FCC Information and Copyright

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Table of Contents

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

- HDD Cable X 1
- Serial ATA Cable X 2
- Serial ATA Power Cable X 1
- Rear I/O Panel for ATX Case X 1
- User's Manual X 1
- Fully Setup Driver CD X 1
- FDD Cable X 1 (optional)
- USB 2.0 Cable X1 (optional)
- S/PDIF out Cable X 1 (optional)

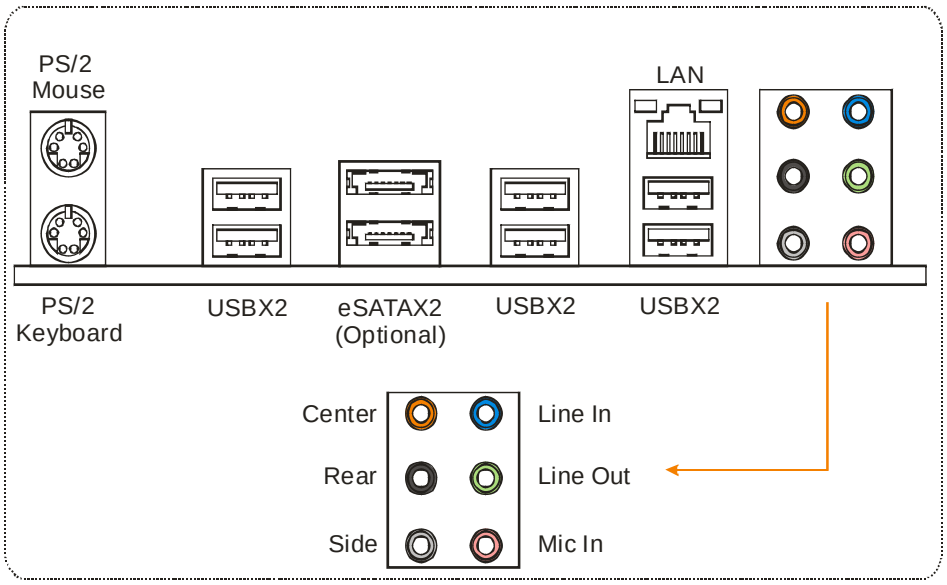
Note: The package contents may differ by area or your motherboard version.

1.3 MOTHERBOARD FEATURES

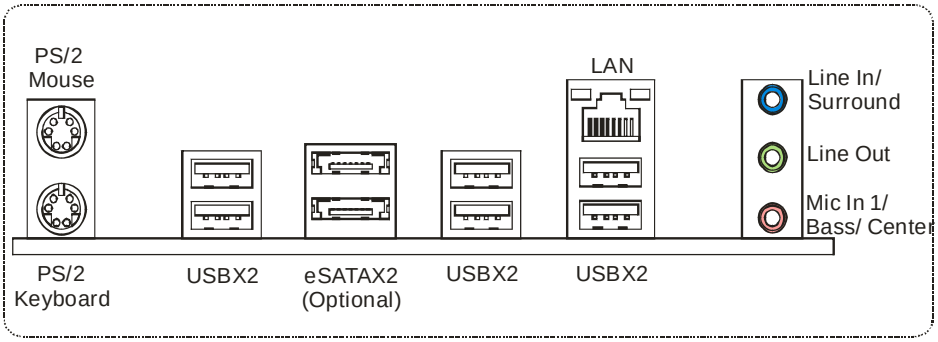
	Ver 5.x	*Ver 6.x*
CPU	Socket AM2 / AM2+ AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ processors AMD 64 Architecture enables 32 and 64 bit computing Supports Hyper Transport 3.0 and Cool=n=Quiet	Socket AM2 / AM2+ AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ processors AMD 64 Architecture enables 32 and 64 bit computing Supports Hyper Transport 3.0 and Cool=n=Quiet
FSB	Support HyperTransport 3.0 Supports up to 5.2 GT/s Bandwidth	Support HyperTransport 3.0 Supports up to 5.2 GT/s Bandwidth
Chipset	AMD 770 AMD SB600	AMD 770 AMD SB600
Super I/O	ITE 8718F 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	ITE 8718F 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	DIMM Slots x 4 Each DIMM supports 512/1024/2048MB DDR2 Max Memory Capicity 8GB Dual Channel Mode DDR2 memory module Supports DDR2 533 / 667 / 800 Supports DDR2 1066 (by AM2+ CPU) Registered DIMM and ECC DIMM is not supported	DIMM Slots x 4 Each DIMM supports 512/1024/2048MB DDR2 Max Memory Capicity 8GB Dual Channel Mode DDR2 memory module Supports DDR2 533 / 667 / 800 Supports DDR2 1066 (by AM2+ CPU) Registered DIMM and ECC DIMM is not supported
IDE	Integrated IDE Controller Ultra DMA 33 / 66 / 100 / 133 Bus Master Mode supports PIO Mode 0~4,	Integrated IDE Controller Ultra DMA 33 / 66 / 100 / 133 Bus Master Mode supports PIO Mode 0~4,
SATA II	AMD SB600 (Onboard) Jmicro JMB362 (eSATA) (optional) Data transfer rates up to 3 Gb/s. SATA Version 2.0 specification compliant. RAID 0,1,1+0 support (Onboard) NCQ/Port-Multiplier/RAID 0,1,5,0+1 support (eSATA) (optional)	AMD SB600 (Onboard) Jmicro JMB362 (eSATA) (optional) Data transfer rates up to 3 Gb/s. SATA Version 2.0 specification compliant. RAID 0,1,1+0 support (Onboard) NCQ/Port-Multiplier/RAID 0,1,5,0+1 support (eSATA) (optional)

	Ver 5.x		*Ver 6.x*	
LAN	Marvell 88E8056 / 88E8039 (optional) 10 / 100 Mb/s / 1Gb/s auto negotiation (Gigabit bandwidth is for Marvell 88E8056 only) Half / Full duplex capability		Marvell 88E8056 / 88E8039 (optional) 10 / 100 Mb/s / 1Gb/s auto negotiation (Gigabit bandwidth is for Marvell 88E8056 only) Half / Full duplex capability	
Sound	ALC888 7.1 channels audio out Supports HD Audio		ALC662 5.1channels audio out Supports HD Audio	
Slots	PCI slot	x3	PCI slot	x3
	PCI Express Gen2 x16 slot	x1	PCI Express Gen2 x16 slot	x1
	PCI Express Gen2 x1 slot	x2	PCI Express Gen2 x1 slot	x2
On Board Connector	Floppy connector	x1	Floppy connector	x1
	Printer Port connector	x1	Printer Port connector	x1
	IDE Connector	x1	IDE Connector	x1
	SATA Connector	x4	SATA Connector	x4
	Front Panel Connector	x1	Front Panel Connector	x1
	Front Audio Connector	x1	Front Audio Connector	x1
	CD-in Connector	x1	CD-in Connector	x1
	S/PDIF out connector	x1	S/PDIF out connector	x1
	CPU Fan header	x1	CPU Fan header	x1
	System Fan header	x2	System Fan header	x2
	CMOS clear header	x1	CMOS clear header	x1
	USB connector	x2	USB connector	x2
	Serial port Connector	x1	Serial port Connector	x1
	Power Connector (24pin)	x1	Power Connector (24pin)	x1
	Power Connector (8pin)	x1	Power Connector (8pin)	x1
	Power Connector (4pin)	x1	Power Connector (4pin)	x1
Back Panel I/O	PS/2 Keyboard	x1	PS/2 Keyboard	x1
	PS/2 Mouse	x1	PS/2 Mouse	x1
	LAN port	x1	LAN port	x1
	USB Port	x6	USB Port	x6
	Audio Jack	x6	Audio Jack	x3
	eSATA Port (optional)	x2	eSATA Port (optional)	x2
Board Size	244 mm (W) x 305 mm (L)		244 mm (W) x 305 mm (L)	
OS Support	Windows XP / VISTA Biostar Reserves the right to add or remove support for any OS With or without notice.		Windows XP / VISTA Biostar Reserves the right to add or remove support for any OS With or without notice.	

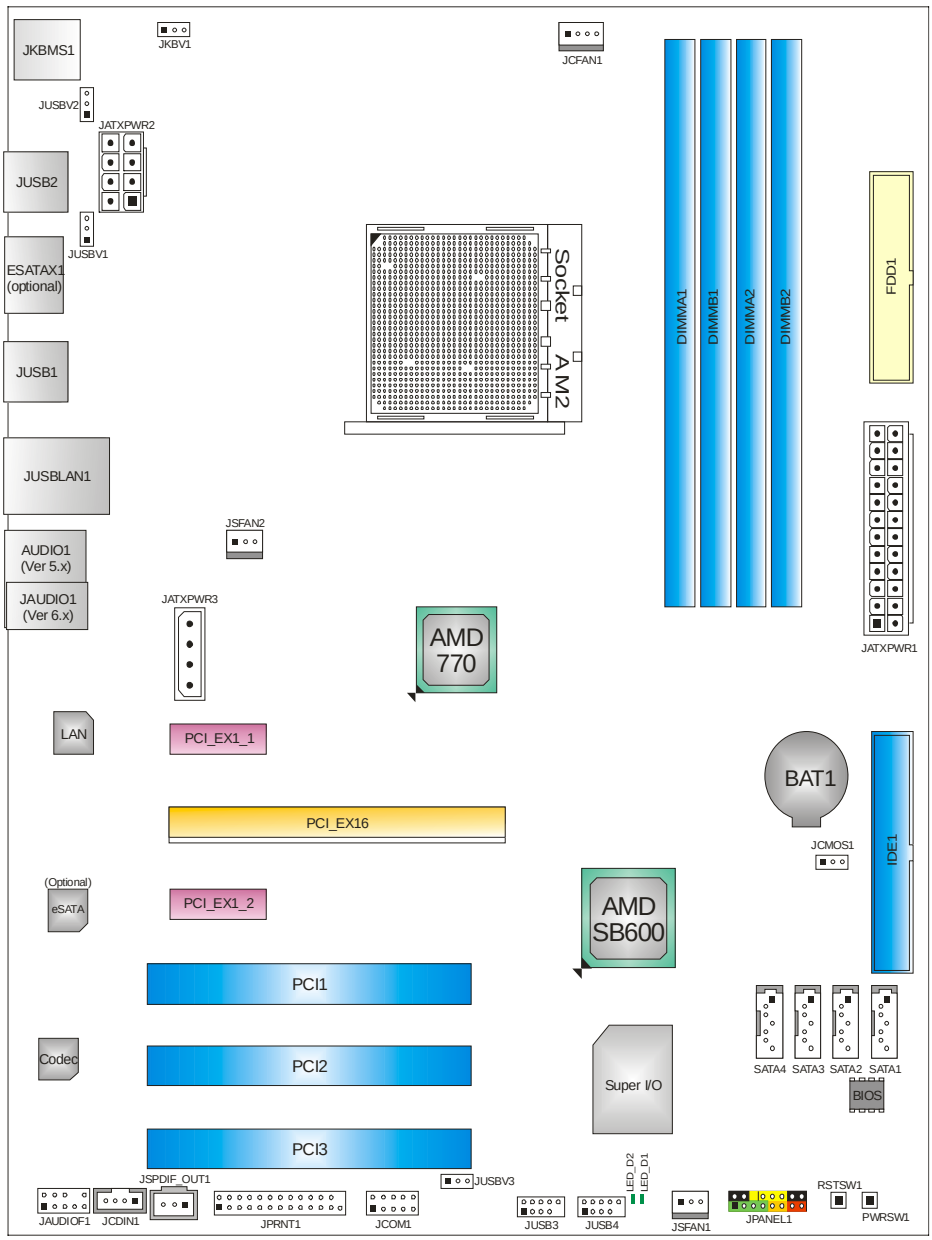
1.4 Rear Panel Connectors (for Ver 5.x)



1.5 Rear Panel Connectors (for Ver 6.x)



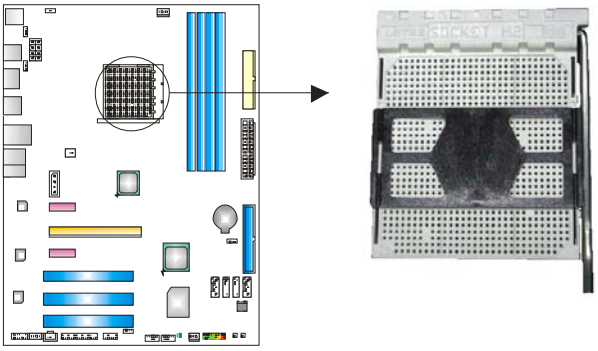
1.6 MOTHERBOARD LAYOUT



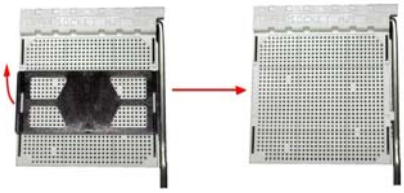
Note: ■ represents the 1st pin.

