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275 del 30/10/2002

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quando ad esso applicabili

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the essential requirements as specified
by the directives

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CHAPTER 1: INTRODUCTION

1.1 BEFORE YOU START

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

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

1.2 PACKAGE CHECKLIST

- ✚ Serial ATA Cable X4
- ✚ Rear I/O Panel for ATX Case X1
- ✚ User's Manual X1
- ✚ Fully Setup Driver DVD X1

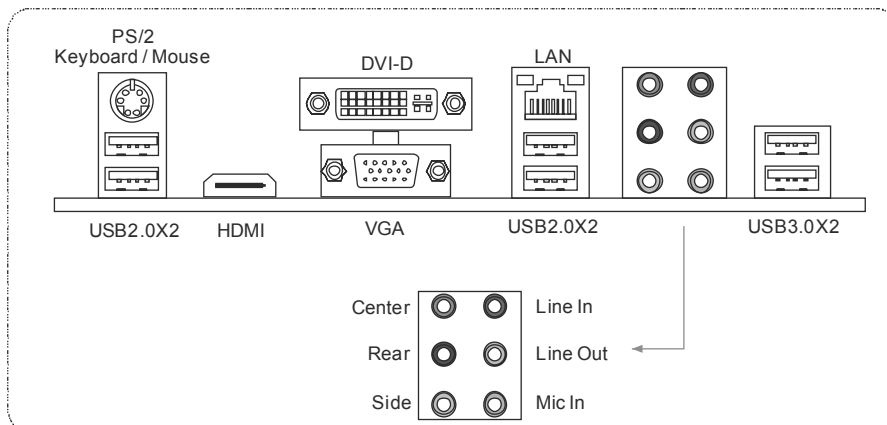
Note: The package contents may be different due to area or your motherboard version.

1.3 MOTHERBOARD FEATURES

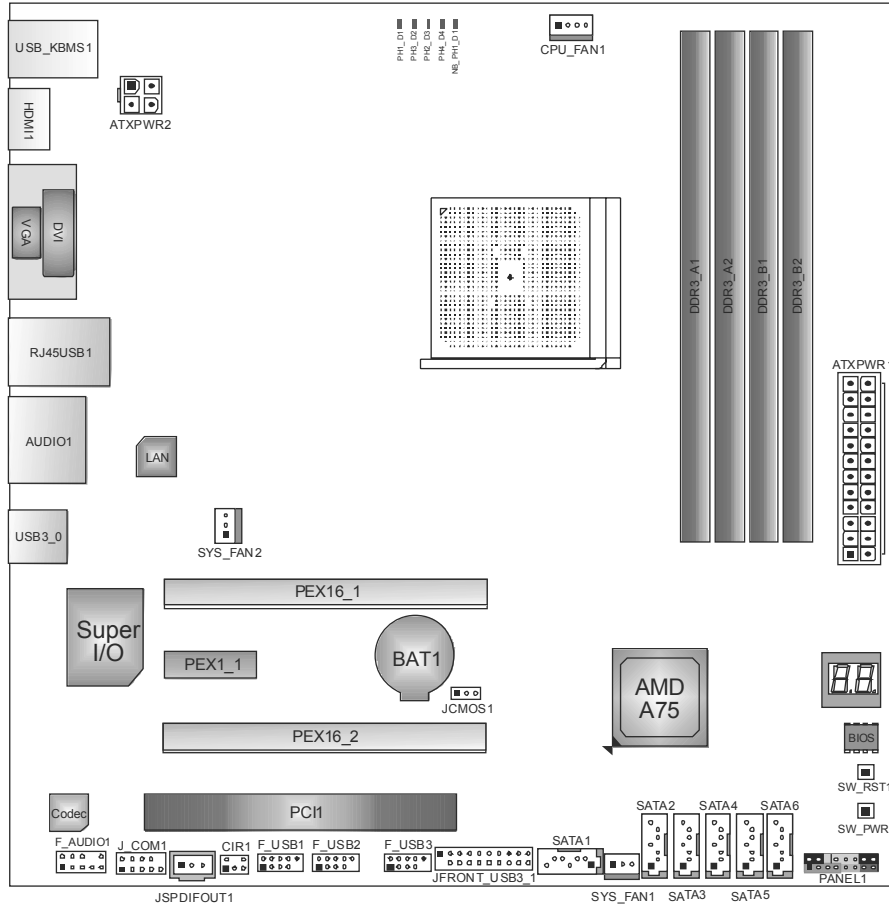
SPEC			
CPU	Socket FM1 AMD A-Series / E2-Series processors	AMD 64 Architecture enables 32 and 64 bit computing	
Chipset	AMD A75		
Super I/O	ITE 8728 Provides the most commonly used legacy Super I/O functionality Low Pin Count Interface	Environment Control initiatives H/W Monitor Fan Speed Controller ITE's "Smart Guardian" function	
Main Memory	DDR3 DIMM Slots x 4 Max Memory Capacity 32GB Each DIMM supports 512MB/ 1GB/2GB/4GB/8GB DDR3	Dual Channel Mode DDR3 memory module Supports DDR3 800/1066/1333/1600/1866	
SATA III	Integrated Serial ATA Controller	Data transfer rates up to 6 Gb/s. SATA Version 3.0 specification compliant. RAID 0,1,10 support	
LAN	RTL8111E	10 / 100 Mb/s / 1Gb/s auto negotiation Half / Full duplex capability	
Sound	ALC892	7.1channels audio out Supports HD Audio	
USB3.0	A75	Data transfer rates up to 600 MB/s	
Slots	PCI Express Gen2 x16 Slot	x2	Supports PCI-E Gen2 x16, x4 expansion cards
	PCI Express Gen2 x1 Slot	x1	Supports PCI-E Gen2 x1 expansion card
	PCI Slot	x1	Supports PCI expansion card
On Board Connectors	SATA Connector	x6	Each connector supports 1 SATA device
	Front Panel Connector	x1	Supports front panel facilities
	Front Audio Connector	x1	Supports front panel audio function
	S/PDIF out Connector	x1	Supports digital audio out function
	Consumer IR Connector	x1	Supports infrared function
	CPU Fan Header	x1	CPU Fan power supply (with Smart Fan function)
	System Fan Header	x2	System Fan Power supply

SPEC			
	CMOS clear Header	x1	Restore CMOS data to factory default
	USB2.0 Connector	x3	Each connector supports 2 front panel USB2.0 ports
	USB3.0 Connector	x1	Each connector supports 2 front panel USB3.0 ports
	Serial Port Connector	x1	Connects to RS-232 Port
	Power Connector (24-Pin)	x1	Connects to Power supply
	Power Connector (4-Pin)	x1	Connects to Power supply
Back Panel I/O	PS/2 Keyboard / Mouse	x1	Connects to PS/2 Keyboard / Mouse
	HDMI Port	x1	Connects to HDMI cable
	VGA Port	x1	Connect to D-SUB monitor
	DVI-D Port	x1	Connect to DVI monitor
	LAN port	x1	Connect to RJ-45 ethernet cable
	USB2.0 Port	x4	Connect to USB2.0 devices
	USB3.0 Port	x2	Connect to USB3.0 devices
	Audio Jack	x6	Provide Audio-In/Out and Mic. connection
	Board Size	244 mm (W) x 244 mm (L)	uATX
OS Support	Windows XP / Vista / 7		Biostar reserves the right to add or remove support for any OS With or without notice.

1.4 REAR PANEL CONNECTORS



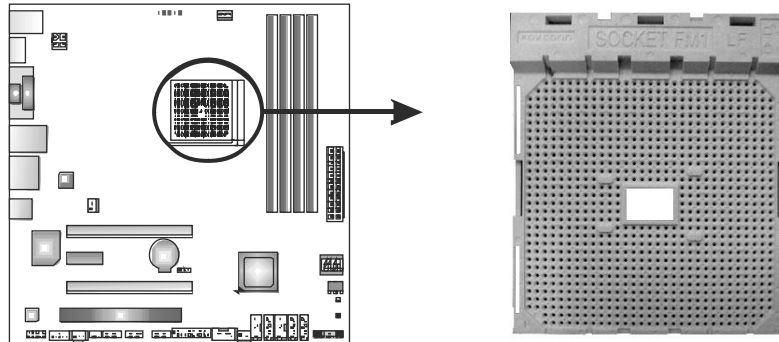
1.5 MOTHERBOARD LAYOUT



Note: ■ represents the 1st pin.

CHAPTER 2: HARDWARE INSTALLATION

2.1 INSTALLING CENTRAL PROCESSING UNIT (CPU)



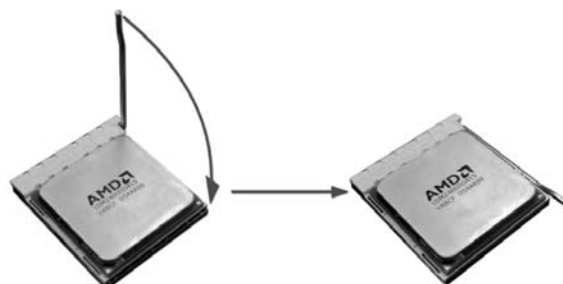
Step 1: Pull the lever toward direction A from the socket and then raise the lever up to a 90-degree angle.



Step 2: Look for the white triangle on socket, and the gold triangle on CPU should point towards this white triangle. The CPU will fit only in the correct orientation.



Step 3: Hold the CPU down firmly, and then close the lever toward direct B to complete the installation.

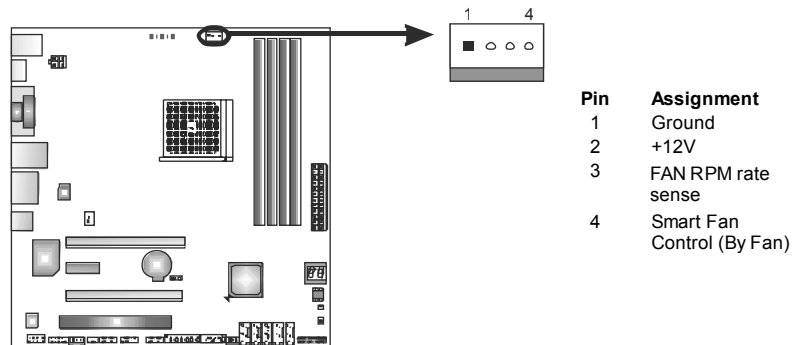


Step 4: Put the CPU Fan on the CPU and buckle it. Connect the CPU FAN power cable to the CPU_FAN1. This completes the installation.

2.2 FAN HEADERS

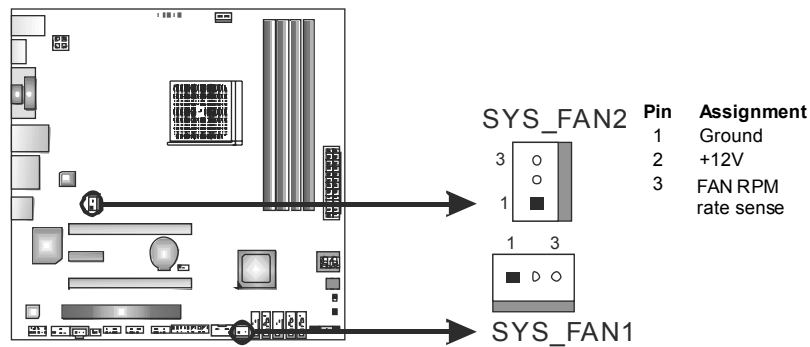
These fan headers support cooling-fans built in the computer. The fan cable and connector may be different according to the fan manufacturer. Connect the fan cable to the connector while matching the black wire to pin#1.

