5.1-Kanal-Audioausgabe                                                                                                                |

| <i>Spezifikationen</i> |                                        |    |                                                                                                                              |
|------------------------|----------------------------------------|----|------------------------------------------------------------------------------------------------------------------------------|
| Steckplätze            | PCI-Steckplatz                         | x1 |                                                                                                                              |
|                        | PCI Express x16 Steckplatz             | x1 |                                                                                                                              |
| Onboard-Anschluss      | Diskettenlaufwerkanschluss             | x1 | Jeder Anschluss unterstützt 2 Diskettenlaufwerke                                                                             |
|                        | Druckeranschluss                       | x1 | Jeder Anschluss unterstützt 1 Druckeranschluss                                                                               |
|                        | Serieller Anschluss (fakultativ)       | x1 |                                                                                                                              |
|                        | IDE-Anschluss                          | x1 | Jeder Anschluss unterstützt 2 IDE-Laufwerke                                                                                  |
|                        | SATA-Anschluss                         | x4 | Jeder Anschluss unterstützt 1 SATA-Laufwerk                                                                                  |
|                        | Fronttafelanschluss                    | x1 | Unterstützt die Fronttafel Funktionen                                                                                        |
|                        | Front-Audioanschluss                   | x1 | Unterstützt die Fronttafel-Audioanschlussfunktion                                                                            |
|                        | CPU-Lüfter-Sockel                      | x1 | CPU-Lüfterstromversorgungsanschluss (mit Smart Fan-Funktion)                                                                 |
|                        | "CMOS löschen"-Sockel                  | x1 |                                                                                                                              |
|                        | USB-Anschluss                          | x2 | Jeder Anschluss unterstützt 2 Fronttafel-USB-Anschlüsse                                                                      |
| Rückseiten-E/A         | Stromanschluss (24-polig)              | x1 |                                                                                                                              |
|                        | Stromanschluss (4-polig)               | x1 |                                                                                                                              |
|                        | PS/2-Tastatur                          | x1 |                                                                                                                              |
|                        | PS/2-Maus                              | x1 |                                                                                                                              |
|                        | VGA-Anschluss                          | x1 |                                                                                                                              |
|                        | LAN-Anschluss                          | x1 |                                                                                                                              |
| Platinengröße          | USB-Anschluss                          | x4 |                                                                                                                              |
|                        | Audioanschluss                         | x3 |                                                                                                                              |
| OS-Unterstützung       | 170 mm (B) X 225 mm (L)                |    |                                                                                                                              |
|                        | Windows 2000 / XP / VISTA 32/ VISTA 64 |    | Biostar behält sich das Recht vor, ohne Ankündigung die Unterstützung für ein Betriebssystem hinzuzufügen oder zu entfernen. |

**FRENCH**

| <i>SPEC</i>              |                                                                                                                               |                                                                                                                                                                                          |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UC                       | LGA 775<br>Processeurs Intel Core2Duo /Pentium Dual-Core / Celeron Dual-Core / Celeron 4xx (Watt maximum : 65W)               | Prend en charge les technologies Hyper-Threading / d'exécution de bit de désactivation / Intel SpeedStep® optimisée/ d'architecture Intel 64 / de mémoire étendue 64 / de virtualisation |
| Bus frontal              | 800 / 1066 / 1333 MHz                                                                                                         |                                                                                                                                                                                          |
| Chipset                  | Intel G31<br>Intel ICH7                                                                                                       |                                                                                                                                                                                          |
| Super E/S                | ITE 8712F<br>Fournit la fonctionnalité de Super E/S patrimoniales la plus utilisée.<br>Interface à faible compte de broches   | Initiatives de contrôle environnementales,<br>Moniteur de matériel<br>Contrôleur /moniteur de vitesse de ventilateur<br>Fonction "Gardien intelligent" de l'ITE                          |
| Mémoire principale       | Fentes DDR2 DIMM x 2<br>Chaque DIMM prend en charge des DDR2 de 256Mo / 512Mo / 1Go / 2Go<br>Capacité mémoire maximale de 4Go | Module de mémoire DDR2 à mode à double voie<br>Prend en charge la DDR2 800/667<br>Les DIMM à registres et DIMM avec code correcteurs d'erreurs ne sont pas prises en charge              |
| Graphiques               | GMA 3100                                                                                                                      | Mémoire vidéo partagée maximale de 256 Mo                                                                                                                                                |
| IDE                      | Contrôleur IDE intégré                                                                                                        | Mode principale de Bus Ultra DMA 33 / 66 / 100<br>Prend en charge le mode PIO 0~4,                                                                                                       |
| SATA                     | Contrôleur Serial ATA intégré                                                                                                 | Taux de transfert jusqu'à 3.0Go/s.<br>Conforme à la spécification SATA Version 2.0                                                                                                       |
| LAN                      | Realtek RTL 8102EL                                                                                                            | 10 / 100 Mb/s négociation automatique<br>Half / Full duplex capability                                                                                                                   |
| Prise en charge audio HD | ALC662                                                                                                                        | Prise en charge de l'audio haute définition<br>Sortie audio à 5.1 voies                                                                                                                  |
| Fentes                   | Fente PCI x1<br>Fente PCI Express x16                                                                                         |                                                                                                                                                                                          |
| Connecteur embarqué      | Connecteur de disquette x1<br>Connecteur de Port d'imprimante x1<br>Port série (optionnel) x1<br>Connecteur IDE x1            | Chaque connector prend en charge 2 lecteurs de disquettes<br>Chaque connector prend en charge 1 Port d'imprimante<br>Chaque connecteur prend en charge 2 périphériques IDE               |