CHAPTER 2: HARDWARE INSTALLATION

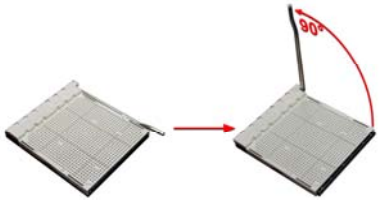
2.1 INSTALLING CENTRAL PROCESSING UNIT (CPU)



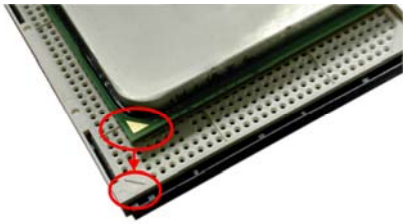
Step 1: Remove the socket protection cap.



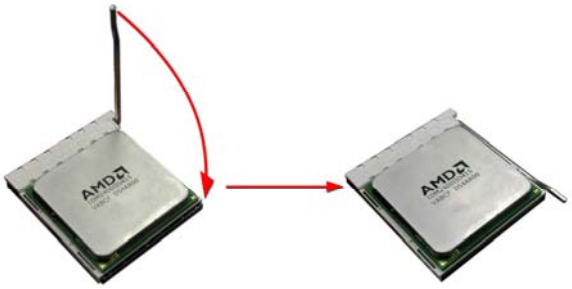
Step 2: Pull the lever toward direction A from the socket and then raise the lever up to a 90-degree angle.



Step 3: 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 4: Hold the CPU down firmly, and then close the lever toward direct B to complete the installation.



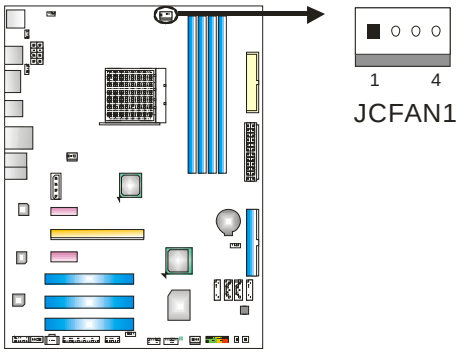
Step 5: Put the CPU Fan on the CPU and buckle it. Connect the CPU FAN power cable to the JCFAN1. This completes the installation.

Note: Please update the BIOS to the latest version while using AM2+ CPUs. Due to the latest CPU transition, you may encounter the situation that the new system failed to boot while using new AM2+ CPUs. In this case, please install one standard AM2 CPU to boot your system, and update the latest BIOS from our website for AM2+ CPUs support.

2.2 FAN Headers

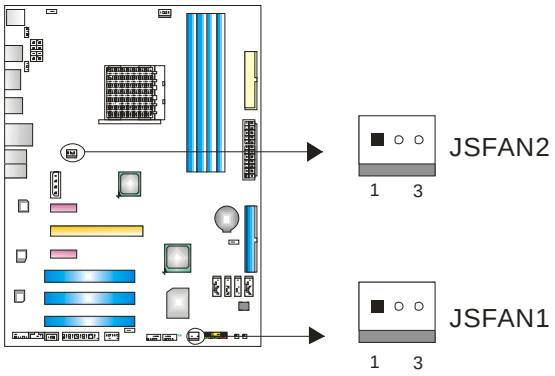
These fan headers support cooling-fans built in the computer. The fan cable and connector may be different according to the fan manufacturer. Connect the fan cable to the connector while matching the black wire to pin#1.

JCFAN1: CPU Fan Header



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

JSFAN1/JSFAN2: System Fan Headers



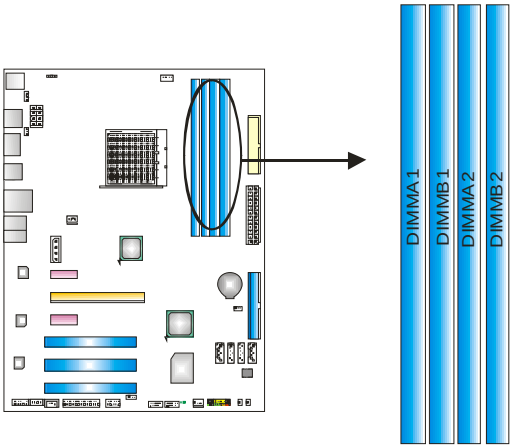
Pin	Assignment
1	Ground
2	+12V
3	FAN RPM rate sense

Note:

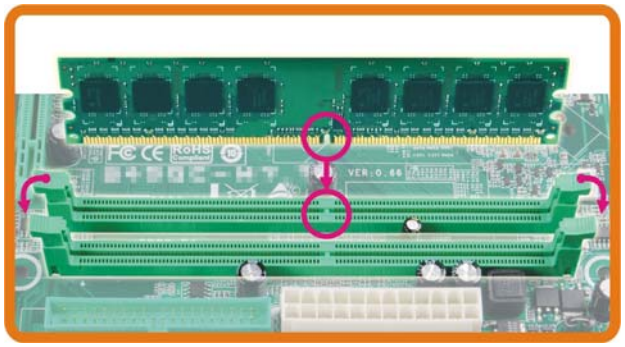
The JCFAN1、JSFAN1 and JSFAN2 support 4-pin and 3-pin head connector. When connecting with wires onto connectors, please note that the red wire is the positive and should be connected to pin#2, and the black wire is Ground and should be connected to GND.

2.3 Installing System Memory

A. DDR2 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	DDR2 Module	Total Memory Size
DIMMA1	512MB/1024MB/2048MB	Max is 8GB.
DIMMB1	512MB/1024MB/2048MB	
DIMMA2	512MB/1024MB/2048MB	
DIMMB2	512MB/1024MB/2048MB	

C. Dual Channel Memory installation

To trigger 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	DIMMA1	DIMMB1	DIMMA2	DIMMB2
Enabled	O	O	X	X
Enabled	X	X	O	O
Enabled	O	O	O	O

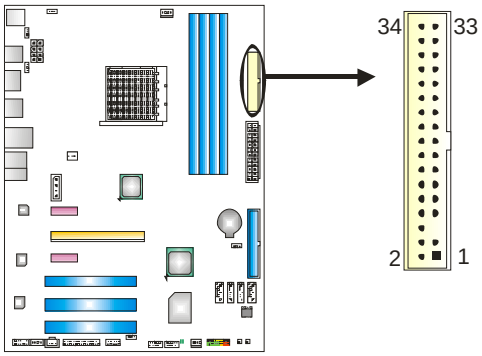
(O means memory installed, X means memory not installed.)

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

CONNECTORS AND SLOTS

FDD1: Floppy Disk Connector

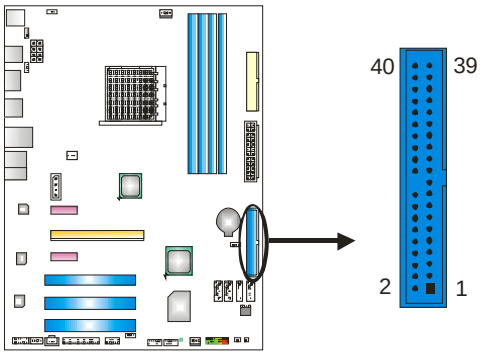
The motherboard provides a standard floppy disk connector that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the provided floppy drive ribbon cables.



IDE1: Hard Disk Connector

The motherboard has a 32-bit Enhanced IDE Controller that provides PIO Mode 0~4, Bus Master, and Ultra DMA 33/66/100/133 functionality.

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

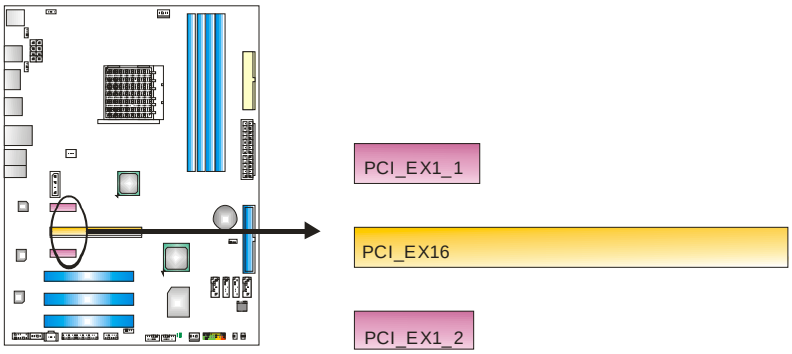


PCI_EX16: PCI-Express Gen2 x16 Slot

- PCI-Express 2.0 compliant.
- Maximum theoretical realized bandwidth of 8GB/s simultaneously per direction, for an aggregate of 16GB/s totally.

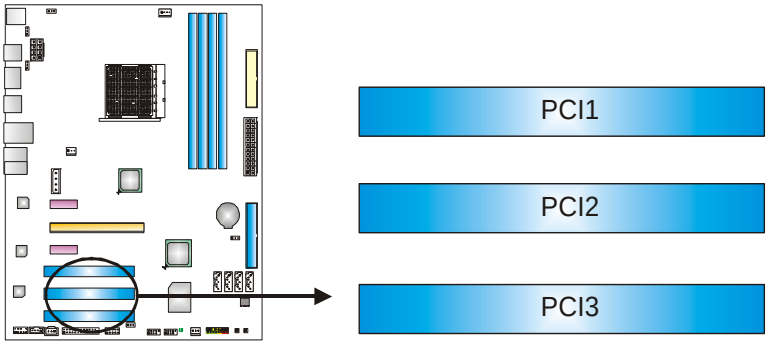
PCI_EX1_1/PCI_EX1_2: PCI-Express Gen2 x1 Slots

- PCI-Express 2.0 compliant.
- Data transfer bandwidth up to 500MB/s per direction; 1GB/s in total.
- PCI-Express Gen2 supports a raw bit-rate of 5.0Gb/s on the data pins.
- 2X bandwidth over the PCI-Express 1.0 architecture.