CPU_FAN1: CPU Fan Header



SYS_FAN1: System Fan Header

SYS_FAN2: NorthBridge Fan Header

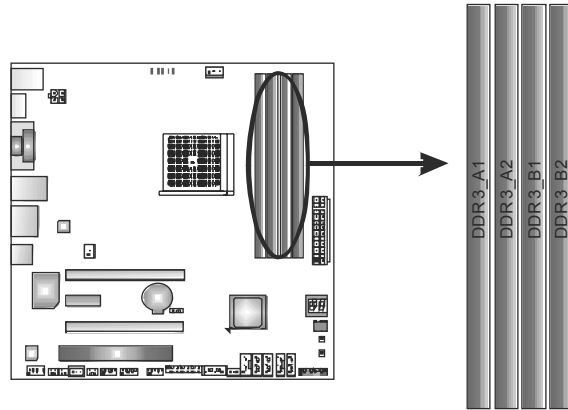


Note:

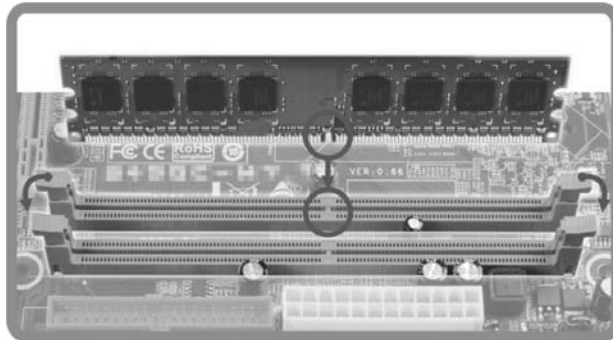
CPU_FAN1, SYS_FAN1/2 support 4-pin and 3-pin head connectors. When connecting with wires onto connectors, please note that the red wire is the positive and should be connected to pin#2, and the black wire is Ground and should be connected to GND.

2.3 INSTALLING SYSTEM MEMORY

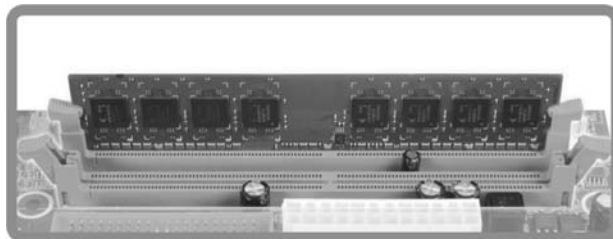
A. DDR3 Modules



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



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	DDR3 Module	Total Memory Size
DDR3_A1	512MB/1GB/2GB/4GB/8GB	Max is 32GB.
DDR3_A2	512MB/1GB/2GB/4GB/8GB	
DDR3_B1	512MB/1GB/2GB/4GB/8GB	
DDR3_B2	512MB/1GB/2GB/4GB/8GB	

C. Dual Channel Memory Installation

Please refer to the following requirements to activate Dual Channel function:

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

Dual Channel Status	DDR3_A1	DDR3_A2	DDR3_B1	DDR3_B2
Enabled	O	X	O	X
Enabled	X	O	X	O
Enabled	O	O	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)

D. DDR Speed Support

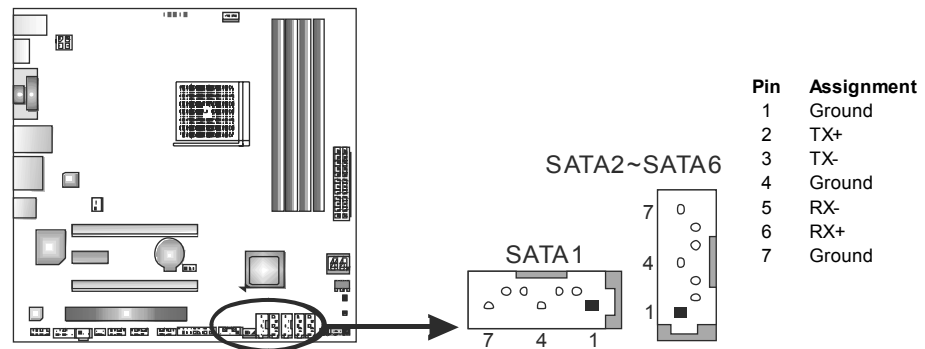
Please refer to the following table for DDR speed reference: (x = 1 or 2)

# of DIMM per Channel	# of Ranks per DIMM	Max DDR Speed Grade for 1.50V DIMM
1 of 1 UDIMM	xR	DDR3-1866
1 of 2 UDIMMs	xR, 0	DDR3-1600
2 of 2 UDIMMs	1R, 1R	DDR3-1600
2 of 2 UDIMMs	2R, xR	DDR3-1333

2.4 CONNECTORS AND SLOTS

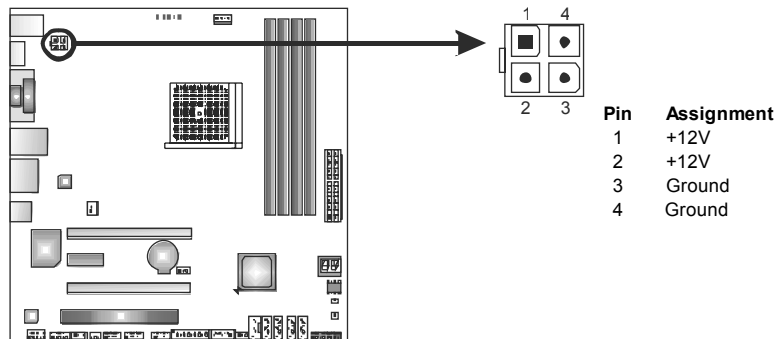
SATA1~SATA6: Serial ATA Connectors

The motherboard has a PCI to SATA Controller with 6 channels SATA interface, it satisfies the SATA 3.0 spec and with transfer rate of 6.0Gb/s.



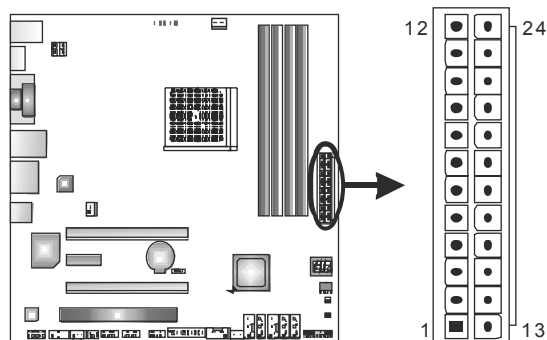
ATXPWR2: ATX Power Source Connector

This connector provides +12V to CPU power circuit.



ATXPWR1: ATX Power Source Connector

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



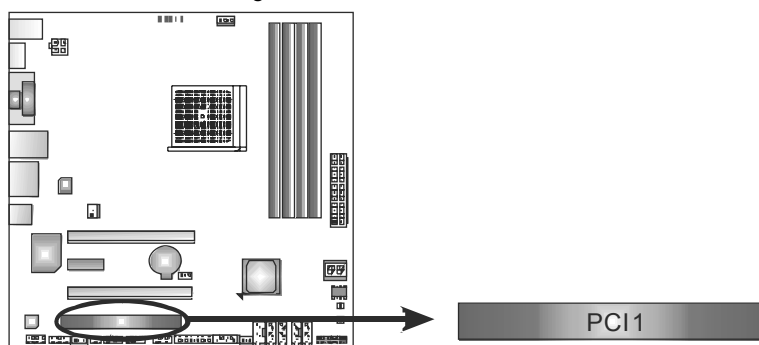
Pin	Assignment	Pin	Assignment
13	+3.3V	1	+3.3V
14	-12V	2	+3.3V
15	Ground	3	Ground
16	PS_ON	4	+5V
17	Ground	5	Ground
18	Ground	6	+5V
19	Ground	7	Ground
20	NC	8	PW_OK
21	+5V	9	Standby Voltage+5V
22	+5V	10	+12V
23	+5V	11	+12V
24	Ground	12	+3.3V

Note:

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

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.



PEX16_1: PCI-Express Gen2 x16 Slot

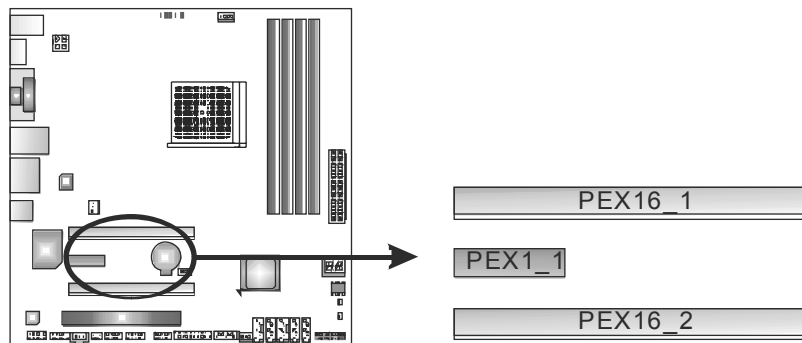
- PCI-Express 2.0 compliant.
- Maximum theoretical realized bandwidth of 8GB/s simultaneously per direction, for an aggregate of 16GB/s totally.
- PCI-Express Gen2 supports a raw bit-rate of 5.0Gb/s on the data pins.
- 2X bandwidth over the PCI-Express 1.1 architecture.

PEX1_1: PCI-Express Gen2 x1 Slot

- PCI-Express 2.0 compliant.
- Data transfer bandwidth up to 500MB/s per direction; 1GB/s in total.
- PCI-Express supports a raw bit-rate of 2.5Gb/s on the data pins.

PEX16_2: PCI-Express Gen2 x4 Slot

- PCI-Express 2.0 compliant.
- Data transfer bandwidth up to 2GB/s per direction; 4GB/s in total.
- PCI-Express supports a raw bit-rate of 2.5Gb/s on the data pins.



CHAPTER 3: HEADERS & JUMPERS SETUP

3.1 HOW TO SETUP JUMPERS

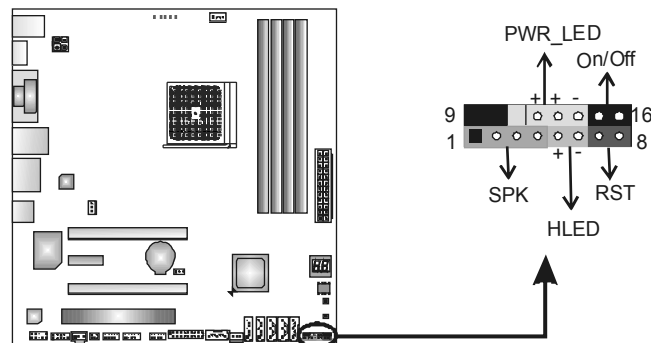
The illustration shows how to set up jumpers. When the jumper cap is placed on pins, the jumper is “close”, if not, that means the jumper is “open”.