| <b>SPEC</b>            |                                           |                                                                                              |
|------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------|
|                        | Connecteur SATA x4                        | Chaque connecteur prend en charge 1 périphérique SATA                                        |
|                        | Connecteur du panneau avant x1            | Prend en charge les équipements du panneau avant                                             |
|                        | Connecteur Audio du panneau avant x1      | Prend en charge la fonction audio du panneau avant                                           |
|                        | Embase de ventilateur UC x1               | Alimentation électrique du ventilateur UC (avec fonction de ventilateur intelligent)         |
|                        | Embase d'effacement CMOS x1               |                                                                                              |
|                        | Connecteur USB x2                         | Chaque connecteur prend en charge 2 ports USB de panneau avant                               |
|                        | Connecteur d'alimentation (24 broches) x1 |                                                                                              |
|                        | Connecteur d'alimentation (4 broches) x1  |                                                                                              |
| E/S du panneau arrière | Clavier PS/2 x1                           |                                                                                              |
|                        | Souris PS/2 x1                            |                                                                                              |
|                        | Port VGA x1                               |                                                                                              |
|                        | Port LAN x1                               |                                                                                              |
|                        | Port USB x4                               |                                                                                              |
|                        | Fiche audio x3                            |                                                                                              |
| Dimensions de la carte | 170 mm (l) X 225 mm (H)                   |                                                                                              |
| Support SE             | Windows 2000 / XP / VISTA 32/ VISTA 64    | Biostar se réserve le droit d'ajouter ou de supprimer le support de SE avec ou sans préavis. |

## ITALIAN

| SPECIFICA            |                                                                                                                     |                                                                                                                                                                   |
|----------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU                  | LGA 775<br>Processore Intel Core2Duo /Pentium Dual-Core / Celeron Dual-Core / Celeron 4xx<br>(Watt massimo: 65W)    | Supporto di Hyper-Threading / Execute Disable Bit / Enhanced Intel SpeedStep® / Architettura Intel 64 / Tecnologia Extended Memory 64 / Tecnologia Virtualization |
| FSB                  | 800 / 1066 / 1333 MHz                                                                                               |                                                                                                                                                                   |
| Chipset              | Intel G31<br>Intel ICH7                                                                                             |                                                                                                                                                                   |
| Super I/O            | ITE 8712F<br>Fornisce le funzionalità legacy Super I/O usate più comunemente.<br>Interfaccia LPC (Low Pin Count)    | Funzioni di controllo dell'ambiente:<br>Monitoraggio hardware<br>Controller / Monitoraggio velocità ventolina<br>Funzione "Smart Guardian" di ITE                 |
| Memoria principale   | Alloggi DIMM DDR2 x 2<br>Ciascun DIMM supporta DDR2 256MB / 512MB / 1GB / 2GB<br>Capacità massima della memoria 4GB | Modulo di memoria DDR2 a canale doppio<br>Supporto di DDR2 800/667<br>DIMM registrati e DIMM ECC non sono supportati                                              |
| Grafica              | GMA 3100                                                                                                            | La memoria video condivisa massima è di 256MB                                                                                                                     |
| IDE                  | Controller IDE integrato                                                                                            | Modalità Bus Master Ultra DMA 33 / 66 / 100<br>Supporto modalità PIO Mode 0-4                                                                                     |
| SATA                 | Controller Serial ATA integrato                                                                                     | Velocità di trasferimento dei dati fino a 3.0Gb/s.<br>Compatibile specifiche SATA Versione 2.0.                                                                   |
| LAN                  | Realtek RTL 8102EL                                                                                                  | Negoziante automatica 10 / 100 Mb/s<br>Capacità Half / Full Duplex                                                                                                |
| Supporto audio HD    | ALC662                                                                                                              | Supporto audio High-Definition (HD)<br>Uscita audio 5.1 canali                                                                                                    |
| Alloggi              | Alloggio PCI x1<br>Alloggio PCI Express x16 x1                                                                      |                                                                                                                                                                   |
| Connettori su scheda | Connettore floppy x1<br>Connettore Porta stampante x1                                                               | Ciascun connettore supporta 2 unità Floppy<br>Ciascun connettore supporta 1 Porta stampante                                                                       |