PCI1~PCI3: Peripheral Component Interconnect Slots

This motherboard is equipped with 3 standard PCI slots. 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

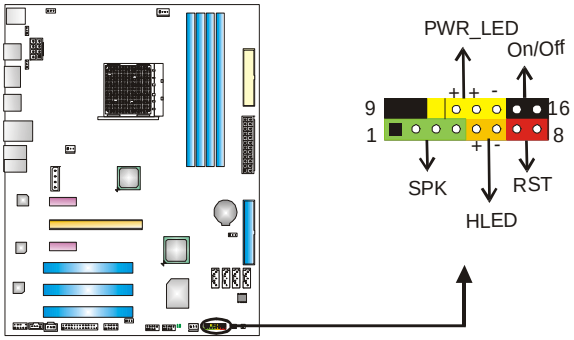
Pin closed

Pin1-2 closed

3.2 Detail Settings

JPANEL1: Front Panel Header

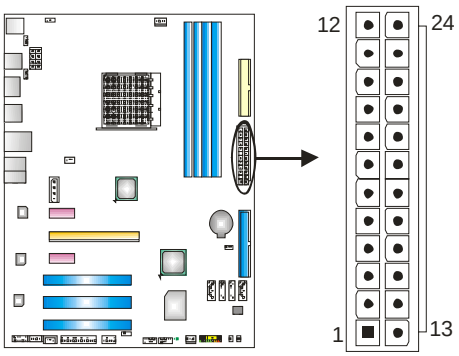
This 16-pin connector includes Power-on, Reset, HDD LED, Power LED, and speaker connection. It allows user to connect the PC case’s front panel switch functions.



Pin	Assignment	Function	Pin	Assignment	Function
1	+5V	Speaker Connector	9	N/A	N/A
2	N/A		10	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

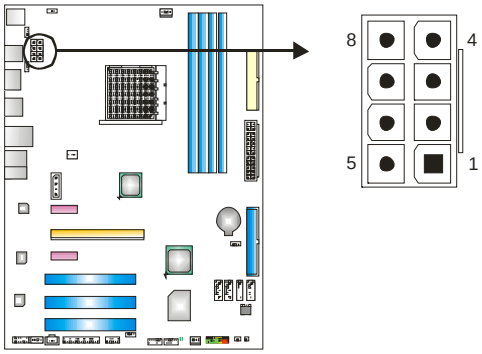
This connector allows user to connect 24-pin power connector on the ATX power supply.



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

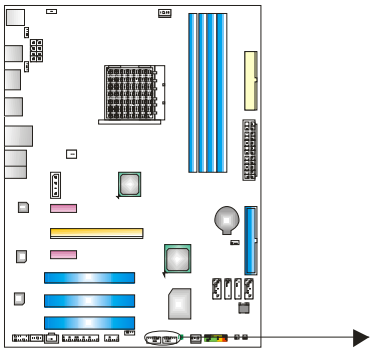
By connecting this connector, it will provide +12V to CPU power circuit.



Pin	Assignment
1	+12V
2	+12V
3	+12V
4	+12V
5	Ground
6	Ground
7	Ground
8	Ground

JUSB3/JUSB4: Headers for USB 2.0 Ports at Front Panel

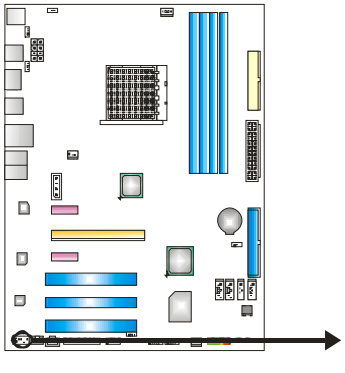
This header allows user to connect additional USB cable on the PC front panel, and also can be connected with internal USB devices, like USB card reader.



Pin	Assignment
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

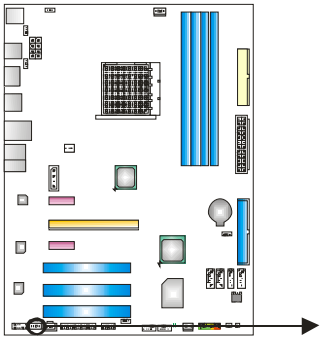
This header allows user to connect the front audio output cable with the PC front panel. This header allows only HD audio front panel connector; AC'97 connector is not acceptable.



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

JCDIN1: CD-ROM Audio-in Connector

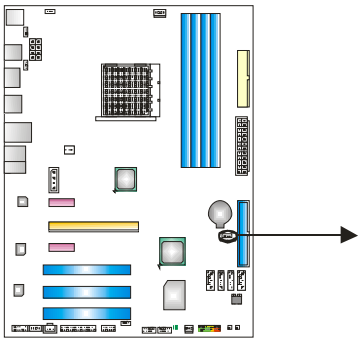
This connector allows user to connect the audio source from the variaty devices, like CD-ROM, DVD-ROM, PCI sound card, PCI TV turner card etc.



Pin	Assignment
1	Left Channel Input
2	Ground
3	Ground
4	Right Channel Input

JCMOS1: Clear CMOS Header

By placing the jumper on pin2-3, it 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).

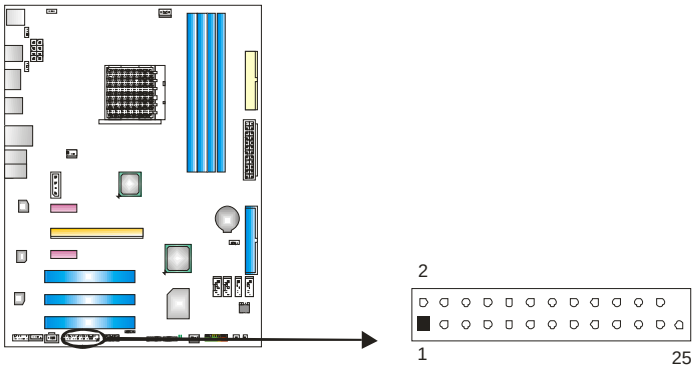
Pin 2-3 Close:
Clear CMOS data.

※ 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.

JPRNT1: Printer Port Connector

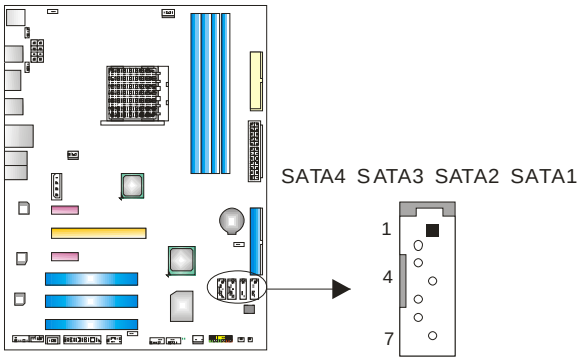
This header allows you to connector printer on the PC.



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

SATA1~SATA4: Serial ATA Connectors

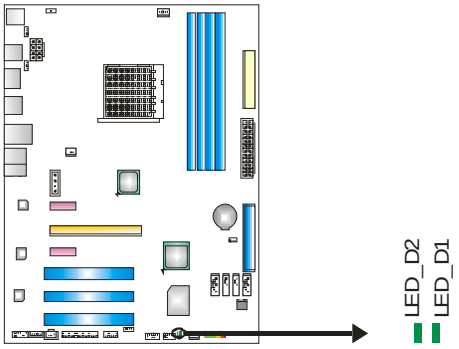
The motherboard has a PCI to SATA Controller with 4 channels SATA interface, it satisfies the SATA 2.0 spec and with transfer rate of 3.0Gb/s.



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

On-Board LED Indicators

There are 2 LED indicators on the motherboard to show system status.



LED_D1 and LED_D2:

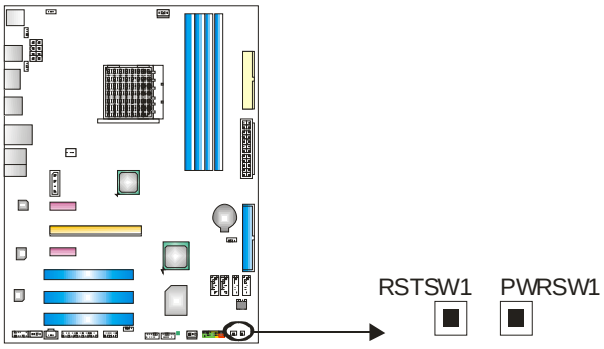
These 2 LED indicate system power on diagnostics.

Please refer to the table below for different messages:

LED_D2	LED_D1	Message
OFF	OFF	Abnormal: CPU / Chipset error.
OFF	ON	Memory Error
ON	OFF	VGA Error
ON	ON	Normal

On-Board Buttons

There are 2 on-board buttons.



PWRSW1:

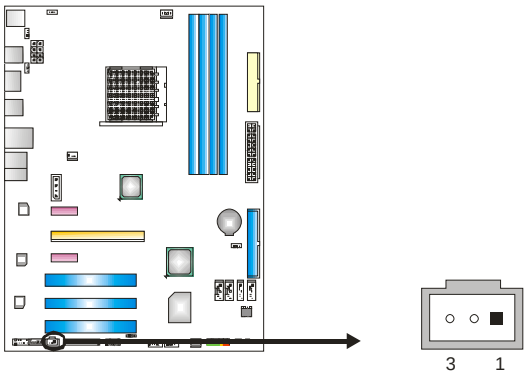
This is an on-board Power Switch button.

RSTSW1:

This is an on-board Reset button.

JSPDIF_OUT1: Digital Audio-out Connector

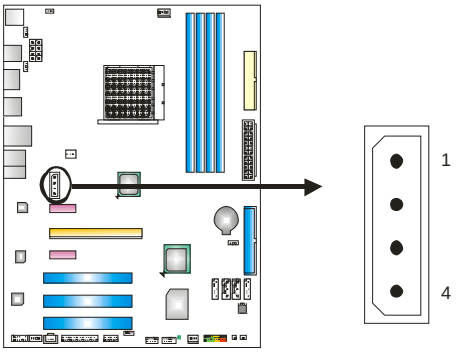
This connector allows user to connect the PCI bracket SPDIF output header.



Pin	Assignment
1	+5V
2	SPDIF_OUT
3	Ground

JATXPWR3: Auxiliary Power for Graphics

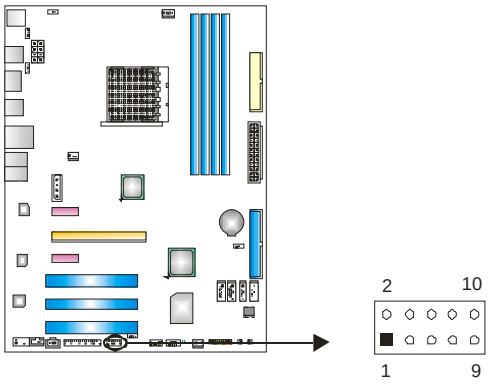
This connector is an auxiliary power connection for graphics cards. Exclusive power for the graphics card provides better graphics performance.



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

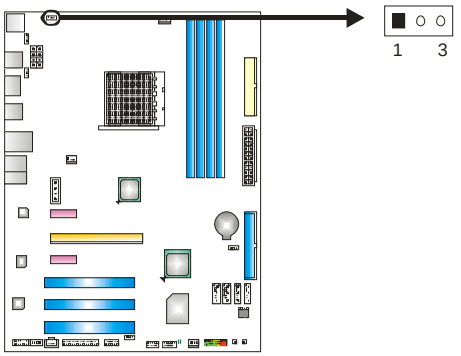
JCOM1: Serial port Connector

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



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

JKBV1: Power Source Header for PS/2 Keyboard and Mouse



Pin 1-2 Close

+5V for PS/2 keyboard and mouse.

Pin 2-3 close

+5V STB for PS/2 keyboard and mouse.

JUSBV1/JUSBV2/JUSBV3: Power Source Headers for USB Ports

Pin 1-2 Close:

JUSBV1: +5V for USB ports at JUSB1/JUSBLAN1.

JUSBV2: +5V for USB ports at JUSB2.

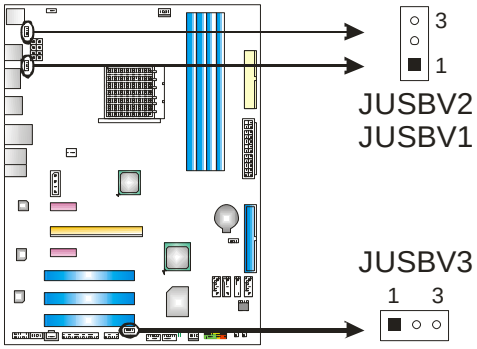
JUSBV3: +5V for USB ports at front panel (JUSB3/JUSB4).