3.2 DETAIL SETTINGS

PANEL1: Front Panel Header

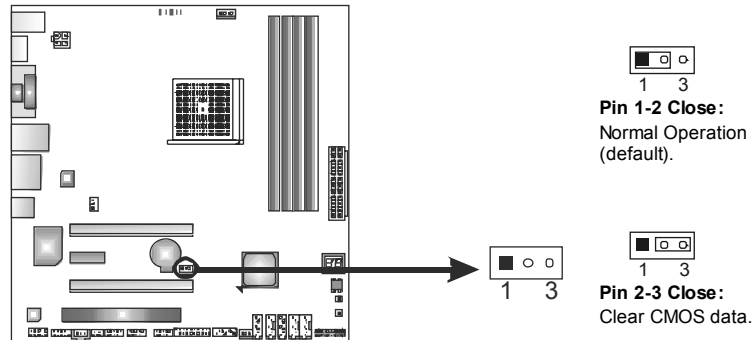
This 16-pin connector includes Power-on, Reset, HDD LED, Power LED, and speaker connection. It allows user to connect the PC case's front panel switch functions.



Pin	Assignment	Function	Pin	Assignment	Function
1	+5V	Speaker Connector	9	N/A	N/A
2	N/A		10	N/A	N/A
3	N/A		11	N/A	N/A
4	Speaker	Hard drive LED	12	Power LED (+)	Power LED
5	HDD 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	

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.

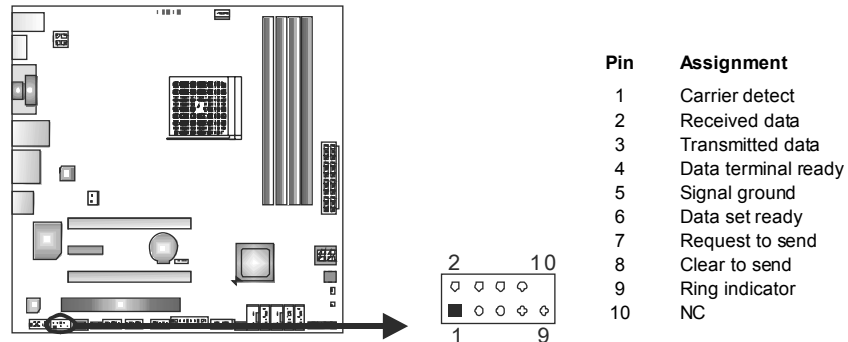


※ Clear CMOS Procedures:

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. Load Optimal Defaults and save settings in CMOS.

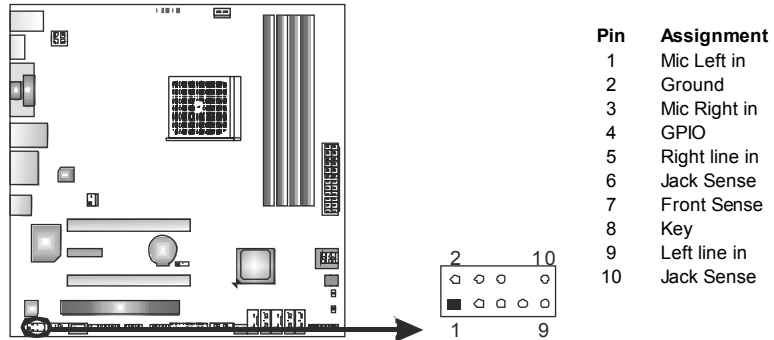
J_COM1: Serial port Connector

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



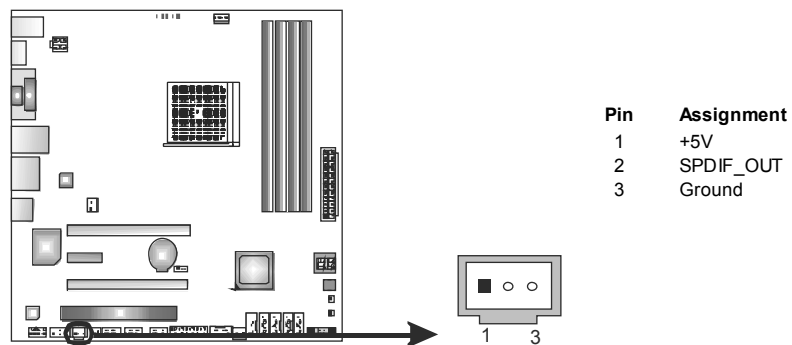
F_AUDIO1: Front Panel Audio Header

This header allows user to connect the front audio output cable with the PC front panel. This header supports HD and AC'97 audio front panel connector.



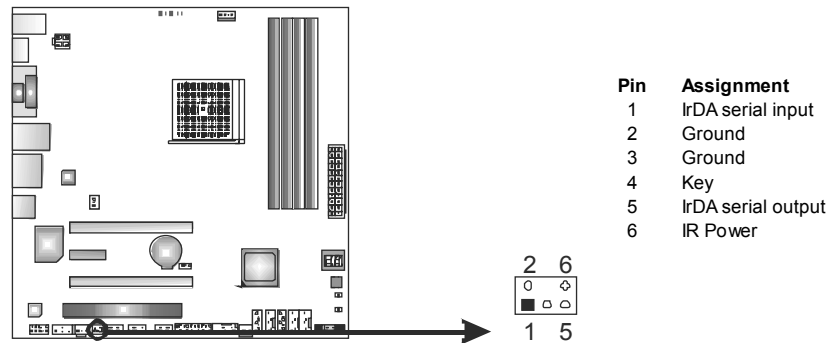
JSPDIFOUT1: Digital Audio-out Connector

This connector allows user to connect the PCI bracket SPDIF output header.



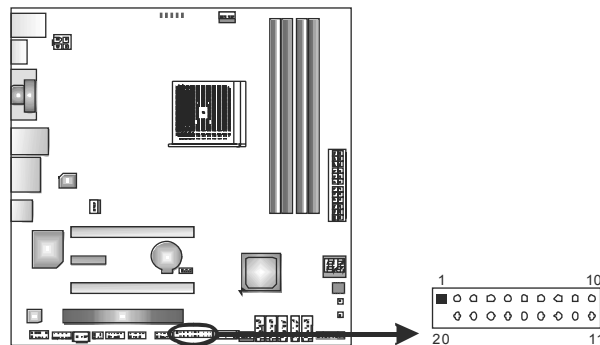
CIR1: Consumer IR Connector

This header is for infrared remote control and communication.



JFRONT_USB3_1: Header for USB 3.0 Ports at Front Panel

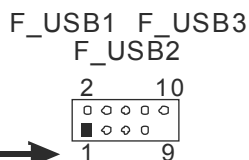
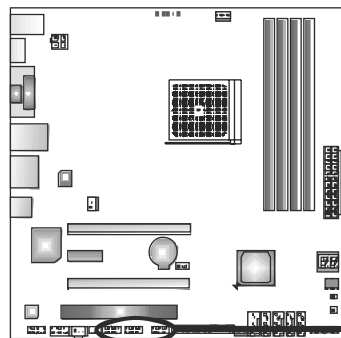
This header allows user to connect additional USB cable on the PC front panel, and also can be connected with internal USB devices, like USB card reader.



Pin	Assignment	Pin	Assignment
1	VBUS0	11	D2+
2	SSRX1-	12	D2-
3	SSRX1+	13	Ground
4	Ground	14	SSTX2+
5	SSTX1-	15	SSTX2-
6	SSTX1+	16	Ground
7	Ground	17	SSRX2+
8	D1-	18	SSRX2-
9	D1+	19	VBUS1
10	ID	20	Key

F_USB1/F_USB2/F_USB3: Headers for USB 2.0 Ports at Front Panel

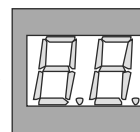
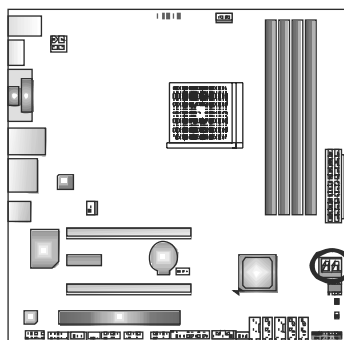
These headers allow user to connect additional USB cable on the PC front panel, and also can be connected with internal USB devices, like USB card reader.



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

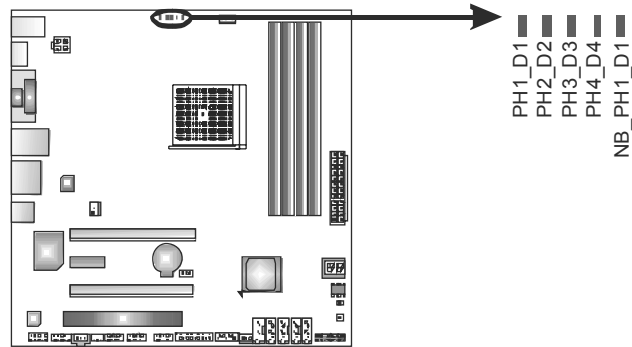
BIOS POST Code/CPU Temperature Indicator

This indicator will show POST code while booting. After the booting sequence, it will show current CPU temperature through hexadecimal figure. Please refer to Chapter 7.4 for all the BIOS POST codes, and Chapter 7.5 for conversion of hexadecimal and decimal system.



On-Board LED Indicators

There are 5 LED indicators showing system status.



NB_PH1_D1: NB Power Status Indicators

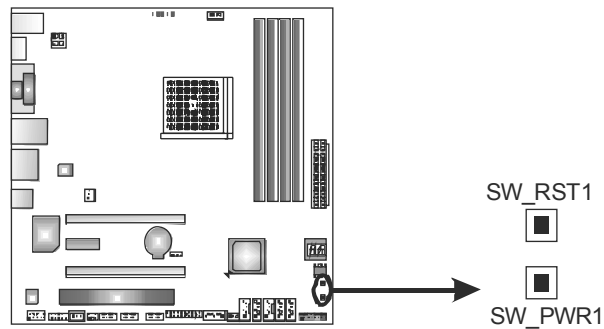
PH1_D1/PH2_D2/PH3_D3/PH4_D4: CPU Power Status Indicators

Please refer to the tables below for specific messages:

LED	Phase Indicator
ON	Phase Active
OFF	Phase Disable

On-Board Buttons

There are 2 on-board buttons.



SW_RST1: Reset button.

SW_PWR1: Power Switch button.

CHAPTER 4: AMD DUAL GRAPHICS TECHNOLOGY

4.1 AMD DUAL GRAPHICS TECHNOLOGY INTRODUCTION

When user adds a PCIE display adapter, it can be integrated with IGD to show better performance. To make the two video devices work simultaneously and normally, please refer to the following setting.

4.2 AMD DUAL GRAPHICS REQUIREMENT

- **Operating System:** Windows Vista / Windows 7
- **Supported DUAL Graphics Combinations:**

APU GFX	A4-Series HD 6410D	A6-Series HD 6530D	A8-Series™ HD 6550D
HD 6670	Attach Only (No DG)	Y	Y
HD 6570	Attach Only (No DG)	Y	Y
HD 6450	Y	Y	Y
HD 6350	Y	Attach Only (No DG)	Attach Only (No DG)

Note:

- ✦ “Attach Only (No DG)” indicates supported discrete graphics attachment without Dual Graphics.
- ✦ E-Series CPU does not support Dual Graphics.

Notice:

Single Channel or unbalanced memory does not support Dual Graphic function. Please use at least DDR3-1333 4G (2G+2G).