| SPECIFICA                          |                                           |                                                                                                                           |
|------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
|                                    | Porta seriale (facoltativo)               | x1                                                                                                                        |
|                                    | Connettore IDE                            | x1                                                                                                                        |
|                                    | Connettore SATA                           | x4                                                                                                                        |
|                                    | Connettore pannello frontale              | x1                                                                                                                        |
|                                    | Connettore audio frontale                 | x1                                                                                                                        |
|                                    | Collettore ventolina CPU                  | x1                                                                                                                        |
|                                    | Collettore cancellazione CMOS             | x1                                                                                                                        |
|                                    | Connettore USB                            | x1                                                                                                                        |
|                                    | Connettore alimentazione<br>(24 pin)      | x1                                                                                                                        |
|                                    | Connettore alimentazione<br>(4 pin)       | x1                                                                                                                        |
| I/O<br>pannello<br>posteriore      | Tastiera PS/2                             | x1                                                                                                                        |
|                                    | Mouse PS/2                                | x1                                                                                                                        |
|                                    | Porta VGA                                 | x1                                                                                                                        |
|                                    | Porta LAN                                 | x1                                                                                                                        |
|                                    | Porta USB                                 | x4                                                                                                                        |
|                                    | Connettore audio                          | x3                                                                                                                        |
| Dimensioni<br>i scheda             | 170 mm (larghezza) x 225 mm<br>(altezza)  |                                                                                                                           |
| Sistemi<br>operativi<br>supportati | Windows 2000 / XP / VISTA 32/ VISTA<br>64 | Biostar si riserva il diritto di aggiungere o<br>rimuovere il supporto di qualsiasi sistema<br>operativo senza preavviso. |

**SPANISH**

| <i>Especificación</i> |                                                                                                                  |                                                                                                                                                                                 |
|-----------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU                   | LGA 775<br>Procesador Intel Core2Duo /Pentium Dual-Core / Celeron Dual-Core / Celeron 4xx (Vatio máximo: 95W)    | Admite Hyper-Threading / Bit de deshabilitación de ejecución / Intel SpeedStep® Mejorado / Intel Architecture-64 / Tecnología Extended Memory 64 / Tecnología de virtualización |
| FSB                   | 800 / 1066 / 1333 MHz                                                                                            |                                                                                                                                                                                 |
| Conjunto de chips     | Intel G31<br>Intel ICH7                                                                                          |                                                                                                                                                                                 |
| Súper E/S             | ITE 8712F<br>Le ofrece las funcionalidades heredadas de uso más común Súper E/S.<br>Interfaz de cuenta Low Pin   | Iniciativas de control de entorno,<br>Monitor hardware<br>Controlador/monitor de velocidad de ventilador<br>Función "Guardia inteligente" de ITE                                |
| Memoria principal     | Ranuras DIMM DDR2 x 2<br>Cada DIMM admite DDR de 256MB / 512MB / 1GB / 2GB<br>Capacidad máxima de memoria de 4GB | Módulo de memoria DDR2 de canal Doble<br>Admite DDR2 de 800/667<br>No admite DIMM registrados o DIMM compatibles con ECC                                                        |
| Gráficos              | GMA 3100                                                                                                         | Memoria máxima de vídeo compartida de 256MB                                                                                                                                     |
| IDE                   | Controlador IDE integrado                                                                                        | Modo bus maestro Ultra DMA 33 / 66 / 100<br>Soporte los Modos PIO 0~4,                                                                                                          |
| SATA                  | Controlador ATA Serie Integrado                                                                                  | Tasas de transferencia de hasta 3.0 Gb/s.<br>Compatible con la versión SATA 2.0.                                                                                                |
| Red Local             | Realtek RTL 8102EL                                                                                               | Negociación de 10 / 100 Mb/s<br>Funciones Half / Full dúplex                                                                                                                    |
| Soporte de sonido HD  | ALC662                                                                                                           | Soporte de sonido de Alta Definición<br>Salida de sonido de 5.1 canales                                                                                                         |
| Ranuras               | Ranura PCI X1<br>Ranura PCI Express x16 X1                                                                       |                                                                                                                                                                                 |
| Conectores en placa   | Conector disco flexible X1<br>Conector Puerto de impresora X1<br>Puerto serie (opcional) X1                      | Cada conector soporta 2 unidades de disco flexible<br>Cada conector soporta 1 Puerto de impresora                                                                               |