Pin 2-3 Close:

JUSBV1: +5V STB for USB ports at JUSB1/JUSBLAN1.

JUSBV2: +5V STB for USB ports at JUSB2.

JUSBV3: +5V STB for USB ports at front panel (JUSB3/JUSB4).



Pin 1-2 close

Pin 2-3 close

CHAPTER 4: RAID FUNCTIONS

4.1 Operation System

Supports Windows XP Home/Professional Edition and Windows VISTA.

4.2 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 1+0 (Onboard): RAID 1+0 combines the techniques used in RAID 0 and RAID 1.

RAID 0+1 (eSATA) (Optional): RAID 0+1 combines the techniques used in RAID 0 and RAID 1.

RAID 5 (eSATA) (Optional): RAID 5 provides fault tolerance and better utilization of disk capacity.

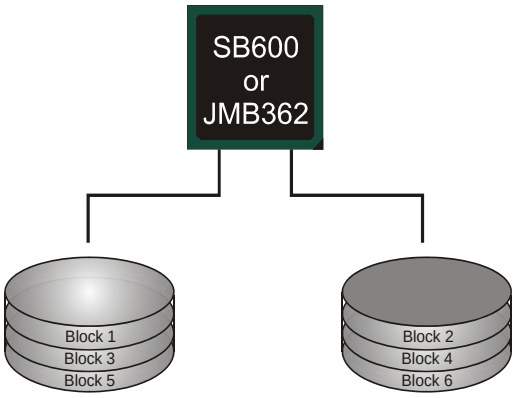
4.3 How RAID Works

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 1, 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.



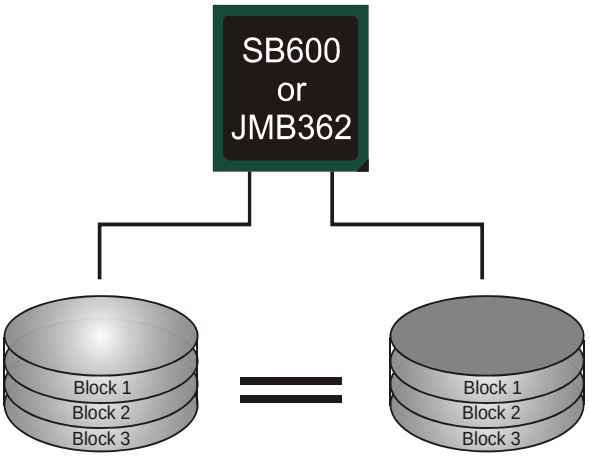
RAID 1:

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.

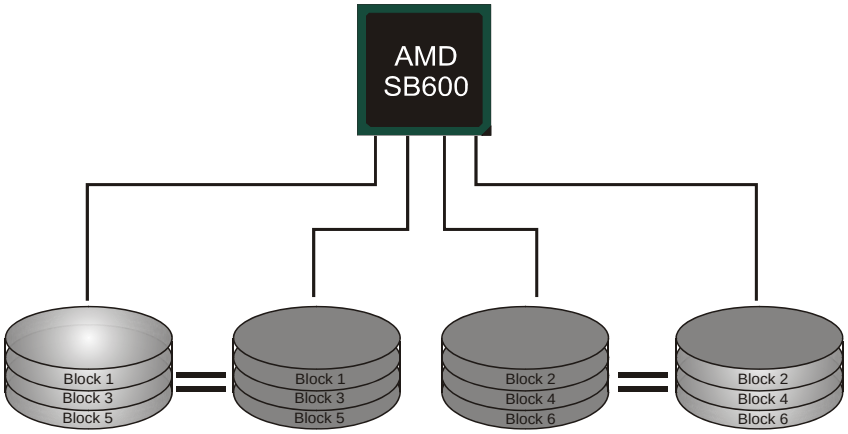


RAID 1+0 (For Onboard SATA Only):

RAID 1 drives can be stripped using RAID 0 techniques. Resulting in a RAID 1+0 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.

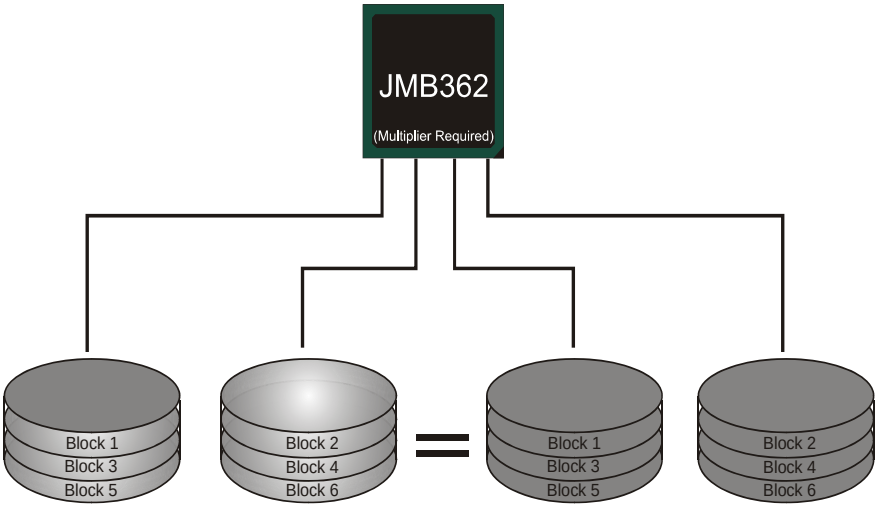


RAID 0+1 (For eSATA with Multiplier Only)(Optional):

RAID 0 drives can be mirrored using RAID 1 techniques. Resulting in a RAID 0+1 solution for improved performance plus resiliency.

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.

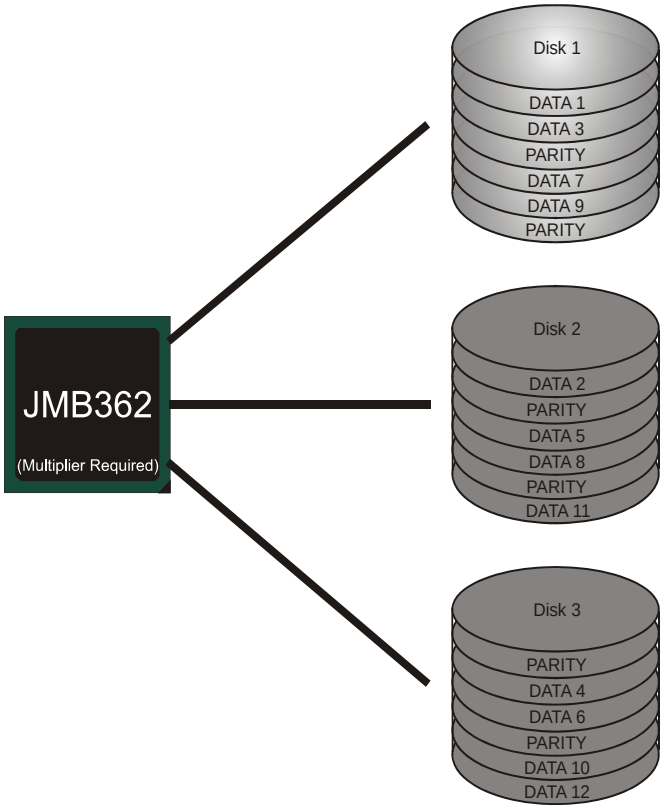


RAID 5 (For eSATA with Multiplier Only)(Optional):

RAID 5 stripes both data and parity information across three or more drives. It writes data and parity blocks across all the drives in the array. Fault tolerance is maintained by ensuring that the parity information for any given block of data is placed on a different drive from those used to store the data itself.

Features and Benefits

- ***Drives:*** Minimum 3.
- ***Uses:*** RAID 5 is recommended for transaction processing and general purpose service.
- ***Benefits:*** An ideal combination of good performance, good fault tolerance, and high capacity and storage efficiency.
- ***Drawbacks:*** Individual block data transfer rate same as a single disk. Write performance can be CPU intensive.
- ***Fault Tolerance:*** Yes.



CHAPTER 5: OVERCLOCK QUICK GUIDE

5.1 T-POWER INTRODUCTION

Biostar T-Power is a whole new utility that is designed for overclock users. Based on many precise tests, *Biostar Engineering Team* (BET) has developed this ultimate overclock engine to raise system performance. No matter whether under BIOS or Windows interface, *T-Power* is able to present the best system state according to users' overclock setting.

T-Power BIOS Features:

- Overclocking Navigator Engine (O.N.E.)
- CMOS Reloading Program (C.R.P.)
- Memory Integration Test (M.I.T., under Overclock Navigator Engine)
- Integrated Flash Program (I.F.P.)
- Self Recovery System (S.R.S)
- Smart Fan Function (under PC Health Status)

T-Power Windows Feature:

- Hardware Monitor
- Overclock Engine
- System Information

!! WARNING !!

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

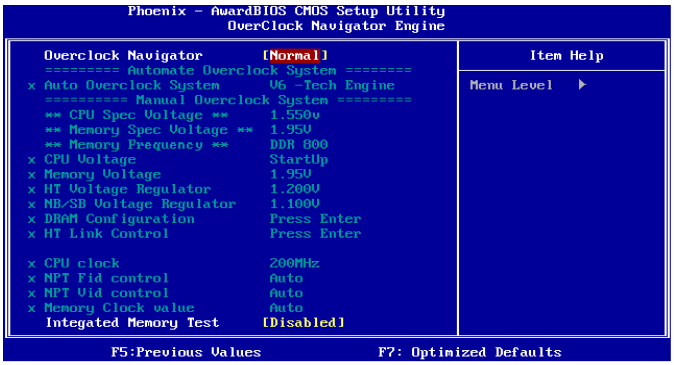
NOTE

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.

5.2 T-Power BIOS Feature

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

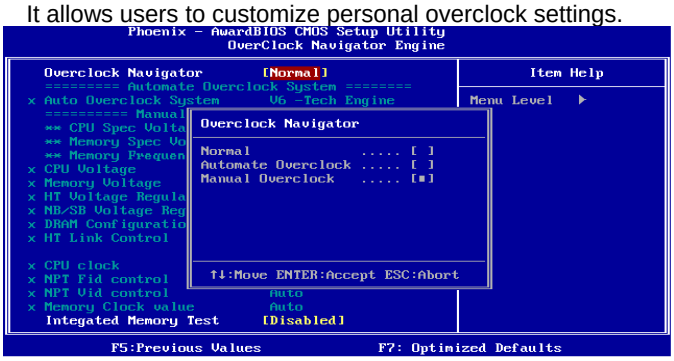
ONE provides two powerful overclocking engines: MOS and AOS for both Elite and Casual overclockers.

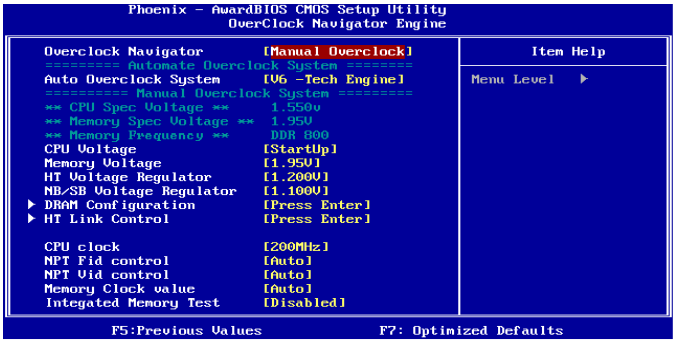


Manual Overclock System (M.O.S.)

MOS is designed for experienced overclock users.

It allows users to customize personal overclock settings.





CPU Voltage:
This function will increase CPU stability when overclocking. However, the CPU temperature will increase when CPU voltage is increased.