NOTE

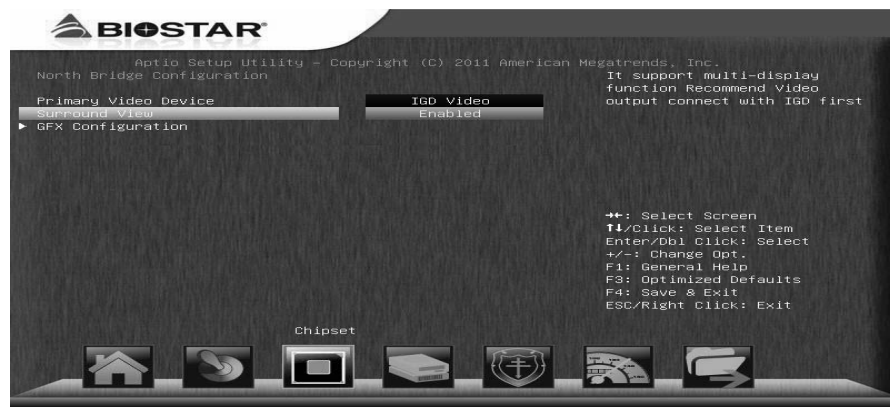
The information described above in this manual is for your reference only and the actual information and settings on board may be different from this manual. For further AMD Dual Graphics information, please visit the following website:

<http://www.amd.com>

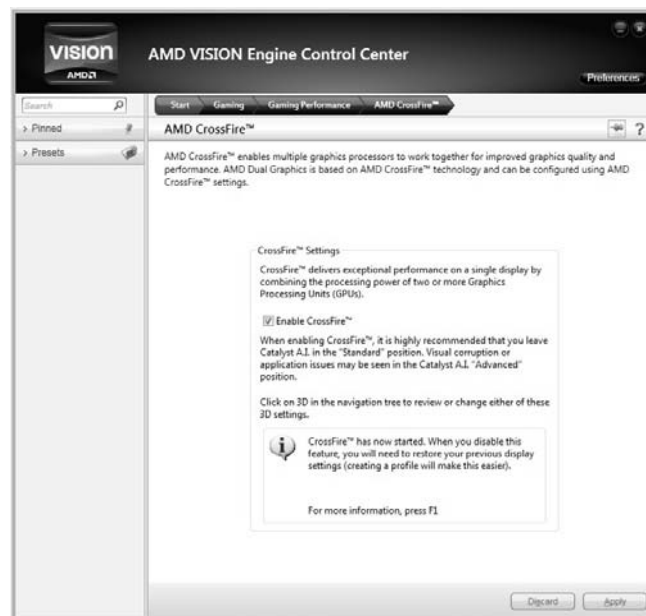
4.3 AMD DUAL GRAPHICS SETUP

Step 1: Insert Dual Graphics-Ready graphics card into PEX16_1 slot.

Step 2: Set the BIOS setting as follows:
[Chipset]→[North Bridge]→[Surround View]→[Enabled]



Step 3: Install Driver CD Chipset Driver, and reboot the system. Activate AMD VISION Engine Control Center to make sure CrossFire has been enabled.



CHAPTER 5: RAID FUNCTIONS

5.1 OPERATING SYSTEM

Supports Windows Vista and Windows 7.

5.2 RAID ARRAYS

RAID supports the following types of RAID arrays:

RAID 0: RAID 0 defines a disk striping scheme that improves disk read and write times for many applications.

RAID 1: RAID 1 defines techniques for mirroring data.

RAID 10: RAID 10 combines the techniques used in RAID 0 and RAID 1.

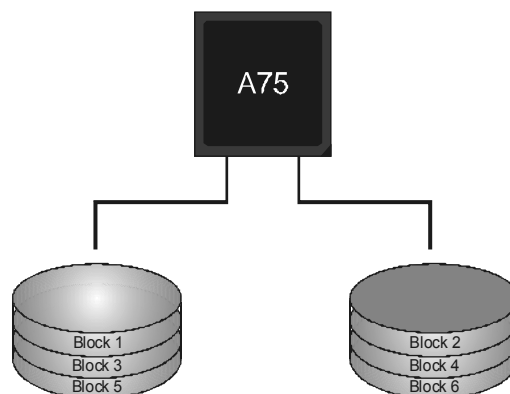
5.3 How RAID WORKS

RAID 0:

The controller “stripes” data across multiple drives in a RAID 0 array system. It breaks up a large file into smaller blocks and performs disk reads and writes across multiple drives in parallel. The size of each block is determined by the stripe size parameter, which you set during the creation of the RAID set based on the system environment. This technique reduces overall disk access time and offers high bandwidth.

Features and Benefits

- **Drives:** Minimum 2, and maximum is up to 6 or 8. Depending on the platform.
- **Uses:** Intended for non-critical data requiring high data throughput, or any environment that does not require fault tolerance.
- **Benefits:** provides increased data throughput, especially for large files. No capacity loss penalty for parity.
- **Drawbacks:** Does not deliver any fault tolerance. If any drive in the array fails, all data is lost.
- **Fault Tolerance:** No.

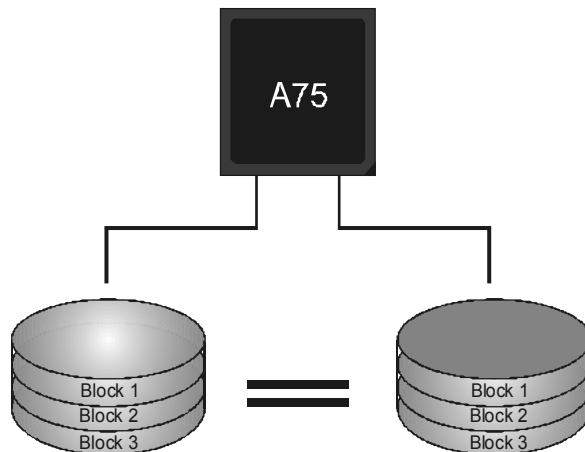


RAID 1:

Every read and write is actually carried out in parallel across 2 disk drives in a RAID 1 array system. The mirrored (backup) copy of the data can reside on the same disk or on a second redundant drive in the array. RAID 1 provides a hot-standby copy of data if the active volume or drive is corrupted or becomes unavailable because of a hardware failure. RAID techniques can be applied for high-availability solutions, or as a form of automatic backup that eliminates tedious manual backups to more expensive and less reliable media.

Features and Benefits

- **Drives:** Minimum 2, and maximum is 2.
- **Uses:** RAID 1 is ideal for small databases or any other application that requires fault tolerance and minimal capacity.
- **Benefits:** Provides 100% data redundancy. Should one drive fail, the controller switches to the other drive.
- **Drawbacks:** Requires 2 drives for the storage space of one drive. Performance is impaired during drive rebuilds.
- **Fault Tolerance:** Yes.

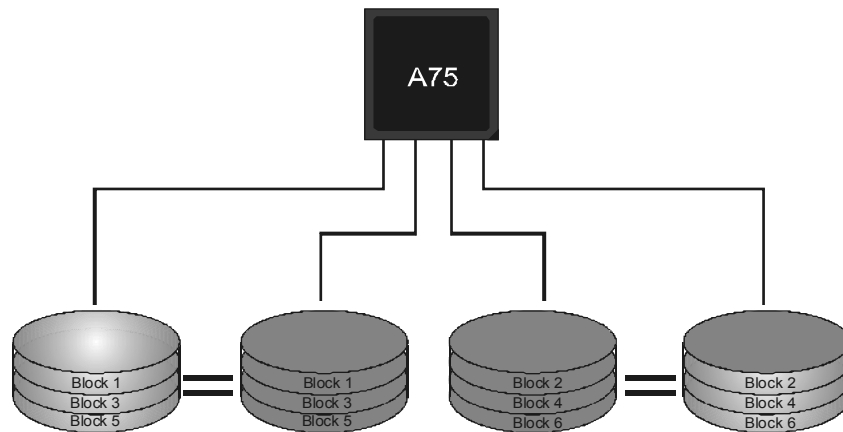


RAID 10:

RAID 1 drives can be striped using RAID 0 techniques. Resulting in a RAID 10 solution for improved resiliency, performance and rebuild performance.

Features and Benefits

- **Drives:** Minimum 4, and maximum is 6 or 8, depending on the platform.
- **Benefits:** Optimizes for both fault tolerance and performance, allowing for automatic redundancy. May be simultaneously used with other RAID levels in an array, and allows for spare disks.
- **Drawbacks:** Requires twice the available disk space for data redundancy, the same as RAID level 1.
- **Fault Tolerance:** Yes.



CHAPTER 6: T-SERIES UEFI BIOS & SOFTWARE

6.1 T-SERIES UEFI BIOS

T-Series UEFI BIOS Features

- Overclocking Navigator Engine (O.N.E.)
- Self Recovery System (S.R.S)
- Smart Fan Function
- BIO-Flasher: Update UEFI BIOS file from USB Flash Drive

!! WARNING !!

For better system performance, the UEFI BIOS firmware is being continuously updated. The UEFI BIOS information described below in this manual is for your reference only and the actual UEFI BIOS information and settings on board may be different from this manual. For further information of setting up the UEFI BIOS, please refer to the UEFI BIOS Manual in the Setup CD.

A. Overclocking Navigator Engine (O.N.E.)

O.N.E provides 4 systems allowing users to customize personal overclock settings: Manual Voltage System, Manual Memory System, Manual MCT System, and Manual G.P.U System.



Notice:

Not all types of Intel CPU perform above overclock setting ideally; the difference will be based on the selected CPU model.

NOTE

Overclock is an optional process, but not a “must-do” process; it is not recommended for inexperienced users. Therefore, we will not be responsible for any hardware damage which may be caused by overclocking. We also would not guarantee any overclocking performance.

B. Self Recovery System (S.R.S.)

This function can't be seen under UEFI BIOS setup, and is always on whenever the system starts up.

However, it can prevent system hang-up due to inappropriate overclock actions.

When the system hangs up, S.R.S. will automatically log in the default UEFI BIOS setting, and all overclock settings will be re-configured.

C. Smart Fan Function

Smart Fan Function is under “Smart Fan Control” in “Advanced Menu”.

This is a brilliant feature to control CPU/System Temperature vs. Fan speed.

When enabling Smart Fan function, Fan speed is controlled automatically by CPU/System temperature.

This function will protect CPU/System from overheat problem and maintain the system temperature at a safe level.





CPU Smart FAN

This item allows you to control the CPU Smart Fan function.

CPU FAN Calibrate

Press [ENTER] to calibrate CPU FAN.

Control Mode

This item provides several operation modes of the fan.

Fan Ctrl OFF(°C)

When CPU temperature is lower than this value, the CPU fan will keep lowest RPM. The range is from 0~127, with an interval of 1.

Fan Ctrl On(°C)

When CPU temperature is higher than this value, the CPU fan controller will turn on. The range is from 0~127, with an interval of 1.

Fan Ctrl Start Value

This item sets CPU FAN Start Speed Value. The range is from 0~127, with an interval of 1.

Fan Ctrl Sensitive

The bigger the numeral is, the higher the FAN speed is. The range is from 0~127, with an interval of 1.