| <b>Especificación</b>              |                                           |    |                                                                                                      |
|------------------------------------|-------------------------------------------|----|------------------------------------------------------------------------------------------------------|
|                                    | Conector IDE                              | X1 | Cada conector soporta 2 dispositivos IDE                                                             |
|                                    | Conector SATA                             | X4 | Cada conector soporta 1 dispositivos SATA                                                            |
|                                    | Conector de panel frontal                 | X1 | Soporta instalaciones en el panel frontal                                                            |
|                                    | Conector de sonido frontal                | X1 | Soporta funciones de sonido en el panel frontal                                                      |
|                                    | Cabecera de ventilador de CPU             | X1 | Fuente de alimentación de ventilador de CPU (con función Smart Fan)                                  |
|                                    | Cabecera de borrado de CMOS               | X1 |                                                                                                      |
|                                    | Conector USB                              | X1 | Cada conector soporta 2 puertos USB frontales                                                        |
|                                    | Conector de alimentación<br>(24 patillas) | X1 |                                                                                                      |
|                                    | Conector de alimentación<br>(4 patillas)  | X1 |                                                                                                      |
|                                    |                                           |    |                                                                                                      |
| Panel<br>trasero de<br>E/S         | Teclado PS/2                              | X1 |                                                                                                      |
|                                    | Ratón PS/2                                | X1 |                                                                                                      |
|                                    | Puerto VGA                                | X1 |                                                                                                      |
|                                    | Puerto de red local                       | X1 |                                                                                                      |
|                                    | Puerto USB                                | X4 |                                                                                                      |
|                                    | Conector de sonido                        | X3 |                                                                                                      |
| Tamaño de<br>la placa              | 170 mm. (A) X 225 Mm. (H)                 |    |                                                                                                      |
| Soporte de<br>sistema<br>operativo | Windows 2000 / XP / VISTA 32/ VISTA 64    |    | Biostar se reserva el derecho de añadir o retirar el soporte de cualquier SO con o sin aviso previo. |

**PORTUGUESE**

| <b>ESPECIFICAÇÕES</b>                |                                                                                                                                        |                                                                                                                                                         |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU                                  | LGA 775<br>Processador Intel Core2Duo /Pentium Dual-Core / Celeron Dual-Core / Celeron 4xx (Watt máximo: 95W)                          | Suporta as tecnologias Hyper-Threading / Execute Disable Bit / Enhanced Intel SpeedStep® / Intel Architecture -64 / Extended Memory 64 / Virtualization |
| FSB                                  | 800 / 1066 / 1333 MHz                                                                                                                  |                                                                                                                                                         |
| Chipset                              | Intel G31<br>Intel ICH7                                                                                                                |                                                                                                                                                         |
| Especificação do Super I/O           | ITE 8712F<br>Proporciona as funcionalidades mais utilizadas em termos da especificação Super I/O.<br>Interface LPC (Low Pin Count).    | Iniciativas para controlo do ambiente<br>Monitorização do hardware<br>Controlador/Monitor da velocidade da ventoinha<br>Função "Smart Guardian" da ITE  |
| Memória principal                    | Ranuras DIMM DDR2 x 2<br>Cada módulo DIMM suporta uma memória DDR2 de 256 MB / 512 MB / 1GB / 2GB<br>Capacidade máxima de memória:4 GB | Módulo de memória DDR2 de canal duplo<br>Suporta módulos DDR2 800/667<br>Os módulos DIMM registados e os DIMM ECC não são suportados                    |
| Placa gráfica                        | GMA 3100                                                                                                                               | Memória de vídeo máxima partilhada: 256 MB                                                                                                              |
| IDE                                  | Controlador IDE integrado                                                                                                              | Modo Bus master Ultra DMA 33 / 66 / 100<br>Suporta o modo PIO 0~4,                                                                                      |
| SATA                                 | Controlador Serial ATA integrado                                                                                                       | Velocidades de transmissão de dados até 3.0 Gb/s.<br>Compatibilidade com a especificação SATA versão 2.0.                                               |
| LAN                                  | Realtek RTL 8102EL                                                                                                                     | Auto negociação de 10 / 100 Mb/s<br>Capacidade semi/full-duplex                                                                                         |
| Suporte para áudio de alta definição | ALC662                                                                                                                                 | Suporta a especificação High-Definition Audio<br>Saída de áudio de 5.1 canais                                                                           |
| Ranuras                              | Ranura PCI x1<br>Ranura PCI Express x16                                                                                                | x1<br>x1                                                                                                                                                |

| <b>ESPECIFICAÇÕES</b>              |                                        |                                                                                                                         |
|------------------------------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Conectores na placa                | Conector da unidade de disquetes       | x1 Cada conector suporta 2 unidades de disquetes                                                                        |
|                                    | Conector da para impressora            | x1 Cada conector suporta 1 Porta para impressora                                                                        |
|                                    | Porta série (opcional)                 | x1                                                                                                                      |
|                                    | Conector IDE                           | x1 Cada conector suporta 2 dispositivos IDE                                                                             |
|                                    | Conector SATA                          | x4 Cada conector suporta 1 dispositivo SATA                                                                             |
|                                    | Conector do painel frontal             | x1 Para suporte de várias funções no painel frontal                                                                     |
|                                    | Conector de áudio frontal              | x1 Suporta a função de áudio no painel frontal                                                                          |
|                                    | Conector da ventoinha da CPU           | x1 Alimentação da ventoinha da CPU (com a função Smart Fan)                                                             |
|                                    | Conector para limpeza do CMOS          | x1                                                                                                                      |
|                                    | Conector USB                           | x1 Cada conector suporta 2 portas USB no painel frontal                                                                 |
| Entradas/Saídas no painel traseiro | Conector de alimentação (24 pinos)     | x1                                                                                                                      |
|                                    | Conector de alimentação (4 pinos)      | x1                                                                                                                      |
|                                    | Teclado PS/2                           | x1                                                                                                                      |
|                                    | Rato PS/2                              | x1                                                                                                                      |
|                                    | Porta VGA                              | x1                                                                                                                      |
|                                    | Porta LAN                              | x1                                                                                                                      |
| Tamanho da placa                   | Porta USB                              | x4                                                                                                                      |
|                                    | Tomada de áudio                        | x3                                                                                                                      |
| Sistemas operativos suportados     | Windows 2000 / XP / VISTA 32/ VISTA 64 | A Biostar reserva-se o direito de adicionar ou remover suporte para qualquer sistema operativo com ou sem aviso prévio. |