Memory Voltage:
This function will increase memory stability when overclocking.

HT Voltage Regulator:
This function will increase CPU stability when overclocking the HT ratio.

NB/SB Voltage Regulator:
This function will increase Northbridge and Southbridge chipset stability when overclocking.

DRAM Configuration:
Enter this function for more advanced DRAM settings.

HT Link Control:
Enter this function for more advanced HT settings.

CPU Clock:
CPU Frequency is directly in proportion to system performance. To maintain the system stability, CPU voltage needs to be increased also when raising CPU frequency.

NPT Fid Control:
This function allows you to adjust the frequency ratio of CPU.

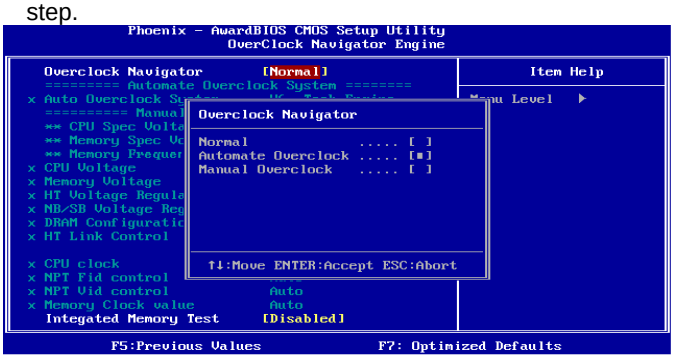
NPT Vid Control:
This function allows you to adjust the voltage of CPU.

Memory Clock Value:
This function allows you to set the memory clock.

Automatic Overclock System (A.O.S.)

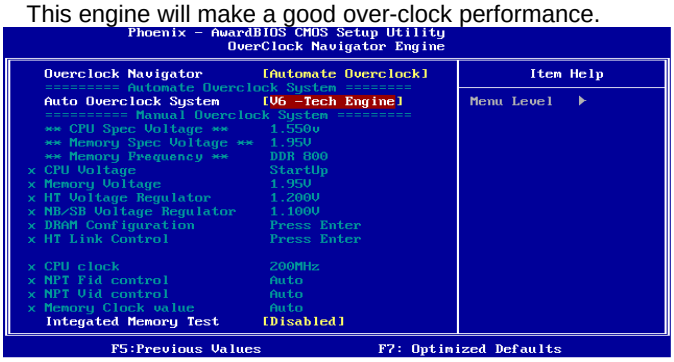
For beginners in overclock field, BET had developed an easy, fast, and powerful feature to increase the system performance, named A.O.S.

Based on many tests and experiments, A.O.S. provides 3 ideal overclock configurations that are able to raise the system performance in a single step.



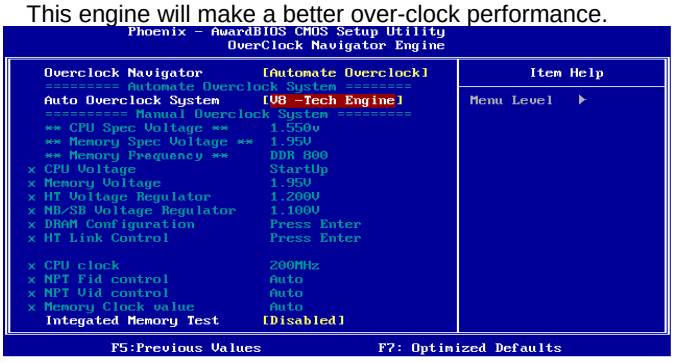
V6 Tech Engine:

This engine will make a good over-clock performance.



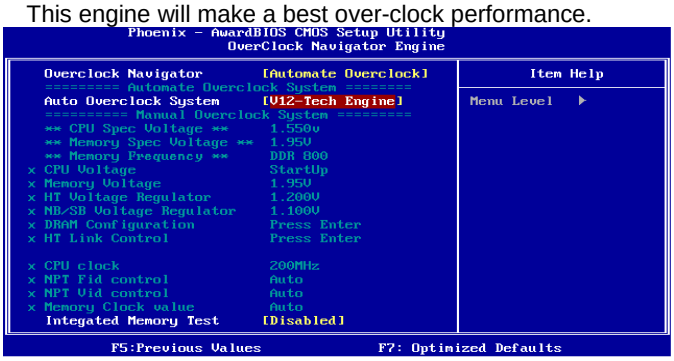
V8 Tech Engine:

This engine will make a better over-clock performance.



V12 Tech Engine:

This engine will make a best over-clock performance.



Notices:

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

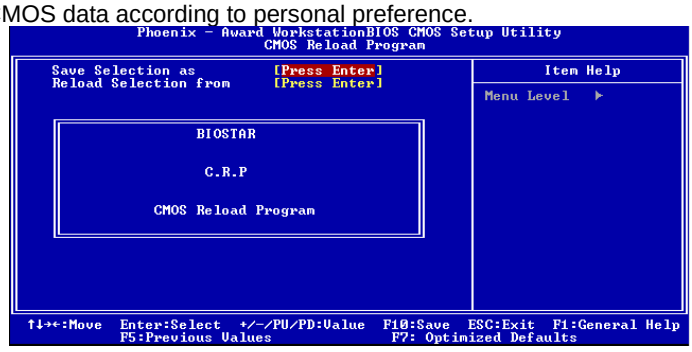
B. CMOS Reloading Program (C.R.P.):

It allows users to save different CMOS settings into BIOS-ROM.

Users are able to reload any saved CMOS setting for customizing system configurations.

Moreover, users are able to save an ideal overclock setting during overclock operation.

There are 50 sets of record addresses in total, and users are able to name the CMOS data according to personal preference.



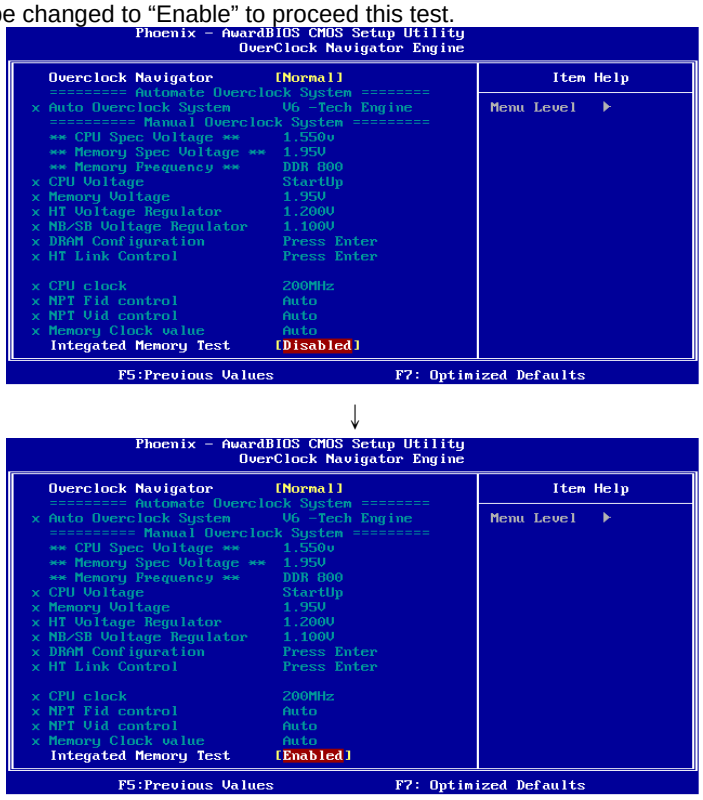
C. Memory Integration Test (M.I.T.):

This function is under “Overclocking Navigator Engine” item.

MIT allows users to test memory compatibilities, and no extra devices or software are needed.

Step 1:

The default setting under this item is “Disabled”; the condition parameter should be changed to “Enable” to proceed this test.



Step 2:

Save and Exit from CMOS setup and reboot the system to activate this test.

Run this test for 5 minutes (minimum) to ensure the memory stability.

Step 3:

When the process is done, change the setting back from “Enable” to “Disable” to complete the test.

D. Self Recovery System (S.R.S.):

This function can't be seen under T-Power 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 BIOS setting, and all overclock settings will be re-configured.

E. Integrated Flash Program (I.F.P.):

IFP is a safe and quick way to upgrade BIOS.

Step 1:

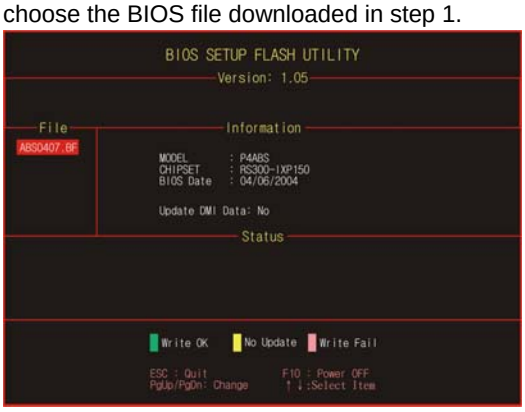
Go to Biostar website (http://www.biostar.com.tw) to download the latest BIOS file. Then, save the file into a floppy disk.

Step 2:

Insert the floppy disk and reboot the system to get into CMOS screen.

Step 3:

Select the item "Integrated Flash Program" to get the following frame and choose the BIOS file downloaded in step 1.



Step 4:

Press "Enter" key to start BIOS file loading, and BIOS updating will process automatically.

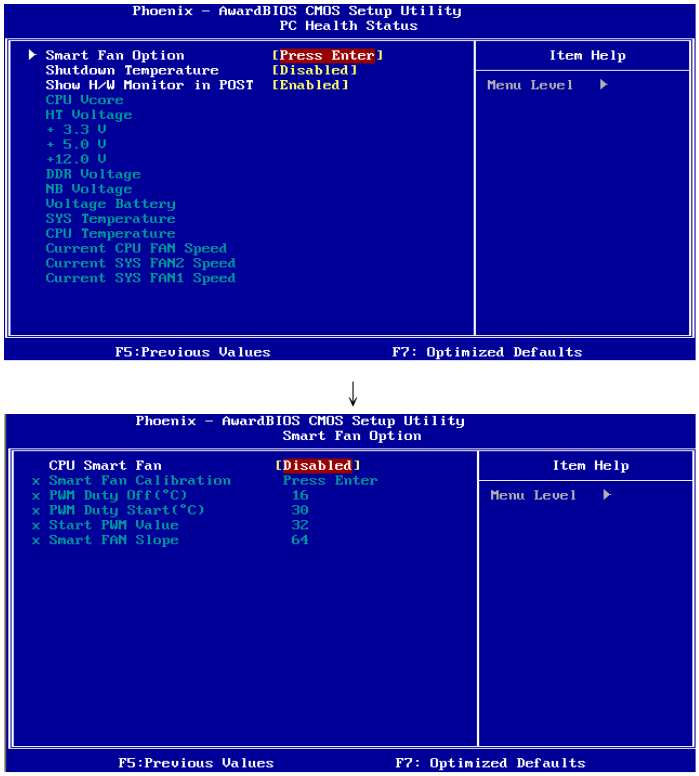
Step 5:

When the BIOS update is completed, press YES to the message "Flash done, Reset system", and the system will reboot automatically to finish the process.

Advise:
You can update the system BIOS by simply pressing "Enter" key for three times.

F. Smart Fan Function:

Smart Fan Function is under “Smart Fan Option” in “PC Health Status”.
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.



Smart Fan Calibration

Choose this item and then the BIOS will automatically test and detect the CPU/System fan functions and show CPU/System fan speed.

PWM Duty Off <℃>:

If the CPU/System temperature is lower than the set value, the CPU/ System fan will turn off. The range is from 0~127, with an interval of 1.

PWM Duty Start <℃>

The CPU/System fan starts to work when CPU/System temperature arrives to this set value. The range is from 0~127, with an interval of 1.