6.2 T-SERIES SOFTWARE

Installing T-Series Software

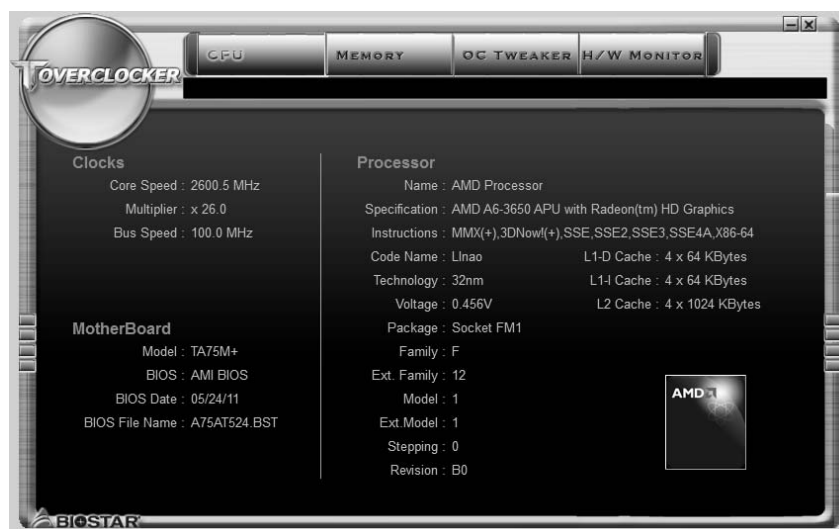
1. Insert the Setup CD to the optical drive. The drivers installation program would appear if the Auto-run function has been enabled.
2. Select **Software Installation**, and then click on the respective software title.
3. Follow the on-screen instructions to complete the installation.

Launching T-Series Software

After the installation process is completed, you will see the software icon showing on the desktop. Double-click the icon to launch it.

TOverclocker

TOverclocker presents a simple Windows-based system performance enhancement and manageability utility. It features several powerful and easy to use tools such as Overclocking for enhancing system performance, also for special enhancement on CPU and Memory. Smart-Fan management and PC health are for monitoring system status. This utility also allows you to make overclocking profiles saving unlimitedly, and pre-set OC modes are for easy OC. (The screenshot below is for reference only)





The **CPU** tab provides information on the CPU and motherboard.



The **Memory** tab provides information on the memory module(s).

You can select memory module on a specific slot to see its information.



The **OC Tweaker** tab allows you to change system clock settings and voltages settings. It also provides six pre-set modes for you: (The screenshot below is for reference only)



Six Pre-set Modes: V3, V6, V9, V12, V15, AUTO for different overclocking experience. (The screenshot below is for reference only)

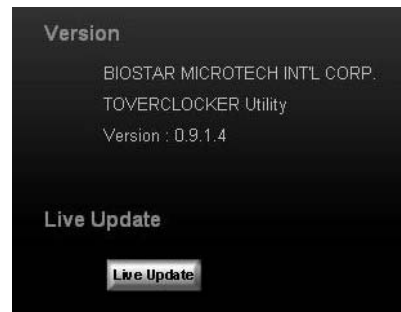


The **HW Monitor** tab allows you to monitor hardware voltage, fan speed, and temperature. Besides, you also can set related values for CPU Smart Fan. (The screenshot below is for reference only)



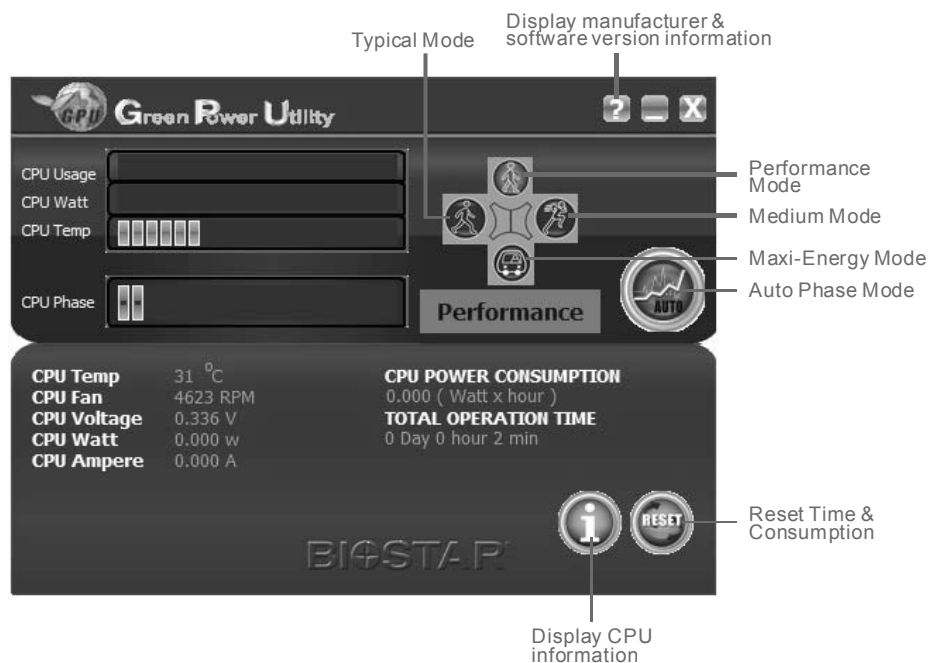


Pressing **TOVERCLOCKER** logo will display information about manufacturer and software version. You can update current version by clicking the button "Live Update."



Green Power II Utility

BIOSTAR G.P.U II (Green Power Utility) is a new function. The utility enhances energy efficiency by disabling extra phases while CPU is on light loading; it features 4+1 power phases, current power saving, and total power saving. This tool integrates a friendly GUI to monitor your CPU Usage, CPU Watt, and CPU Temperature. Moreover, it optimizes power saving and best power efficiency on your system. (The illustration below is for reference only)



G.P.U Mode Setting

This utility provides five modes, upon your requirements, to improve system performance or to save power consumption.

Note: Even if the modes saving more power consumption are chosen, the system still can keep excellent performance.

- **Auto Phase Mode**

System switches the mode automatically according to current system loading condition.

- **Performance Mode**

This is the mode saving power consumption most. Least energy will be used in the system.

- **Typical Mode**

Compared with that in Performance Mode, energy consumption in this mode is a little bit more.

- **Medium Mode**

This is the standard system power saving mode.

- **Maxi-Energy Mode**

This is the best system performance mode.

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.

Send the mail out.

Save these information to a .txt file

Exit this dialog.

* Select your area or the area close to you.

Provide the e-mail address that you would like to send the copy to.

* Provide the name of the memory module manufacturer.

Provide the name of the power supply manufacturer and the model no.

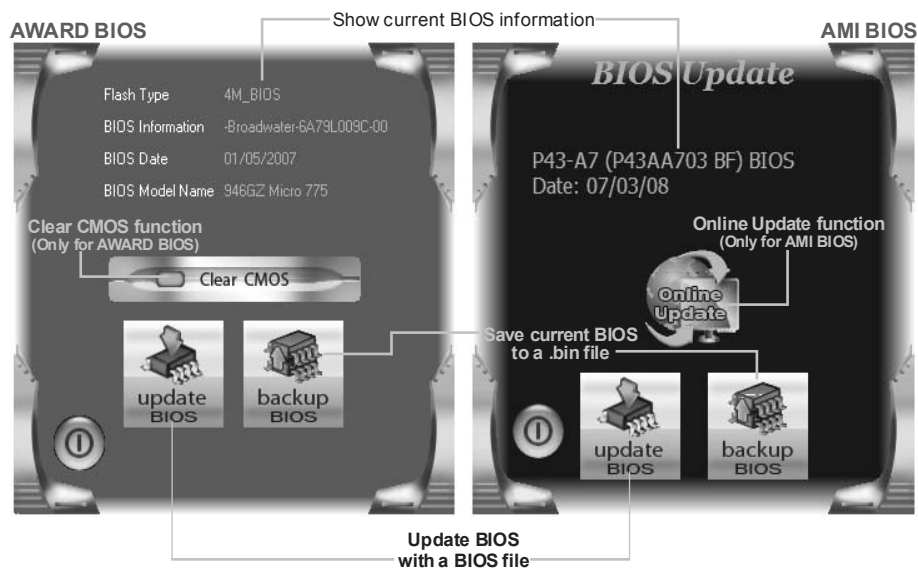
After filling up this information, click **“Send”** to send the mail out. A warning dialog would appear asking for your confirmation; click **“Send”** to confirm or **“Do Not Send”** to cancel.

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.



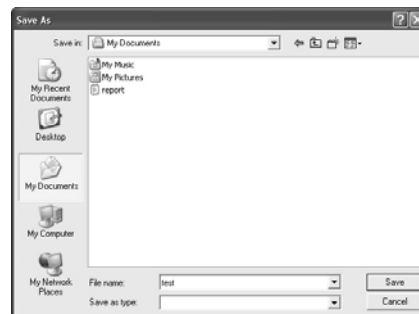
BIOS Update

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



<Backup BIOS>

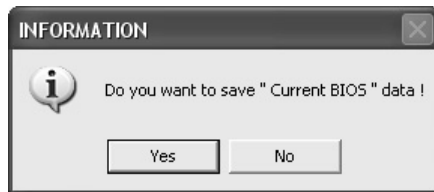
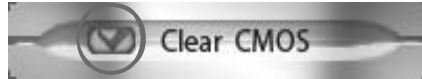
Once click on this button, the saving dialog will show. Choose the position to save file and enter file name. (We recommend that the file name should be English/number and no longer than 7 characters.) Then click **Save**.



<Update BIOS>

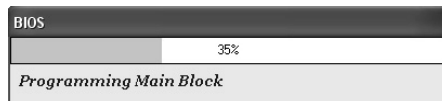
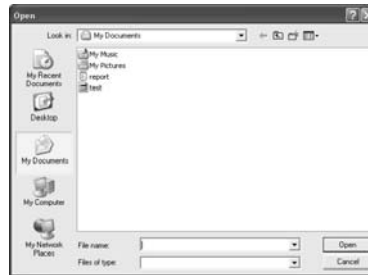
Before doing this, please download the proper BIOS file from the website.

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



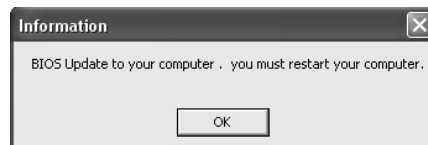
Then click Update BIOS button, a dialog will show for asking you backup current BIOS. Click **Yes** for BIOS backup and refer to the Backup BIOS procedure; or click **No** to skip this procedure.


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.



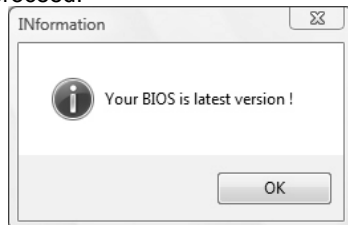
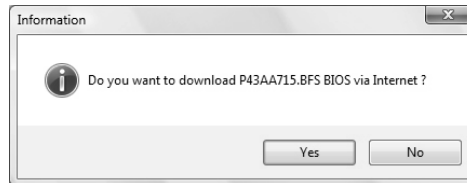
While the system boots up and the full screen logo shows, press  <Delete> key to enter BIOS setup.

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)

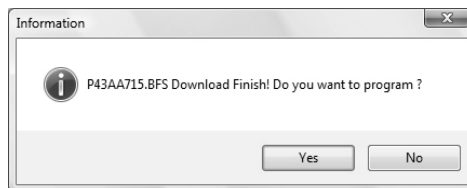
Automatically download and update the latest BIOS via internet; **make sure that the computer is connected to the internet before using this function.**

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.

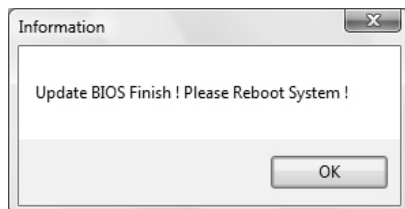


If there is no other newer BIOS version, the utility will also tell you that your BIOS has been the latest version.