**POLISH**

| <i>SPEC</i>         |                                                                                                                         |                                                                                                                                                                        |
|---------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Procesor            | LGA 775<br>Procesor Intel Core2Duo /Pentium<br>Dual-Core / Celeron Dual-Core / Celeron<br>4xx (Maksymalny Watt: 95W)    | Obsługa Hyper-Threading / Execute Disable Bit /<br>Enhanced Intel SpeedStep® / Intel Architecture-64 /<br>Extended Memory 64 Technology / Virtualization<br>Technology |
| FSB                 | 800 / 1066 / 1333 MHz                                                                                                   |                                                                                                                                                                        |
| Chipset             | Intel G31<br>Intel ICH7                                                                                                 |                                                                                                                                                                        |
| Pamięć<br>główna    | Gniazda DDR2 DIMM x 2<br>Każde gniazdo DIMM obsługuje moduły<br>256MB / 512MB / 1GB / 2GB<br>Maks. wielkość pamięci 4GB | Moduł pamięci DDR2 z trybem podwójnego kanału<br>Obsługa DDR2 800/667<br>Brak obsługi Registered DIMM oraz ECC DIMM                                                    |
| Grafika             | GMA 3100                                                                                                                | Maks. wielkość współdzielonej pamięci video wynosi<br>256MB                                                                                                            |
| Super I/O           | ITE 8712F<br>Zapewnia najbardziej powszechne funkcje<br>Super I/O.<br>Interfejs Low Pin Count                           | Funkcje kontroli warunków pracy,<br>Monitor H/W<br>Kontroler/Monitor prędkości wentylatora<br>Funkcja ITE "Smart Guardian"                                             |
| IDE                 | Zintegrowany kontroler IDE                                                                                              | Ultra DMA 33 / 66 / 100 Tryb Bus Master<br>obsługa PIO tryb 0~4,                                                                                                       |
| SATA                | Zintegrowany kontroler Serial ATA                                                                                       | Transfer danych do 3.0 Gb/s.<br>Zgodność ze specyfikacją SATA w wersji 2.0.                                                                                            |
| LAN                 | Realtek RTL 8102EL                                                                                                      | 10 / 100 Mb/s z automatyczną negocjacją szybkości<br>Działanie w trybie połowicznego / pełnego duplexu                                                                 |
| Obsługa<br>audio HD | ALC662                                                                                                                  | Obsługa High-Definition Audio<br>5.1 kanałowe wyjście audio                                                                                                            |
| Gniazda             | Gniazdo PCI x1<br>Gniazdo PCI Express x16 x1                                                                            |                                                                                                                                                                        |
| Złącza<br>wbudowane | Złącze napędu dyskietek x1<br>Złącze Port drukarki x1<br>Port szeregowy (Dowolny) x1                                    | Każde złącze obsługuje 2 napędy dyskietek<br>Każde złącze obsługuje 1 Port drukarki                                                                                    |

| SPEC                         |                                        |    |                                                                                                                   |
|------------------------------|----------------------------------------|----|-------------------------------------------------------------------------------------------------------------------|
|                              | Złącze IDE                             | x1 | Każde złącze obsługuje 2 urządzenia IDE                                                                           |
|                              | Złącze SATA                            | x4 | Każde złącze obsługuje 1 urządzenie SATA                                                                          |
|                              | Złącze panela przedniego               | x1 | Obsługa elementów panela przedniego                                                                               |
|                              | Przednie złącze audio                  | x1 | Obsługa funkcji audio na panelu przednim                                                                          |
|                              | Złącze główkowe wentylatora procesora  | x1 | Zasilanie wentylatora procesora (z funkcją Smart Fan)                                                             |
|                              | Złącze główkowe kasowania CMOS         | x1 |                                                                                                                   |
|                              | Złącze USB                             | x1 | Każde złącze obsługuje 2 porty USB na panelu przednim                                                             |
|                              | Złącze zasilania (24 pinowe)           | x1 |                                                                                                                   |
|                              | Złącze zasilania (4 pinowe)            | x1 |                                                                                                                   |
| Back Panel I/O               | Klawiatura PS/2                        | x1 |                                                                                                                   |
|                              | Mysz PS/2                              | x1 |                                                                                                                   |
|                              | Port VGA                               | x1 |                                                                                                                   |
|                              | Port LAN                               | x1 |                                                                                                                   |
|                              | Port USB                               | x4 |                                                                                                                   |
|                              | Gniazdo audio                          | x3 |                                                                                                                   |
| Wymiary płyty                | 170 mm (S) X 225 mm (W)                |    |                                                                                                                   |
| Obsługa systemu operacyjnego | Windows 2000 / XP / VISTA 32/ VISTA 64 |    | Biostar zastrzega sobie prawo dodawania lub odwoływania obsługi dowolnego systemu operacyjnego bez powiadomienia. |