Start PWM Value

When CPU/System temperature arrives to the set value, the CPU/System fan will work under Smart Fan Function mode. The range is from 0~127, with an interval of 1.

Smart Fan Slope

Increasing the value of slope PWM will raise the speed of CPU/System fan. The range is from 1~127, with an interval of 1.

5.3 T-Power Windows Feature

1. Desktop Icon

After the T-Utility has been installed, a T-Utility icon will appear on the desktop, just like the icon shown below.

Now you can launch the T-Utility simply by double-clicking the desktop icon.

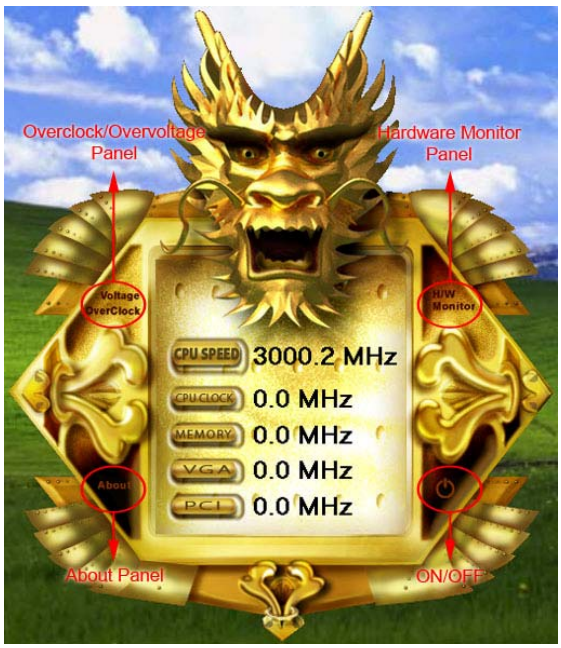
2. Main Panel

If you double-click the desktop icon, T-Utility will be launched. Please refer to the following figure; the utility's first window you will see is Main Panel.

Main Panel contains features as follows:

a. Display the CPU Speed, CPU external clock, Memory clock, VGA clock, and PCI clock information.

b. Contains About, Overclock/Overvoltage, and Hardware Monitor Buttons for invoking respective panels. The On/Off button is for closing the program.

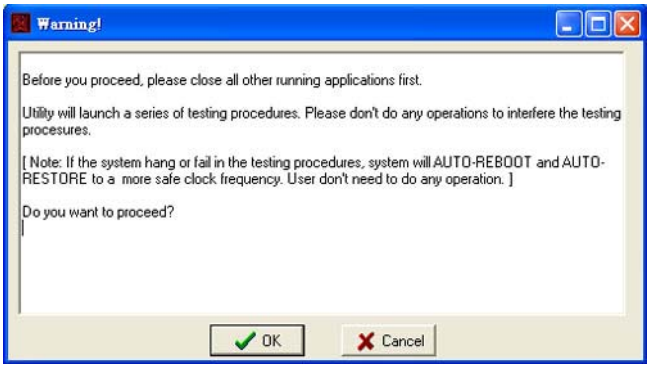


3. Overclock/Overvoltage Panel

Click the Overclock/Overvoltage button in the Main Panel, the button will be highlighted and the Overclock/Overvoltage Panel will show up as the following figure. As you can see, the Overclock Panel is on the upper side, and the Overvoltage Panel is on the lower side.

Overclock Panel contains these features:

a. "Auto-Overclock":
User can click this button and T-Utility will set the best and stable performance and frequency automatically. A warning dialog as below will show up to notify you that the system may become unstable, click on "OK" to continue.



Then T-Utility will execute a series of testing until system fail. Then system will do fail-safe reboot by using Watchdog function. After reboot, launch the T-Utility again and the utility will load the previously verified best and stable frequency.

b. "Verify":
If you use the "Manual Adjust" bar to adjust the CPU frequency, then you can click this button and T-Utility will proceed a testing for current frequency. If the testing is ok, then the current frequency will be saved into system registry. If the testing fails, system will do a fail-safe rebooting. After reboot, the T-Utility will restore to the hardware default setting.

Warning:
Manually overclock is potentially dangerous, especially when the overclocking percentage is over 110 %. We strongly recommend you verify every speed you overclock by click the Verify button. Or, you can just click Auto overclock button and let T-Utility automatically gets the best result for you.

c. "V3 Engine"/"V6 Engine"/"V9 Engine":
Provide user the ability to do real-time overclock adjustment.

d. "Recovery":
Click this button and the T-Utility will restore all values to the hardware default setting.

e. “Save / Open Setting”:
Click Save button to save current setting to a file, and click Open button to load a previously saved setting.

f. “Panel Color”:
Click this button to change the color of the panel.

Overvoltage Panel contains these features:

a. “CPU Voltage”:
This function allows user to adjust CPU voltage. Click on “+” to increase or “-“ to decrease the CPU voltage.

b. “Memory Voltage”:
This function allows user to adjust Memory voltage. Click on “+” to increase or “-“ to decrease the Memory voltage.

c. “Chipset Voltage”:
This function allows user to adjust Chipset voltage. Click on “+” to increase or “-“ to decrease the Chipset voltage.

4. Hardware Monitor Panel

Click the Hardware Monitor button in Main Panel, the button will be highlighted and the Hardware Monitor panel will show up as the following figure.

In this panel, you can get the real-time status information of your system. The information will be refreshed every 1 second.

5. About Panel

Click the “about” button in Main Panel, the button will be highlighted and the About Panel will show up as the following figure.

In this panel, you can get model name and detail information in hints of all the chipset that are related to overclocking. You can also get the the version number of T-Utility.

Note:

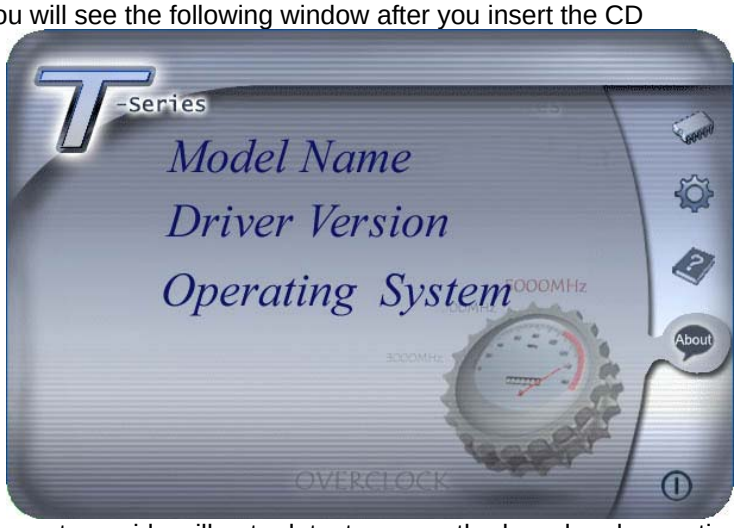
Because the overclock, overvoltage, and hardware monitor features are controlled by several separate chipset, T-Utility divides these features to separate panels. If one chipset is not on board, the correlative button in Main panel will be disabled, but it will not interfere with other panels’ functions. This property can make T-Utility more robust.

CHAPTER 6: USEFUL HELP

6.1 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***

6.2 AWARD BIOS BEEP CODE

Beep Sound	Meaning
One long beep followed by two short beeps	Video card not found or video card memory bad
High-low siren sound	CPU overheated System will shut down automatically
One Short beep when system boot-up	No error found during POST
Long beeps every other second	No DRAM detected or install

6.3 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.

6.4 TROUBLESHOOTING

Probable	Solution
1. No power to the system at all Power light don't illuminate, fan inside power supply does not turn on. 2. Indicator light on keyboard does not turn on.	1. Make sure power cable is securely plugged in. 2. Replace cable. 3. Contact technical support.
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.	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 optical drive. Hard disk can be read and applications can be used but booting from hard disk is impossible.	1. Back up data and applications files. 2. Reformat the hard drive. Re-install applications and data using backup disks.
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.	1. Set master/slave jumpers correctly. 2. Run SETUP program and select correct drive types. Call the drive manufacturers for compatibility with other drives.

APPENDENCIES: SPEC IN OTHER LANGUAGE

GERMAN

	Ver 5.x	*Ver 6.x*
CPU	Sockel AM2 / AM2+ AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ Prozessoren Die AMD 64-Architektur unterstützt eine 32-Bit- und 64-Bit-Datenverarbeitung Unterstützt Hyper Transport 3.0 und Cool'n'Quiet	Sockel AM2 / AM2+ AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ Prozessoren Die AMD 64-Architektur unterstützt eine 32-Bit- und 64-Bit-Datenverarbeitung Unterstützt Hyper Transport 3.0 und Cool'n'Quiet
FSB	Unterstützt HyperTransport 3.0 mit einer Bandbreite von bis zu 5.2 GT/s	Unterstützt HyperTransport 3.0 mit einer Bandbreite von bis zu 5.2 GT/s
Chipsatz	AMD 770 AMD SB600	AMD 770 AMD SB600
Super E/A	ITE 8718F Bietet die häufig verwendeten alten Super E/A-Funktionen. Low Pin Count-Schnittstelle Umgebungskontrolle, Hardware-Überwachung Lüfterdrehzahl-Controller "Smart Guardian"-Funktion von ITE	ITE 8718F Bietet die häufig verwendeten alten Super E/A-Funktionen. Low Pin Count-Schnittstelle Umgebungskontrolle, Hardware-Überwachung Lüfterdrehzahl-Controller "Smart Guardian"-Funktion von ITE
Arbeitsspeicher	DDR2 DIMM-Steckplätze x 4 Jeder DIMM unterstützt 512/1024/2048MB DDR2. Max. 8GB Arbeitsspeicher Dual-Kanal DDR2 Speichermodul Unterstützt DDR2 533 / 667 / 800 Unterstützt DDR2 1066 (by AM2+ CPU) registrierte DIMMs. ECC DIMMs werden nicht unterstützt.	DDR2 DIMM-Steckplätze x 4 Jeder DIMM unterstützt 512/1024/2048MB DDR2. Max. 8GB Arbeitsspeicher Dual-Kanal DDR2 Speichermodul Unterstützt DDR2 533 / 667 / 800 Unterstützt DDR2 1066 (by AM2+ CPU) registrierte DIMMs. ECC DIMMs werden nicht unterstützt.
IDE	Integrierter IDE-Controller Ultra DMA 33 / 66 / 100 / 133 Bus Master-Modus Unterstützt PIO-Modus 0~4,	Integrierter IDE-Controller Ultra DMA 33 / 66 / 100 / 133 Bus Master-Modus Unterstützt PIO-Modus 0~4,
SATA II	AMD SB600 (Onboard) Jmicro JMB362 (eSATA) (optional) Datentransferrate bis zu 3Gb/s Konform mit der SATA-Spezifikation Version 2.0. Unterstützt RAID 0,1,1+0 (Onboard) Unterstützt NCQ/Port-Multiplier/RAID 0,1,5,0+1 (eSATA) (optional)	AMD SB600 (Onboard) Jmicro JMB362 (eSATA) (optional) Datentransferrate bis zu 3Gb/s Konform mit der SATA-Spezifikation Version 2.0. Unterstützt RAID 0,1,1+0 (Onboard) Unterstützt NCQ/Port-Multiplier/RAID 0,1,5,0+1 (eSATA) (optional)