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.



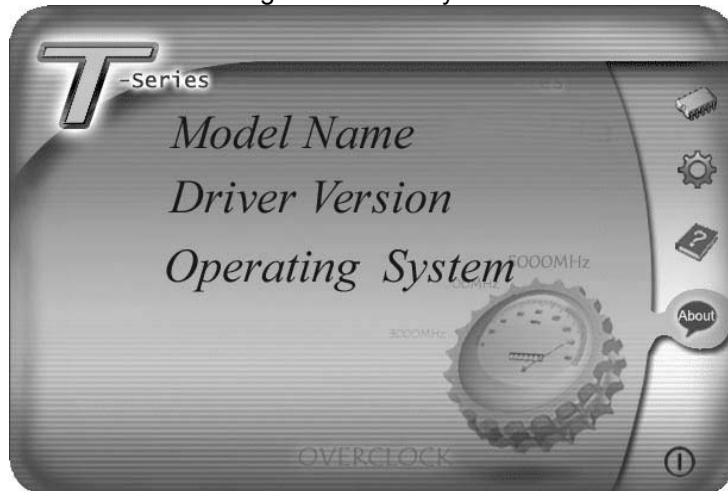
All the information and content above about the T-Series software are subject to be changed without notice. For better performance, the software is being continuously updated. The information and pictures described above are for your reference only. The actual information and settings on board may be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

CHAPTER 7: USEFUL HELP

7.1 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>

7.2 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.

7.3 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"> ● If beep codes are generated when all other expansion cards are absent, consult your system manufacturer's technical support. ● 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.
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.

7.4 AMI BIOS Post Code

Checkpoint	Description
03	Disable NMI, Parity, video for EGA, and DMA controllers. Initialize BIOS, POST, Runtime data area. Also initialize BIOS modules on POST entry and GPNV area. Initialize CMOS as mentioned in the Kernel Variable "wCMOSFlags."
04	Check CMOS diagnostic byte to determine if battery power is OK and CMOS checksum is OK. Verify CMOS checksum manually by reading storage area. If the CMOS checksum is bad, update CMOS with power-on default values and clear passwords. Initialize status register A. Initializes data variables that are based on CMOS setup questions. Initializes both the 8259 compatible PICs in the system
05	Initializes the interrupt controlling hardware (generally PIC) and interrupt vector table.
06	Do R/W test to CH-2 count reg. Initialize CH-0 as system timer. Install the POSTINT1Ch handler. Enable IRQ-0 in PIC for system timer interrupt. Traps INT1Ch vector to "POSTINT1ChHandlerBlock."
07	Fixes CPU POST interface calling pointer.
08	Initializes the CPU. The BAT test is being done on KBC. Program the keyboard controller command byte is being done after Auto detection of KB/MS using AMI KB-5.
C0	Early CPU Init Start -- Disable Cache -- Init Local APIC.
C1	Set up boot strap processor Information.
C2	Set up boot strap processor for POST.
C5	Enumerate and set up application processors.
C6	Re-enable cache for boot strap processor.
C7	Early CPU Init Exit.
0A	Initializes the 8042 compatible Key Board Controller.
0B	Detects the presence of PS/2 mouse.
0C	Detects the presence of Keyboard in KBC port.
0E	Testing and initialization of different Input Devices. Also, update the Kernel Variables. Traps the INT09h vector, so that the POST INT09h handler gets control for IRQ1. Uncompress all available language, BIOS logo, and Silent logo modules.
13	Early POST initialization of chipset registers.
20	Relocate System Management Interrupt vector for all CPU in the system.
24	Uncompress and initialize any platform specific BIOS modules. GPNV is initialized at this checkpoint.
2A	Initializes different devices through DIM. See DIM Code Checkpoints section of document for more information.
2C	Initializes different devices. Detects and initializes the video adapter installed in the system that have optional ROMs.
2E	Initializes all the output devices.
31	Allocate memory for ADM module and uncompress it. Give control to ADM module for initialization. Initialize language and font modules for ADM. Activate ADM module.
33	Initializes the silent boot module. Set the window for displaying text information.

Checkpoint	Description
37	Displaying sign-on message, CPU information, setup key message, and any OEM specific information.
38	Initializes different devices through DIM. See DIM Code Checkpoints section of document for more information. USB controllers are initialized at this point.
39	Initializes DMAC-1 & DMAC-2.
3A	Initialize RTC date/time.
3B	Test for total memory installed in the system. Also, Check for DEL or ESC keys to limit memory test. Display total memory in the system.
3C	Mid POST initialization of chipset registers.
40	Detect different devices (Parallel ports, serial ports, and coprocessor in CPU, etc.) successfully installed in the system and update the BDA, EBDA...etc.
52	Updates CMOS memory size from memory found in memory test. Allocates memory for Extended BIOS Data Area from base memory. Programming the memory hole or any kind of implementation that needs an adjustment in system RAM size if needed.
60	Initializes NUM-LOCK status and programs the KBD typematic rate.
75	Initialize Int-13 and prepare for IPL detection.
78	Initializes IPL devices controlled by BIOS and option ROMs.
7C	Generate and write contents of ESCD in NVRam.
84	Log errors encountered during POST.
85	Display errors to the user and gets the user response for error.
87	Execute BIOS setup if needed / requested. Check boot password if installed.
8C	Late POST initialization of chipset registers.
8D	Build ACPI tables (if ACPI is supported).
8E	Program the peripheral parameters. Enable/Disable NMI as selected.
90	Initialization of system management interrupt by invoking all handlers. Please note this checkpoint comes right after checkpoint 20h.
A1	Clean-up work needed before booting to OS.
A2	Takes care of runtime image preparation for different BIOS modules. Fill the free area in F000h segment with 0FFh. Initializes the Microsoft IRQ Routing Table. Prepares the runtime language module. Disables the system configuration display if needed.
A4	Initialize runtime language module. Display boot option popup menu.
A7	Displays the system configuration screen if enabled. Initialize the CPU's before boot, which includes the programming of the MTRR's.
A9	Wait for user input at config display if needed.
AA	Uninstall POST INT1Ch vector and INT09h vector.
AB	Prepare BBS for Int 19 boot. Init MP tables.
AC	End of POST initialization of chipset registers. De-initializes the ADM module.
B1	Save system context for ACPI. Prepare CPU for OS boot including final MTRR values.
00	Passes control to OS Loader (typically INT19h).

7.5 CONVERSION OF HEXADECIMAL AND DECIMAL SYSTEM

Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec
1	1	1A	26	33	51	4C	76
2	2	1B	27	34	52	4D	77
3	3	1C	28	35	53	4E	78
4	4	1D	29	36	54	4F	79
5	5	1E	30	37	55	50	80
6	6	1F	31	38	56	51	81
7	7	20	32	39	57	52	82
8	8	21	33	3A	58	53	83
9	9	22	34	3B	59	54	84
A	10	23	35	3C	60	55	85
B	11	24	36	3D	61	56	86
C	12	25	37	3E	62	57	87
D	13	26	38	3F	63	58	88
E	14	27	39	40	64	59	89
F	15	28	40	41	65	5A	90
10	16	29	41	42	66	5B	91
11	17	2A	42	43	67	5C	92
12	18	2B	43	44	68	5D	93
13	19	2C	44	45	69	5E	94
14	20	2D	45	46	70	5F	95
15	21	2E	46	47	71	60	96
16	22	2F	47	48	72	61	97
17	23	30	48	49	73	62	98
18	24	31	49	4A	74	63	99
19	25	32	50	4B	75	64	100

7.6 TROUBLESHOOTING

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

APPENDIX: SPEC IN OTHER LANGUAGES

GERMAN

Spezifikationen		
CPU	Sockel FM1 AMD A-Series / E2-Series Prozessoren	Die AMD 64-Architektur unterstützt eine 32-Bit- und 64-Bit-Datenverarbeitung
Chipsatz	AMD A75	
Super E/A	ITE 8728 Bietet die häufig verwendeten alten Super E/A-Funktionen. Low Pin Count-Schnittstelle	Umgebungskontrolle, Hardware-Überwachung Lüfterdrehzahl-Controller "Smart Guardian"-Funktion von ITE
Arbeitsspeicher	DDR3 DIMM-Steckplätze x 4 Max. 32GB Arbeitsspeicher Jeder DIMM unterstützt 512MB/ 1GB/2GB/4GB/8GB DDR3.	Dual-Kanal DDR3 Speichermodul Unterstützt DDR3 800/1066/1333/1600/1866 Unterstützt DDR3 2000 (OC)
SATA III	Integrierter Serial ATA-Controller	Datentransferrate bis zu 6 Gb/s Konform mit der SATA-Spezifikation Version 3.0 Unterstützt RAID 0,1,10
LAN	RTL8111E	10 / 100 / 1000 Mb/s Auto-Negotiation Halb-/ Vollduplex-Funktion
Audio-Codec	ALC892	7.1-Kanal-Audioausgabe Unterstützt High-Definition Audio
USB3.0	A75	Datenübertragungsraten bis zu 600 MB / s
Steckplätze	PCI Express Gen2 x16 Steckplatz x2 PCI Express Gen2 x1 Steckplatz x1 PCI Steckplatz x1	
Onboard-Anschluss	SATA-Anschluss x6 Fronttafelanschluss x1 Front-Audioanschluss x1 S/PDIF Ausgangsanschluss x1 Verbraucher-IR Anschluss x1	Jeder Anschluss unterstützt 1 SATA-Laufwerk Unterstützt die Fronttafel-funktionen Unterstützt die Fronttafel-Audioanschlussfunktion Unterstützt die digitale Audioausgabefunktion

Spezifikationen			
	CPU-Lüfter-Sockel	x1	CPU-Lüfterstromversorgungsanschluss (mit Smart Fan-Funktion)
	System-Lüfter-Sockel	x2	System-Lüfter-Stromversorgungsanschluss
	"CMOS löschen"-Sockel	x1	
	USB2.0-Anschluss	x3	Jeder Anschluss unterstützt 2 Fronttafel-USB2.0-Anschlüsse
	USB3.0-Anschluss	x1	Jeder Anschluss unterstützt 2 Fronttafel-USB3.0-Anschlüsse
	Serieller Anschluss	x1	
	Stromanschluss (24-polig)	x1	
	Stromanschluss (4-polig)	x1	
Rückseiten-E /A	PS/2-Tastatur / Maus	x1	
	HDMI-Anschluss	x1	
	VGA-Anschluss	x1	
	DVI-D-Anschluss	x1	
	LAN-Anschluss	x1	
	USB2.0-Anschluss	x4	
	USB3.0-Anschluss	x2	
	Audioanschluss	x6	
Platinengröße	244 mm (B) X 244 mm (L)		
OS-Unterstützung	Windows XP / Vista / 7		Biostar behält sich das Recht vor, ohne Ankündigung die Unterstützung für ein Betriebssystem hinzuzufügen oder zu entfernen.