## RUSSIAN

| СПЕЦ                              |                                                                                                                                             |                                                                                                                                                                           |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU<br>(центральный процессор)    | LGA 775<br>Процессор Intel Core2Duo /Pentium Dual-Core / Celeron Dual-Core / Celeron 4xx (Максимальный ватт: 95W)                           | Поддержка технологий Hyper-Threading / Execute Disable Bit / Enhanced Intel SpeedStep® / Intel Architecture-64 / Extended Memory 64 Technology / технологии виртуализация |
| FSB                               | 800 / 1066 / 1333 МГц                                                                                                                       |                                                                                                                                                                           |
| Набор микросхем                   | Intel G31<br>Intel ICH7                                                                                                                     |                                                                                                                                                                           |
| Основная память                   | Слоты DDR2 DIMM x 2<br>Каждый модуль DIMM поддерживает 256 МБ / 512МБ / 1ГБ / 2ГБ DDR2<br>Максимальная ёмкость памяти 4ГБ                   | Модуль памяти с двухканальным режимом DDR2<br>Поддержка DDR2 800/667<br>Не поддерживает зарегистрированные модули DIMM and ECC DIMM                                       |
| Графика                           | GMA 3100                                                                                                                                    | Максимальная совместно используемая видео память составляет 256 МБ                                                                                                        |
| Super I/O                         | ITE 8712F<br>Обеспечивает наиболее используемые действующие функциональные возможности Super I/O.<br>Интерфейс с низким количеством выводов | Инициативы по охране окружающей среды,<br>Аппаратный монитор<br>Регулятор скорости вентилятора/ монитор<br>Функция ITE "Smart Guardian" (Интеллектуальная защита)         |
| IDE                               | Встроенное устройство управления встроенными интерфейсами устройств                                                                         | Режим "хозяина" шины Ultra DMA 33 / 66 / 100<br>Поддержка режима PIO 0~4,                                                                                                 |
| SATA                              | Встроенное последовательное устройство управления ATA                                                                                       | скорость передачи данных до 3.0 гигабит/с.<br>Соответствие спецификации SATA версия 2.0.                                                                                  |
| Локальная сеть                    | Realtek RTL 8102EL                                                                                                                          | Автоматическое согласование 10 / 100 Мб/с<br>Частичная / полная дуплексная способность                                                                                    |
| Звуковая поддержка жесткого диска | ALC662                                                                                                                                      | Звуковая поддержка High-Definition<br>5.1канальный звуковой выход                                                                                                         |
| Слоты                             | Слот PCI x1<br>Слот PCI Express x16 x1                                                                                                      |                                                                                                                                                                           |
| Встроенный разъём                 | Разъём НГМД x1<br>Разъём Порт подключения принтера x1<br>Последовательный порт (опционно) x1                                                | Каждый разъём поддерживает 2 накопителя на гибких магнитных дисках<br>Каждый разъём поддерживает 1 Порт подключения принтера                                              |

| СПЕЦ                               |                                                                      |                                                                                                                            |
|------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
|                                    | Разъём IDE x1                                                        | Каждый разъём поддерживает 2 встроенных интерфейса накопителей                                                             |
|                                    | Разъём SATA x4                                                       | Каждый разъём поддерживает 1 устройство SATA                                                                               |
|                                    | Разъём на лицевой панели x1                                          | Поддержка устройств на лицевой панели                                                                                      |
|                                    | Входной звуковой разъём x1                                           | Поддержка звуковых функций на лицевой панели                                                                               |
|                                    | Контактирующее приспособление вентилятора центрального процессора x1 | Источник питания для вентилятора центрального процессора (с функцией интеллектуального вентилятора)                        |
|                                    | Открытое контактирующее приспособление CMOS x1                       |                                                                                                                            |
|                                    | USB-разъём x1                                                        | Каждый разъём поддерживает 2 USB-порта на лицевой панели                                                                   |
|                                    | Разъём питания (24 вывод) x1                                         |                                                                                                                            |
|                                    | Разъём питания (4 вывод) x1                                          |                                                                                                                            |
| Задняя панель средств ввода-вывода | Клавиатура PS/2 x1                                                   |                                                                                                                            |
|                                    | Мышь PS/2 x1                                                         |                                                                                                                            |
|                                    | Порт VGA x1                                                          |                                                                                                                            |
|                                    | Порт LAN x1                                                          |                                                                                                                            |
|                                    | USB-порт x4                                                          |                                                                                                                            |
|                                    | Гнездо для подключения наушников x3                                  |                                                                                                                            |
| Размер панели                      | 170 мм (Ш) X 225 мм (В)                                              |                                                                                                                            |
| Поддержка OS                       | Windows 2000 / XP / VISTA 32/ VISTA 64                               | Biostar сохраняет за собой право добавлять или удалять средства обеспечения для OS с или без предварительного уведомления. |