	Ver 5.x		*Ver 6.x*	
LAN	Marvell 88E8056 / 88E8039(optional) 10 / 100 / 1000 Mb/s Auto-Negotiation (Gigabit-Bandbreite nur beim Marvell 88E8056) Halb-/ Vollduplex-Funktion		Marvell 88E8056 / 88E8039(optional) 10 / 100 / 1000 Mb/s Auto-Negotiation (Gigabit-Bandbreite nur beim Marvell 88E8056) Halb-/ Vollduplex-Funktion	
Audio-Codec	ALC888 7.1-Kanal-Audioausgabe Unterstützt High-Definition Audio		ALC662 5.1-Kanal-Audioausgabe Unterstützt High-Definition Audio	
Steckplätze	PCI Steckplatz PCI Express Gen2 x16 Steckplatz PCI Express Gen2 x1 Steckplatz	x3 x1 x2	PCI Steckplatz PCI Express Gen2 x16 Steckplatz PCI Express Gen2 x1 Steckplatz	x3 x1 x2
Onboard-Anschluss	Diskettenlaufwerkanschluss Druckeranschluss Anschluss IDE-Anschluss SATA-Anschluss Fronttafelanschluss Front-Audioanschluss CD-IN-Anschluss S/PDIF- Ausgangsanschluss CPU-Lüfter-Sockel System-Lüfter-Sockel "CMOS löschen"-Sockel USB-Anschluss Serieller Anschluss Stromanschluss (24-polig) Stromanschluss (8-polig) Stromanschluss (4-polig)	x1 x1 x1 x4 x1 x1 x1 x1 x1 x2 x1 x2 x1 x1 x1 x1	Diskettenlaufwerkanschluss Druckeranschluss Anschluss IDE-Anschluss SATA-Anschluss Fronttafelanschluss Front-Audioanschluss CD-IN-Anschluss S/PDIF- Ausgangsanschluss CPU-Lüfter-Sockel System-Lüfter-Sockel "CMOS löschen"-Sockel USB-Anschluss Serieller Anschluss Stromanschluss (24-polig) Stromanschluss (8-polig) Stromanschluss (4-polig)	x1 x1 x1 x4 x1 x1 x1 x1 x1 x2 x1 x2 x1 x1 x1 x1
Rückseiten-E/A	PS/2-Tastatur PS/2-Maus LAN-Anschluss USB-Anschluss Audioanschluss eSATA Anschluss(optional)	x1 x1 x1 x6 x6 x2	PS/2-Tastatur PS/2-Maus LAN-Anschluss USB-Anschluss Audioanschluss eSATA Anschluss(optional)	x1 x1 x1 x6 x3 x2
Platinengröße	244 mm (B) X 305 mm (L)		244 mm (B) X 305 mm (L)	
OS-Unterstützung	Windows XP / VISTA Biostar behält sich das Recht vor, ohne Ankündigung die Unterstützung für ein Betriebssystem hinzuzufügen oder zu entfernen.		Windows XP / VISTA Biostar behält sich das Recht vor, ohne Ankündigung die Unterstützung für ein Betriebssystem hinzuzufügen oder zu entfernen.	

FRANCE

	Ver 5.x	*Ver 6.x*
UC	Socket AM2 / AM2+ Processeurs AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ L'architecture AMD 64 permet le calcul 32 et 64 bits Prend en charge Hyper Transport 3.0 et Cool'n'Quiet	Socket AM2 / AM2+ Processeurs AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ L'architecture AMD 64 permet le calcul 32 et 64 bits Prend en charge Hyper Transport 3.0 et Cool'n'Quiet
Bus frontal	Prend en charge Hyper Transport 3.0 jusqu'à une bande passante de 5.2 GT/s	Prend en charge Hyper Transport 3.0 jusqu'à une bande passante de 5.2 GT/s
Chipset	AMD 770 AMD SB600	AMD 770 AMD SB600
Super E/S	ITE 8718F 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	ITE 8718F 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 DDR2 DIMM x 4 Chaque DIMM prend en charge des DDR2 de 512/1024/2048 Mo Capacité mémoire maximale de 8 Go Module de mémoire DDR2 à mode à double voie Prend en charge la DDR2 533 / 667 / 800 Prend en charge la DDR2 1066 (by AM2+ CPU) Les DIMM à registres et DIMM avec code correcteurs d'erreurs ne sont pas prises en charge	Fentes DDR2 DIMM x 4 Chaque DIMM prend en charge des DDR2 de 512/1024/2048 Mo Capacité mémoire maximale de 8 Go Module de mémoire DDR2 à mode à double voie Prend en charge la DDR2 533 / 667 / 800 Prend en charge la DDR2 1066 (by AM2+ CPU) Les DIMM à registres et DIMM avec code correcteurs d'erreurs ne sont pas prises en charge
IDE	Contrôleur IDE intégré Mode principale de Bus Ultra DMA 33 / 66 / 100 / 133 Prend en charge le mode PIO 0~4,	Contrôleur IDE intégré Mode principale de Bus Ultra DMA 33 / 66 / 100 / 133 Prend en charge le mode PIO 0~4,
SATA II	AMD SB600 (embarqué) Jmicro JMB362 (eSATA) (optional) Taux de transfert jusqu'à 3 Go/s. Conforme à la spécification SATA Version 2.0 Prise en charge RAID 0,1,1+0 (embarqué) Prise en charge NCQ/Port-Miltiplier/ RAID 0,1,5,0+1 (eSATA) (optional)	AMD SB600 (embarqué) Jmicro JMB362 (eSATA) (optional) Taux de transfert jusqu'à 3 Go/s. Conforme à la spécification SATA Version 2.0 Prise en charge RAID 0,1,1+0 (embarqué) Prise en charge NCQ/Port-Miltiplier/ RAID 0,1,5,0+1 (eSATA) (optional)

	Ver 5.x		*Ver 6.x*	
LAN	Marvell 88E8056 / 88E8039(optional) 10 / 100 / 1000 Mb/s négociation automatique (La bande passante Gigabit est pour le Marvell 88E8056 uniquement) Half / Full duplex capability		Marvell 88E8056 / 88E8039(optional) 10 / 100 / 1000 Mb/s négociation automatique (La bande passante Gigabit est pour le Marvell 88E8056 uniquement) Half / Full duplex capability	
Codec audio	ALC888 Sortie audio à 7.1 voies Prise en charge de l'audio haute définition		ALC662 Sortie audio à 5.1 voies Prise en charge de l'audio haute définition	
Fentes	Fente PCI Fente PCI Express Gen2 x16 Fente PCI Express Gen2 x1	x3 x1 x2	Fente PCI Fente PCI Express Gen2 x16 Fente PCI Express Gen2 x1	x3 x1 x2
Connecteur embarqué	Connecteur de disquette Connecteur de Port d'imprimante Connecteur IDE Connecteur SATA Connecteur du panneau avant Connecteur Audio du panneau avant Connecteur d'entrée CD Connecteur de sortie S/PDIF Embase de ventilateur UC Embase de ventilateur système Embase d'effacement CMOS Connecteur USB Port série Connecteur d'alimentation (24 broches) Connecteur d'alimentation (8 broches) Connecteur d'alimentation (4 broches)	x1 x1 x1 x4 x1 x1 x1 x1 x1 x2 x1 x2 x1 x1 x1 x1	Connecteur de disquette Connecteur de Port d'imprimante Connecteur IDE Connecteur SATA Connecteur du panneau avant Connecteur Audio du panneau avant Connecteur d'entrée CD Connecteur de sortie S/PDIF Embase de ventilateur UC Embase de ventilateur système Embase d'effacement CMOS Connecteur USB Port série Connecteur d'alimentation (24 broches) Connecteur d'alimentation (8 broches) Connecteur d'alimentation (4 broches)	x1 x1 x1 x4 x1 x1 x1 x1 x1 x2 x1 x2 x1 x1 x1 x1
E/S du panneau arrière	Clavier PS/2 Souris PS/2 Port LAN Port USB Fiche audio Port eSATA(optional)	x1 x1 x1 x6 x6 x2	Clavier PS/2 Souris PS/2 Port LAN Port USB Fiche audio Port eSATA(optional)	x1 x1 x1 x6 x3 x2
Dimensions de la carte	244 mm (l) X 305 mm (H)		244 mm (l) X 305 mm (H)	
Support SE	Windows XP / VISTA Biostar se réserve le droit d'ajouter ou de supprimer le support de SE avec ou sans préavis.		Windows XP / VISTA Biostar se réserve le droit d'ajouter ou de supprimer le support de SE avec ou sans préavis.	

ITALIAN

	Ver 5.x	*Ver 6.x*
CPU	Socket AM2 / AM2+ Processori AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ L'architettura AMD 64 abilita la computazione 32 e 64 bit Supporto di Hyper Transport 3.0 e Cool'n'Quiet	Socket AM2 / AM2+ Processori AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ L'architettura AMD 64 abilita la computazione 32 e 64 bit Supporto di Hyper Transport 3.0 e Cool'n'Quiet
FSB	Supporto di HyperTransport 3.0 fino a 5.2 GT/s di larghezza di banda	Supporto di HyperTransport 3.0 fino a 5.2 GT/s di larghezza di banda
Chipset	AMD 770 AMD SB600	AMD 770 AMD SB600
Super I/O	ITE 8718F 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	ITE 8718F 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 DDR2 x 4 Ciascun DIMM supporta DDR2 512/1024/2048MB Capacità massima della memoria 8GB Modulo di memoria DDR2 a canale doppio Supporto di DDR2 533 / 667 / 800 Supporto di DDR2 1066 (by AM2+ CPU) DIMM registrati e DIMM ECC non sono supportati	Alloggi DIMM DDR2 x 4 Ciascun DIMM supporta DDR2 512/1024/2048MB Capacità massima della memoria 8GB Modulo di memoria DDR2 a canale doppio Supporto di DDR2 533 / 667 / 800 Supporto di DDR2 1066 (by AM2+ CPU) DIMM registrati e DIMM ECC non sono supportati
IDE	Controller IDE integrato Modalità Bus Master Ultra DMA 33 / 66 / 100 / 133 Supporto modalità PIO Mode 0-4	Controller IDE integrato Modalità Bus Master Ultra DMA 33 / 66 / 100 / 133 Supporto modalità PIO Mode 0-4
SATA II	AMD SB600 (su scheda) Jmicro JMB362 (eSATA) (optional) Velocità di trasferimento dei dati fino a 3 Gb/s. Compatibile specifiche SATA Versione 2.0. Supporto RAID 0,1,1+0 (su scheda) Supporto NCQ/Port-Miltiplier/RAID 0,1,5,0+1 (eSATA) (optional)	AMD SB600 (su scheda) Jmicro JMB362 (eSATA) (optional) Velocità di trasferimento dei dati fino a 3 Gb/s. Compatibile specifiche SATA Versione 2.0. Supporto RAID 0,1,1+0 (su scheda) Supporto NCQ/Port-Miltiplier/RAID 0,1,5,0+1 (eSATA) (optional)

	Ver 5.x	*Ver 6.x*
LAN	Marvell 88E8056 / 88E8039(optional) Negoziazione automatica 10 / 100 / 1000 Mb/s (la larghezza di banda Gigabit è solo per Marvell 88E8056) Capacità Half / Full Duplex	Marvell 88E8056 / 88E8039(optional) Negoziazione automatica 10 / 100 / 1000 Mb/s (la larghezza di banda Gigabit è solo per Marvell 88E8056) Capacità Half / Full Duplex
Codec audio	ALC888 Uscita audio 7.1 canali Supporto audio High-Definition (HD)	ALC662 Uscita audio 5.1 canali Supporto audio High-Definition (HD)
Alloggi	Alloggio PCI x3 Alloggio PCI Express Gen2 x16 x1 Alloggio PCI Express Gen2 x1 x2	Alloggio PCI x3 Alloggio PCI Express Gen2 x16 x1 Alloggio PCI Express Gen2 x1 x2
Connettori su scheda	Connettore floppy x1 Connettore Porta stampante x1 Connettore IDE x1 Connettore SATA x4 Connettore pannello frontale x1 Connettore audio frontale x1 Connettore CD-in x1 Connettore output SPDIF x1 Collettore ventolina CPU x1 Collettore ventolina sistema x2 Collettore cancellazione CMOS x1 Connettore USB x2 Porta seriale x1 Connettore alimentazione (24 pin) x1 Connettore alimentazione (8 pin) x1 Connettore alimentazione (4 pin) x1	Connettore floppy x1 Connettore Porta stampante x1 Connettore IDE x1 Connettore SATA x4 Connettore pannello frontale x1 Connettore audio frontale x1 Connettore CD-in x1 Connettore output SPDIF x1 Collettore ventolina CPU x1 Collettore ventolina sistema x2 Collettore cancellazione CMOS x1 Connettore USB x2 Porta seriale x1 Connettore alimentazione (24 pin) x1 Connettore alimentazione (8 pin) x1 Connettore alimentazione (4 pin) x1
I/O pannello posteriore	Tastiera PS/2 x1 Mouse PS/2 x1 Porta LAN x1 Porta USB x6 Connettore audio x6 Porta eSATA(optional) x2	Tastiera PS/2 x1 Mouse PS/2 x1 Porta LAN x1 Porta USB x6 Connettore audio x3 Porta eSATA(optional) x2
Dimensioni scheda	244 mm (larghezza) x 305 mm (altezza)	244 mm (larghezza) x 305 mm (altezza)
Sistemi operativi supportati	Windows XP / VISTA Biostar si riserva il diritto di aggiungere o rimuovere il supporto di qualsiasi sistema operativo senza preavviso.	Windows XP / VISTA Biostar si riserva il diritto di aggiungere o rimuovere il supporto di qualsiasi sistema operativo senza preavviso.