FRENCH

<i>SPEC</i>		
UC	Socket FM1 Processeurs AMD A-Series / E2-Series	L'architecture AMD 64 permet le calcul 32 et 64 bits
Chipset	AMD A75	
Super E/S	ITE 8728 Fournit la fonctionnalité de Super E/S patrimoniales la plus utilisée. Interface à faible compte de broches	Initiatives de contrôle environnementales, Moniteur de matériel Contrôleur de vitesse de ventilateur Fonction "Gardien intelligent" de l'ITE
Mémoire principale	Fentes DDR3 DIMM x 4 Capacité mémoire maximale de 32Go Chaque DIMM prend en charge des DDR3 de 512Mo/1Go/2Go/4Go/8Go	Module de mémoire DDR3 à mode à double voie Prend en charge la DDR3 800/1066/1333/1600/1866 Prend en charge la DDR3 2000 (OC)
SATA III	Contrôleur Serial ATA intégré	Taux de transfert jusqu'à 6 Go/s. Conforme à la spécification SATA Version 3.0 Prise en charge RAID 0,1,10
LAN	RTL8111E	10 / 100 / 1000 Mb/s négociation automatique Half / Full duplex capability
Codec audio	ALC892	Sortie audio à 7.1 voies Prise en charge de l'audio haute définition
USB3.0	A75	Taux de transfert de données jusqu'à 600 Mo / s
Fentes	Fente PCI Express Gen2 x16 x2 Fente PCI Express Gen2 x1 x1 Fente PCI x1	
Connecteur embarqué	Connecteur SATA x6 Connecteur du panneau avant x1 Connecteur Audio du panneau avant x1 Connecteur de sortie S/PDIF x1 Connecteur de IR du consommateur x1	Chaque connecteur prend en charge 1 périphérique SATA Prend en charge les équipements du panneau avant Prend en charge la fonction audio du panneau avant Prend en charge la fonction de sortie audio numérique

SPEC		
	Embase de ventilateur UC	x1
	Embase de ventilateur système	x2
	Embase d'effacement CMOS	x1
	Connecteur USB2.0	x3
	Connecteur USB3.0	x1
	Port série	x1
	Connecteur d'alimentation (24 broches)	x1
	Connecteur d'alimentation (4broches)	x1
E/S du panneau arrière	Clavier / Souris PS/2	x1
	Port HDMI	x1
	Port VGA	x1
	Port DVI-D	x1
	Port LAN	x1
	Port USB2.0	x4
	Port USB3.0	x2
	Fiche audio	x6
Dimensions de la carte	244 mm (l) X 244 mm (H)	
Support SE	Windows XP / Vista / 7	Biostar se réserve le droit d'ajouter ou de supprimer le support de SE avec ou sans préavis.

ITALIAN

SPECIFICA		
CPU	Socket FM1 Processori AMD A-Series / E2-Series	L'architettura AMD 64 abilita la computazione 32 e 64 bit
Chipset	AMD A75	
Super I/O	ITE 8728 Fornisce le funzionalità legacy Super I/O usate più comunemente. Interfaccia LPC (Low Pin Count)	Funzioni di controllo dell'ambiente: Monitoraggio hardware Controller velocità ventolina Funzione "Smart Guardian" di ITE
Memoria principale	Alloggi DIMM DDR3 x 4 Capacità massima della memoria 32GB Ciascun DIMM supporta DDR3 512MB/1GB/2GB/4GB/8GB	Modulo di memoria DDR3 a canale doppio Supporto di DDR3 800/1066/1333/1600/1866 Supporto di DDR3 2000 (OC)
SATA III	Controller Serial ATA integrato	Velocità di trasferimento dei dati fino a 6 Gb/s. Compatibile specifiche SATA Versione 3.0 Supporto RAID 0,1,10
LAN	RTL8111E	Negoziante automatica 10 / 100 / 1000 Mb/s Capacità Half / Full Duplex
Codec audio	ALC892	Uscita audio 7.1 canali Supporto audio High-Definition (HD)
USB3.0	A75	Velocità di trasferimento dati fino a 600 MB / s
Alloggi	Alloggio PCI Express Gen2 x16 x2 Alloggio PCI Express Gen2 x1 x1 Alloggio PCI x1	
Connettori su scheda	Connettore SATA x6 Connettore pannello frontale x1 Connettore audio frontale x1 Connettore output S/PDIF x1 Connettore IR del consumatore x1 Collettore ventolina CPU x1 Collettore ventolina sistema x2	Ciascun connettore supporta 1 unità SATA Supporta i servizi del pannello frontale Supporta la funzione audio pannello frontale Supporta la funzione d'output audio digitale Alimentazione ventolina CPU (con funzione Smart Fan) Alimentazione ventolina di sistema

SPECIFICA		
	Collettore cancellazione CMOS x1	
	Connettore USB2.0 x3	Ciascun connettore supporta 2 porte USB2.0 pannello frontale
	Connettore USB3.0 x1	Ciascun connettore supporta 2 porte USB3.0 pannello frontale
	Porta seriale x1	
	Connettore alimentazione (24 pin) x1	
	Connettore alimentazione (4pin) x1	
I/O pannello posteriore	Tastiera / Mouse PS/2 x1	
	Porta HDMI x1	
	Porta VGA x1	
	Porta DVI-D x1	
	Porta LAN x1	
	Porta USB2.0 x4	
	Porta USB3.0 x2	
	Connettore audio x6	
Dimensioni scheda	244 mm (larghezza) x 244 mm (altezza)	
Sistemi operativi supportati	Windows XP / Vista / 7	Biostar si riserva il diritto di aggiungere o rimuovere il supporto di qualsiasi sistema operativo senza preavviso.

SPANISH

<i>Especificación</i>		
CPU	Conector FM1 Procesadores AMD A-Series / E2-Series	La arquitectura AMD 64 permite el procesado de 32 y 64 bits
Conjunto de chips	AMD A75	
Súper E/S	ITE 8728 Le ofrece las funcionalidades heredadas de uso más común Súper E/S. Interfaz de cuenta Low Pin	Iniciativas de control de entorno, Monitor hardware Controlador de velocidad de ventilador Función "Guardia inteligente" de ITE
Memoria principal	Ranuras DIMM DDR3 x 4 Capacidad máxima de memoria de 32GB Cada DIMM admite DDR de 512MB/1GB/2GB/4GB/8GB	Módulo de memoria DDR3 de canal Doble Admite DDR3 de 800/1066/1333/1600/1866 Admite DDR3 de 2000 (OC)
SATA III	Controlador ATA Serie Integrado	Tasas de transferencia de hasta 6 Gb/s. Compatible con la versión SATA 3.0 Admite RAID 0,1,10
Red Local	RTL8111E	Negociación de 10 / 100 / 1000 Mb/s Funciones Half / Full dúplex
Códecs de sonido	ALC892	Salida de sonido de 7.1 canales Soporte de sonido de Alta Definición
USB3.0	A75	Tasas de transferencia de datos hasta 600 MB / s
Ranuras	Ranura PCI Express Gen2 x16 X2 Ranura PCI express Gen2 x1 X1 Ranura PCI X1	
Conectores en placa	Conector SATA X6 Conector de panel frontal X1 Conector de sonido frontal X1 Conector de salida S/PDIF X1 Conector de IR del consumidor X1 Cabecera de ventilador de CPU X1	Cada conector soporta 1 dispositivos SATA Soporta instalaciones en el panel frontal Soporta funciones de sonido en el panel frontal Soporta función de salida de sonido digital Fuente de alimentación de ventilador de CPU (con función Smart Fan)

Especificación		
	Cabecera de ventilador de sistema X2 Cabecera de borrado de CMOS X1 Conector USB2.0 X3 Conector USB3.0 X1 Puerto serie X1 Conector de alimentación (24 patillas) X1 Conector de alimentación (4patillas) X1	Fuente de alimentación de ventilador de sistema Cada conector soporta 2 puertos USB2.0 frontales Cada conector soporta 2 puertos USB3.0 frontales
Panel trasero de E/S	Teclado / Ratón PS/2 X1 Ratón HDMI x1 Puerto VGA X1 Puerto DVI-D X1 Puerto de red local X1 Puerto USB2.0 X4 Puerto USB3.0 X2 Conector de sonido X6	
Tamaño de la placa	244 mm. (A) X 244 mm. (H)	
Soporte de sistema operativo	Windows XP / Vista / 7	Biostar se reserva el derecho de añadir o retirar el soporte de cualquier SO con o sin aviso previo.

PORTUGUESE

ESPECIFICAÇÕES		
CPU	Socket FM1 Processadores AMD A-Series / E2-Series	A arquitetura AMD 64 permite uma computação de 32 e 64 bits
Chipset	AMD A75	
Especificação o Super I/O	ITE 8728 Proporciona as funcionalidades mais utilizadas em termos da especificação Super I/O. Interface LPC (Low Pin Count).	Iniciativas para controlo do ambiente Monitorização do hardware Controlador da velocidade da ventoinha Função "Smart Guardian" da ITE
Memória principal	Ranuras DIMM DDR3 x 4 Capacidade máxima de memória: 32GB Cada módulo DIMM suporta uma memória DDR3 de 512MB/ 1GB/2GB/4GB/8GB	Módulo de memória DDR3 de canal duplo Suporta módulos DDR3 800/1066/1333/1600/1866 Suporta módulos DDR3 2000 (OC)
SATA III	Controlador Serial ATA integrado	Velocidades de transmissão de dados até 6 Gb/s. Compatibilidade com a especificação SATA versão 3.0 Suporta as funções RAID 0,1,10
LAN	RTL8111E	Auto negociação de 10 / 100 / 1000 Mb/s Capacidade semi/full-duplex
Codec de som	ALC892	Saída de áudio de 7.1 canais Suporta a especificação High-Definition Audio
USB3.0	A75	Taxas de transferência de dados até 600 MB / s
Ranuras	Ranhura PCI Express Gen2 x16 x2 Ranhura PCI Express Gen2 x1 x1 Ranhura PCI x1	
Conectores na placa	Conector SATA x6 Conector do painel frontal x1 Conector de áudio frontal x1 Conector de saída S/PDIF x1 Conector de IR do consumidor x1	Cada conector suporta 1 dispositivo SATA Para suporte de várias funções no painel frontal Suporta a função de áudio no painel frontal Suporta a saída de áudio digital

ESPECIFICAÇÕES		
	Conector da ventoinha da CPU x1 Conector da ventoinha do sistema x2 Conector para limpeza do CMOS x1 Conector USB2.0 x3 Conector USB3.0 x1 Porta série x1 Conector de alimentação (24 pinos) x1 Conector de alimentação (4 pinos) x1	Alimentação da ventoinha da CPU (com a função Smart Fan) Alimentação da ventoinha do sistema Cada conector suporta 2 portas USB2.0 no painel frontal Cada conector suporta 2 portas USB3.0 no painel frontal
Entradas/Saídas no painel traseiro	Teclado / Rato PS/2 x1 Porta HDMI x1 Porta VGA x1 Porta DVI-D x1 Porta LAN x1 Porta USB2.0 x4 Porta USB3.0 x2 Tomada de áudio x6	
Tamanho da placa	244 mm (L) X 244 mm (A)	
Sistemas operativos suportados	Windows XP / Vista / 7	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	Socket FM1 AMD A-Series / E2-Series Procesory	Architektura AMD 64 umożliwia przetwarzanie 32 i 64 bitowe
Chipset	AMD A75	
Pamięć główna	Gniazda DDR3 DIMM x 4 Maks. wielkość pamięci 32GB Każde gniazdo DIMM obsługuje moduły 512MB/1GB/2GB/4GB/8GB DDR3	Moduł pamięci DDR3 z trybem podwójnego kanału Obsługa DDR3 800/1066/1333/1600/1866 Obsługa DDR3 2000 (OC)
Super I/O	ITE 8728 Zapewnia najbardziej powszechne funkcje Super I/O. Interfejs Low Pin Count	Funkcje kontroli warunków pracy, Monitor H/W Kontroler prędkości wentylatora Funkcja ITE "Smart Guardian"
SATA III	Zintegrowany kontroler Serial ATA	Transfer danych do 6 Gb/s. Zgodność ze specyfikacją SATA w wersji 3.0 Obsługa RAID 0,1,10
LAN	RTL8111E	10 / 100 / 1000 Mb/s z automatyczną negocjacją szybkości Działanie w trybie połowicznego/pełnego duplexu
Kodek dźwiękowy	ALC892	7.1 kanałowe wyjście audio Obsługa High-Definition Audio
USB3.0	A75	Cena transferu danych do 600 MB / s
Gniazda	Gniazdo PCI Express Gen2 x16 x2 Gniazdo PCI Express Gen2 x1 x1 Gniazdo PCI x1	
Złącza wbudowane	Złącze SATA x6 Złącze panela przedniego x1 Przednie złącze audio x1 Złącze wyjścia S/PDIF x1 Złącze Konsument IR x1	Każde złącze obsługuje 1 urządzenie SATA Obsługa elementów panela przedniego Obsługa funkcji audio na panelu przednim Obsługa funkcji cyfrowego wyjścia audio