## ARABIC

| للمواصفات                                                                                                                                                      |                                                                                                                                           |                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Hyper-Threading / Execute Disable Bit /<br>Enhanced Intel SpeedStep® / Intel Architecture-64 /<br>Extended Memory 64 Technology / Virtualization<br>Technology | LGA 775<br>Intel Core2Duo / Pentium Dual-Core<br>/ Celeron Dual-Core /<br>يتردد يصل إلى Celeron 4xx<br>(ر95: قصوى واط)                    | وحدة المعالجة<br>المركزية |
|                                                                                                                                                                | ميجا هرتز 800 / 1066 / 1333 تردد                                                                                                          | النقل الأمامي الجانبي     |
|                                                                                                                                                                | Intel G31<br>Intel ICH7                                                                                                                   | مجموعة الشرائح            |
| مزدوجة القناةDDR2وحدة ذاكرة<br>سعت 800/667 ميجا بايتDDR2تدعم الذاكرة من نوع<br>ECC وتلك التي لا تتوافق مع DIMM لا تدعم رقائق الذاكرة                           | قناة DDR2 DIMM عدد2<br>سعة DDR2 تدعم ذاكرة من نوع DIMMتدعم كل قناة<br>ميجا بايت و2 بايت و1 جيجا بايت256/512<br>سعة ذاكرة قصوى 4 جيجا بايت | الذاكرة الرئيسية          |
|                                                                                                                                                                | GMA 3100                                                                                                                                  | بطاقة الرسومات            |
| وسائل التحكم في البيئة:<br>مراقب لمعرفة حالة الأجهزة<br>مراقب في سرعة المروحة<br>من ITE "Smart Guardian" وظيفة                                                 | ITE 8712F<br>الأكثر استخداماً Super I/O ووفر وظيفة<br>Low Pin Count Interfaceتدعم تقنية                                                   | Super I/O                 |
| وضع رئيسيUltra DMA 33 / 66 / 100 لنقل بتقنية<br>PIO Mode 0~4تدعم وضع                                                                                           | متكاملIDEمتحكم                                                                                                                            | منفذ IDE                  |
| جيجابت/ثانية3.0 نقل البيانات بسرعة تصل إلى<br>2.0 الإصدار SATA مطابقة للمواصفات                                                                                | متكاملSerial ATAمتحكم                                                                                                                     | SATA                      |
| تفاوض تلقائي 100/10 ميجا بايت / ثانية<br>إمكانية النقل المزدوج الكامل/الصففي                                                                                   | Realtek RTL 8102EL                                                                                                                        | شبكة داخلية               |
| تدعم تقنية الصوت عالي التعريف من<br>5.1 قنوات لخارج الصوت                                                                                                      | ALC662                                                                                                                                    | دعم الصوت عالي<br>التعريف |

| المواصفات                   |                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                         |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| الفتحات                     | قذبة PCI عدد 1<br>قذبة PCI Express x16 عدد 1                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                         |
| المنفذ على سطح اللوحة       | منفذ محرك أقراص مرنة عدد 1<br>منفذ طابعة عدد 1<br>منفذ تسلسلي (اختياريًا) عدد 1<br>منفذ IDE عدد 1<br>منفذ SATA عدد 4<br>منفذ اللوحة الأمامية عدد 1<br>منفذ الصوت الأمامي عدد 1<br>وصلة مروحة وحدة المعالجة المركزية عدد 1<br>وصلة مسح CMOS عدد 1<br>منفذ USB عدد 1<br>منفذ توصيل الطاقة (24 دبوس) عدد 1<br>منفذ توصيل الطاقة (4 ببابيس) عدد 1 | يدعم محركين للأقراص المرنة<br>IDE يدعم كل منفذ اثنين من أجهزة<br>SATA يدعم كل منفذ واحد من أجهزة<br>يدعم تجهيزات اللوحة الأمامية<br>يدعم وظيفة الصوت باللوحة الأمامية<br>Smart Fan توصيل الطاقة لمروحة وحدة المعالجة مع وظيفة<br>باللوحة الأمامية USB يدعم كل منفذ قحتي |
| منفذ دخل/خرج اللوحة الخلفية | لوحة مفاتيح PS/2 عدد 1<br>مونس PS/2 عدد 1<br>منفذ VGA عدد 1<br>منفذ شبكة اتصال محلية عدد 1<br>منافذ USB عدد 4<br>مقبس صوت عدد 3                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                         |
| حجم اللوحة                  | 170 مم (عرض) X 225 مم (ارتفاع)                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                         |
| دعم أنظمة التشغيل           | Windows 2000 / XP / VISTA 32/ VISTA 64                                                                                                                                                                                                                                                                                                        | بحققها في إضافة أو إزالة الدعم لأي نظام تشغيل بإخطار أو بدون <b>Biostar</b> تحتفظ<br>لخطأ.                                                                                                                                                                              |