SPEC		
	Złącze główkowe wentylatora procesora x1 Złącze główkowe wentylatora systemowego x2 Złącze główkowe kasowania CMOS x1 Złącze USB2.0 x3 Złącze USB3.0 x1 Port szeregowy x1 Złącze zasilania (24 pinowe) x1 Złącze zasilania (4 pinowe) x1	Zasilanie wentylatora procesora (z funkcją Smart Fan) Zasilanie wentylatora systemowego Każde złącze obsługuje 2 porty USB2.0 na panelu przednim Każde złącze obsługuje 2 porty USB3.0 na panelu przednim
Back Panel I/O	Klawiatura / Mysz PS/2 x1 Port HDMI x1 Port VGA x1 Port DVI-D x1 Port LAN x1 Port USB2.0 x4 Port USB3.0 x2 Gniazdo audio x6	
Wymiary płyty	244 mm (S) X 244 mm (W)	
Obsługa systemu operacyjnego	Windows XP / Vista / 7	Biostar zastrzega sobie prawo dodawania lub odwoływania obsługi dowolnego systemu operacyjnego bez powiadomienia.

RUSSIAN

СПЕЦ		
CPU (центральный процессор)	Гнездо FM1 Процессоры AMD A-Series / E2-Series	Архитектура AMD 64 разрешать обработка данных на 32 и 64 бит
Набор микросхем	AMD A75	
Основная память	Слоты DDR3 DIMM x 4 Максимальная ёмкость памяти 32ГБ Каждый модуль DIMM поддерживает 512МБ/1ГБ/2ГБ/4ГБ/8ГБ DDR3	Модуль памяти с двухканальным режимом DDR3 Поддержка DDR3 800/1066/1333/1600/1866 Поддержка DDR3 2000 (OC)
Super I/O	ITE 8728 Обеспечивает наиболее используемые действующие функциональные возможности Super I/O. Интерфейс с низким количеством выводов	Инициативы по охране окружающей среды, Аппаратный монитор Регулятор скорости Функция ITE "Smart Guardian" (Интеллектуальная защита)
SATA III	Встроенное последовательное устройство управления ATA	скорость передачи данных до 6 гигабит/с. Соответствие спецификации SATA версия 3.0 Поддержка RAID 0,1,10
Локальная сеть	RTL8111E	Автоматическое согласование 10 / 100 / 1000 Мб/с Частичная / полная дуплексная способность
Звуковой кодек	ALC892	Звуковая поддержка High-Definition 7.1канальный звуковой выход
USB3.0	A75	скорости передачи данных до 600 МБ / с
Слоты	Слот PCI Express Gen2 x16 x2 Слот PCI Express Gen2 x1 x1 Слот PCI x1	
Встроенный разъём	Разъём SATA x6 Разъём на лицевой панели x1 Входной звуковой разъём x1 Разъём вывода для S/PDIF x1	Каждый разъём поддерживает 1 устройство SATA Поддержка устройств на лицевой панели Поддержка звуковых функций на лицевой панели Поддержка вывода цифровой звуковой функции

СПЕЦ		
	Разъём едока ИКЫЙ	x1
	Контактирующее приспособление вентилятора центрального процессора	x1
	Контактирующее приспособление вентилятора системы	x2
	Открытое контактирующее приспособление CMOS	x1
	USB2.0-разъём	x3
	USB3.0-разъём	x1
	Последовательный порт	x1
	Разъём питания (24 вывод)	x1
	Разъём питания (4 вывод)	x1
Задняя панель средств ввода-вывода	Клавиатура / Мышь PS/2	x1
	Порт HDMI	x1
	Порт VGA	x1
	Порт DVI-D	x1
	Порт LAN	x1
	USB2.0-порт	x4
	USB3.0-порт	x2
	Гнездо для подключения наушников	x6
Размер панели	244 мм (Ш) X 244 мм (В)	
Поддержка OS	Windows XP / Vista / 7	
	Биостар сохраняет за собой право добавлять или удалять средства обеспечения для OS с или без предварительного уведомления.	

ARABIC

المواصفات		
وحدة المعالجة المركزية	FM1 مقبس AMD A-Series / E2-Series معالجات	إجراء العمليات الحسابية بسرعة 32 و 64 بت AMD 64 تمكين تقنية
مجموعة الشرائح	AMD A75	
الذاكرة الرئيسية	قناة DDR3 DIMM عدد 4 سعة ذاكرة قصوى 32 جيجا بايت ميجا 512/سعة DDR3 تدعم ذاكرة من نوع DIMM تدعم كل قناة بايت و 1/2 و 4 و 8 جيجا بايت	مزدوجة القناة DDR3 وحدة ذاكرة سعات DDR3 1866/1600/1333/1066/800 تدعم الذاكرة من نوع ميجا بايت 2000 (OC) سعات DDR3 نوع من الذاكرة تدعم
Super I/O	ITE 8728 الأكثر استخداماً Super I/O توفر وظيفة Low Pin Count Interface تدعم تقنية	وسائل التحكم في البيئة: مراقب لمعرفة حالة الأجهزة مراقب في سرعة المروحة ITE من "Smart Guardian" وظيفة
SATA III	متكامل Serial ATA تحكم	نقل البيانات بسرعات تصل إلى 6 جيجابايت/ثانية. 3.0 الإصدار SATA مطابقة للمواصفات RAID 0,1,10 تدعم تقنية
شبكة داخلية	RTL8111E	تفاوض تلقائي 10/100 ميجا بايت / ثانية و 1 جيجا بت/ثانية إمكانية النقل المزدوج الكامل/النصف
كوديك الصوت	ALC892	تدعم تقنية الصوت عالي التعريف من 7.1 قنوات لخرج الصوت
USB3.0	A75	ثلاثية / بايت ميغا 600 إلى تصل بيانات نقل معدلات
الفتحات	قناة PCI Express Gen2 x16 عدد 2 قناة PCI Express Gen2 x1 عدد 1 قناة PCI عدد 1	
المنفذ على سطح اللوحة	منفذ SATA عدد 6 منفذ اللوحة الأممية عدد 1 منفذ الصوت الأممي عدد 1 منفذ خرج S/PDIF عدد 1	SATA يدعم كل منفذ واحد من أجهزة يدعم تجهيزات اللوحة الأممية يدعم وظيفة الصوت باللوحة الأممية يدعم وظيفة خرج الصوت الرقمي

المواصفات		
Smart Fan توصيل الطلقة لمروحة وحدة المعالجة مع وظيفة توصيل الطلقة لمروحة النظام	عدد 1	منفذ الأحمر تحت مستهلكة
	عدد 1	وصلة مروحة وحدة المعالجة المركزية
	عدد 2	وصلة مروحة النظام
	عدد 1	وصلة مسح CMOS
	عدد 3	منفذ USB2.0
	عدد 1	منفذ USB3.0
	عدد 1	منفذ تسلسلي
	عدد 1	منفذ توصيل الطلقة (24دبوس)
	عدد 1	منفذ توصيل الطلقة (4دبليس)
	عدد 1	لوحة مفاتيح / ملوس PS/2
	عدد 1	منافذ HDMI
	عدد 1	منافذ VGA
	عدد 1	منافذ DVI-D
	عدد 1	منفذ شبكة اتصال محلية
	عدد 4	منافذ USB2.0
	عدد 2	منافذ USB3.0
	عدد 6	مقيس صوت
		244 مم (عرض) X 244 مم (ارتفاع)
يحقها في إضافة أو إزالة الدعم لأي نظام تشغيل بإخطار أو بدون Biostar حفظ لخطار .	Windows XP / Vista / 7	دعم أنظمة التشغيل

Motherboard Manual

JAPANESE

仕様		
CPU	Socket FM1 AMD A-Series / E2-Series プロセッサ	AMD 64アーキテクチャでは、32ビットと64ビット計算が可能です
チップセット	AMD A75	
メインメモリ	DDR3 DIMMスロット x 4 最大メモリ容量32GB 各DIMMは 512MB/1GB/2GB/4GB/8GB DDR3をサポート	デュアル チャンネルモードDDR3 メモリ モジュール DDR3 800/1066/1333/1600/1866 をサポート DDR3 2000 (OC) をサポート
Super I/O	ITE 8728 もっとも一般に使用されるレガシーSuper I/O機能を採用しています。 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、 H/Wモニター ファン速度コントローラ/ モニター ITEの「スマートガーディアン」機能
SATA III	統合シリアルATAコントローラ	最高6 Gb/秒のデータ転送速度 SATAバージョン3.0仕様に準拠。 RAID 0,1,10 のサポート
LAN	RTL8111E	10 / 100 / 1000 Mb/秒のオートネゴシエーション 半/全二重機能
サウンド Codec	ALC892	ハイデフィニションオーディオのサポート 7.1 チャンネルオーディオアウト
USB3.0	A75	データ転送速度最大600 MB /秒の
スロット	PCI Express Gen2 x16スロット x2 PCI Express Gen2 x1スロット x1 PCIスロット x1	
オンボードコネクタ	SATAコネクタ x6 フロントパネルコネクタ x1 フロントオーディオコネクタ x1 S/PDIFアウトコネクタ x1 消費者IRコネクタ x1 CPUファンヘッダ x1 システムファンヘッダ x2	各コネクタは1つのSATAデバイスをサポートします フロントパネル機能をサポートします フロントパネルオーディオ機能をサポートします デジタルオーディオアウト機能をサポートします CPUファン電源装置(スマートファン機能を搭載) システムファン電源装置

仕様		
	CMOS クリアヘッダ	x1
	USB2.0コネクタ	x3
	USB3.0コネクタ	x1
	シリアルポート	x1
	電源コネクタ(24ピン)	x1
	電源コネクタ(4ピン)	x1
	各コネクタは2つのフロントパネルUSB2.0ポートをサポートします 各コネクタは2つのフロントパネルUSB3.0ポートをサポートします	
背面パネル I/O	PS/2キーボード / マウス	x1
	HDMIポート	x1
	VGAポート	x1
	DVI-Dポート	x1
	LANポート	x1
	USB2.0ポート	x4
	USB3.0ポート	x2
	オーディオジャック	x6
ボードサイズ	244 mm (幅) X 244 mm (高さ)	
OSサポート	Windows XP / Vista / 7	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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