## JAPANESE

| 仕様               |                                                                                                                      |                                                                                                                                                                         |
|------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU              | LGA 775<br><br>Intel Core2Duo / Pentium Dual-Core /<br>Celeron Dual-Core / Celeron 4xx<br>processor<br>(最高のワット: 95W) | Hyper-Threading / Execute Disable Bit / Enhanced Intel<br>SpeedStep® / Intel Architecture-64 / Extended<br>Memory 64 Technology / Virtualization Technologyをサ<br>ポートします |
| FSB              | 800 / 1066 / 1333 MHz                                                                                                |                                                                                                                                                                         |
| チップセット           | Intel G31<br>Intel ICH7                                                                                              |                                                                                                                                                                         |
| メインメモリ           | DDR2 DIMMスロット x 2<br>各DIMMは 256MB / 512MB / 1GB / 2GB<br>DDR2をサポート<br>最大メモリ容量4GB                                     | デュアル チャンネルモードDDR2 メモリモジュール<br>DDR2 800/667をサポート<br>登録済みDIMMとECC DIMMはサポートされません                                                                                          |
| グラフィック<br>ス      | GMA 3100                                                                                                             | 最大の共有ビデオメモリは256MBです                                                                                                                                                     |
| Super I/O        | ITE 8712F<br>もっとも一般に使用されるレガシーSuper I/O<br>機能を採用しています。<br>低ピンカウントインターフェイス                                             | 環境コントロールイニシアチブ、<br>H/Wモニター<br>ファン速度コントローラ/ モニター<br>ITEの「スマートガーディアン」機能                                                                                                   |
| IDE              | 統合IDEコントローラ                                                                                                          | Ultra DMA 33 / 66 / 100バスマスタモード<br>PIO Mode 0~4のサポート、                                                                                                                   |
| SATA             | 統合シリアルATAコントローラ                                                                                                      | 最高3.0 Gb/秒のデータ転送速度<br>SATAバージョン2.0仕様で準拠。                                                                                                                                |
| LAN              | Realtek RTL 8102EL                                                                                                   | 10 / 100 Mb/秒のオートネゴシエーション<br>半/全二重機能                                                                                                                                    |
| HDオーディ<br>オのサポート | ALC662                                                                                                               | ハイデフィニションオーディオのサポート<br>5.1 チャンネルオーディオアウト                                                                                                                                |

| 仕様        |                                        |    |                                             |
|-----------|----------------------------------------|----|---------------------------------------------|
| スロット      | PCIスロット                                | x1 |                                             |
|           | PCI Express x16スロット                    | x1 |                                             |
| オンボードコネクタ | フロッピーコネクタ                              | x1 | 各コネクタは2つのフロッピードライブをサポートします                  |
|           | プリンタポートコネクタ                            | x1 | 各コネクタは1つのプリンタポートをサポートします                    |
|           | シリアルポート (任意)                           | x1 |                                             |
|           | IDEコネクタ                                | x1 | 各コネクタは2つのIDEデバイスをサポートします                    |
|           | SATAコネクタ                               | x4 | 各コネクタは1つのSATAデバイスをサポートします                   |
|           | フロントパネルコネクタ                            | x1 | フロントパネル機能をサポートします                           |
|           | フロントオーディオコネクタ                          | x1 | フロントパネルオーディオ機能をサポートします                      |
|           | CPUファンヘッダ                              | x1 | CPUファン電源装置(スマートファン機能を搭載)                    |
|           | CMOSクリアヘッダ                             | x1 |                                             |
|           | USBコネクタ                                | x1 | 各コネクタは2つのフロントパネルUSBポートをサポートします              |
|           | 電源コネクタ(24ピン)                           | x1 |                                             |
|           | 電源コネクタ(4ピン)                            | x1 |                                             |
| 背面パネルI/O  | PS/2キーボード                              | x1 |                                             |
|           | PS/2マウス                                | x1 |                                             |
|           | VGAポート                                 | x1 |                                             |
|           | LANポート                                 | x1 |                                             |
|           | USBポート                                 | x4 |                                             |
|           | オーディオジャック                              | x3 |                                             |
| ボードサイズ    | 170 mm (幅) X 225 mm (高さ)               |    |                                             |
| OSサポート    | Windows 2000 / XP / VISTA 32/ VISTA 64 |    | Biostarは事前のサポートなしにOSサポートを追加または削除する権利を留保します。 |

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