SPANISH

	Ver 5.x	*Ver 6.x*
CPU	Conector AM2 / AM2+ Procesadores AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ La arquitectura AMD 64 permite el procesado de 32 y 64 bits Soporta las tecnologías Hyper Transport 3.0 y Cool'n'Quiet	Conector AM2 / AM2+ Procesadores AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ La arquitectura AMD 64 permite el procesado de 32 y 64 bits Soporta las tecnologías Hyper Transport 3.0 y Cool'n'Quiet
FSB	Admite HyperTransport 3.0 con un ancho de banda de hasta 5.2 GT/s	Admite HyperTransport 3.0 con un ancho de banda de hasta 5.2 GT/s
Conjunto de chips	AMD 770 AMD SB600	AMD 770 AMD SB600
Súper E/S	ITE 8718F 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	ITE 8718F 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 DDR2 x 4 Cada DIMM admite DDR de 512/1024/2048MB Capacidad máxima de memoria de 8GB Módulo de memoria DDR2 de canal Doble Admite DDR2 de 533 / 667 / 800 Admite DDR2 de 1066 (by AM2+ CPU) No admite DIMM registrados o DIMM compatibles con ECC	Ranuras DIMM DDR2 x 4 Cada DIMM admite DDR de 512/1024/2048MB Capacidad máxima de memoria de 8GB Módulo de memoria DDR2 de canal Doble Admite DDR2 de 533 / 667 / 800 Admite DDR2 de 1066 (by AM2+ CPU) No admite DIMM registrados o DIMM compatibles con ECC
IDE	Controlador IDE integrado Modo bus maestro Ultra DMA 33 / 66 / 100 / 133 Soporte los Modos PIO 0~4,	Controlador IDE integrado Modo bus maestro Ultra DMA 33 / 66 / 100 / 133 Soporte los Modos PIO 0~4,
SATA II	AMD SB600 (en placa) Jmicro JMB362 (eSATA) (opcional) Tasas de transferencia de hasta 3 Gb/s. Compatible con la versión SATA 2.0. Admite RAID 0,1,1+0 (en placa) Admite NCQ/Port-Multiplier/RAID 0,1,5,0+1 (eSATA) (opcional)	AMD SB600 (en placa) Jmicro JMB362 (eSATA) (opcional) Tasas de transferencia de hasta 3 Gb/s. Compatible con la versión SATA 2.0. Admite RAID 0,1,1+0 (en placa) Admite NCQ/Port-Multiplier/RAID 0,1,5,0+1 (eSATA) (opcional)

	Ver 5.x		*Ver 6.x*	
Red Local	Marvell 88E8056 / 88E8039 (opcional) Negociación de 10 / 100 / 1000 Mb/s (el ancho de banda Gigabit es únicamente para Marvell 88E8056) Funciones Half / Full dúplex		Marvell 88E8056 / 88E8039 (opcional) Negociación de 10 / 100 / 1000 Mb/s (el ancho de banda Gigabit es únicamente para Marvell 88E8056) Funciones Half / Full dúplex	
Códecs de sonido	ALC888 Salida de sonido de 7.1 canales Soporte de sonido de Alta Definición		ALC662 Salida de sonido de 5.1 canales Soporte de sonido de Alta Definición	
Ranuras	Ranura PCI Ranura PCI Express Gen2 x16 Ranura PCI express Gen2 x1	X3 X1 X2	Ranura PCI Ranura PCI Express Gen2 x16 Ranura PCI express Gen2 x1	X3 X1 X2
Conectores en placa	Conector disco flexible Conector Puerto de impresora Conector IDE Conector SATA Conector de panel frontal Conector de sonido frontal Conector de entrada de CD Conector de salida S/PDIF Cabecera de ventilador de CPU Cabecera de ventilador de sistema Cabecera de borrado de CMOS Conector USB Puerto serie Conector de alimentación (24 patillas) Conector de alimentación (8 patillas) Conector de alimentación (4 patillas)	X1 X1 X1 X4 X1 X1 X1 X1 X1 X2 X1 X2 X1 X1 X1 X1	Conector disco flexible Conector Puerto de impresora Conector IDE Conector SATA Conector de panel frontal Conector de sonido frontal Conector de entrada de CD Conector de salida S/PDIF Cabecera de ventilador de CPU Cabecera de ventilador de sistema Cabecera de borrado de CMOS Conector USB Puerto serie Conector de alimentación (24 patillas) Conector de alimentación (8 patillas) Conector de alimentación (4 patillas)	X1 X1 X1 X4 X1 X1 X1 X1 X1 X2 X1 X2 X1 X1 X1 X1
Panel trasero de E/S	Teclado PS/2 Ratón PS/2 Puerto de red local Puerto USB Conector de sonido Puerto eSATA(opcional)	X1 X1 X1 X6 X6 X2	Teclado PS/2 Ratón PS/2 Puerto de red local Puerto USB Conector de sonido Puerto eSATA(opcional)	X1 X1 X1 X6 X3 X2
Tamaño de la placa	244 mm. (A) X 305 mm. (H)		244 mm. (A) X 305 mm. (H)	
Soporte de sistema operativo	Windows XP / VISTA Biostar se reserva el derecho de añadir o retirar el soporte de cualquier SO con o sin aviso previo.		Windows XP / VISTA Biostar se reserva el derecho de añadir o retirar el soporte de cualquier SO con o sin aviso previo.	

PORTUGUESE

	Ver 5.x	*Ver 6.x*
CPU	Socket AM2 / AM2+ Processadores AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ A arquitectura AMD 64 permite uma computação de 32 e 64 bits Suporta as tecnologias Hyper Transport 3.0 e Cool'n'Quiet	Socket AM2 / AM2+ Processadores AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ A arquitectura AMD 64 permite uma computação de 32 e 64 bits Suporta as tecnologias Hyper Transport 3.0 e Cool'n'Quiet
FSB	Suporta a tecnologia HyperTransport 3.0 com uma largura de banda até 5.2 GT/s	Suporta a tecnologia HyperTransport 3.0 com uma largura de banda até 5.2 GT/s
Chipset	AMD 770 AMD SB600	AMD 770 AMD SB600
Especificação Super I/O	ITE 8718F 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	ITE 8718F 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	Ranhuras DIMM DDR2 x 4 Cada módulo DIMM suporta uma memória DDR2 de 512/1024/2048 MB Capacidade máxima de memória: 8GB Módulo de memória DDR2 de canal duplo Suporta módulos DDR2 533 / 667 / 800 Suporta módulos DDR2 1066 (by AM2+ CPU) Os módulos DIMM registados e os DIMM ECC não são suportados	Ranhuras DIMM DDR2 x 4 Cada módulo DIMM suporta uma memória DDR2 de 512/1024/2048 MB Capacidade máxima de memória: 8GB Módulo de memória DDR2 de canal duplo Suporta módulos DDR2 533 / 667 / 800 Suporta módulos DDR2 1066 (by AM2+ CPU) Os módulos DIMM registados e os DIMM ECC não são suportados
IDE	Controlador IDE integrado Modo Bus master Ultra DMA 33 / 66 / 100 / 133 Suporta o modo PIO 0~4,	Controlador IDE integrado Modo Bus master Ultra DMA 33 / 66 / 100 / 133 Suporta o modo PIO 0~4,
SATA II	AMD SB600 (na placa) Jmicro JMB362 (eSATA) (opcional) Velocidades de transmissão de dados até 3 Gb/s. Compatibilidade com a especificação SATA versão 2.0. Suporta as funções RAID 0,1,1+0 (na placa) Suporta as funções NCQ/Port-Multiplier/RAID 0,1,5,0+1 (eSATA) (opcional)	AMD SB600 (na placa) Jmicro JMB362 (eSATA) (opcional) Velocidades de transmissão de dados até 3 Gb/s. Compatibilidade com a especificação SATA versão 2.0. Suporta as funções RAID 0,1,1+0 (na placa) Suporta as funções NCQ/Port-Multiplier/RAID 0,1,5,0+1 (eSATA) (opcional)

	Ver 5.x		*Ver 6.x*	
LAN	Marvell 88E8056 / 88E8039(opcional) Auto negociação de 10 / 100 / 1000 Mb/s (a largura de banda Gigabit refere-se apenas à especificação Marvell 88E8056) Capacidade semi/full-duplex		Marvell 88E8056 / 88E8039(opcional) Auto negociação de 10 / 100 / 1000 Mb/s (a largura de banda Gigabit refere-se apenas à especificação Marvell 88E8056) Capacidade semi/full-duplex	
Codec de som	ALC888 Saída de áudio de 7.1 canais Suporta a especificação High-Definition Audio		ALC662 Saída de áudio de 5.1 canais Suporta a especificação High-Definition Audio	
Ranhuras	Ranhura PCI Ranhura PCI Express Gen2 x16 Ranhura PCI Express Gen2 x1	x3 x1 x2	Ranhura PCI Ranhura PCI Express Gen2 x16 Ranhura PCI Express Gen2 x1	x3 x1 x2
Conectores na placa	Conector da unidade de disquetes Conector da para impressora Conector IDE Conector SATA Conector do painel frontal Conector de áudio frontal Conector para entrada de CDs Conector de saída S/PDIF Conector da ventoinha da CPU Conector da ventoinha do sistema Conector para limpeza do CMOS Conector USB Porta série Conector de alimentação (24 pinos) Conector de alimentação (8 pinos) Conector de alimentação (4 pinos)	x1 x1 x1 x4 x1 x1 x1 x1 x1 x2 x1 x2 x1 x1 x1 x1	Conector da unidade de disquetes Conector da para impressora Conector IDE Conector SATA Conector do painel frontal Conector de áudio frontal Conector para entrada de CDs Conector de saída S/PDIF Conector da ventoinha da CPU Conector da ventoinha do sistema Conector para limpeza do CMOS Conector USB Porta série Conector de alimentação (24 pinos) Conector de alimentação (8 pinos) Conector de alimentação (4 pinos)	x1 x1 x1 x4 x1 x1 x1 x1 x1 x2 x1 x2 x1 x1 x1 x1
Entradas/Saídas no painel traseiro	Teclado PS/2 Rato PS/2 Porta LAN Porta USB Tomada de áudio Porta eSATA(opcional)	x1 x1 x1 x6 x6 x2	Teclado PS/2 Rato PS/2 Porta LAN Porta USB Tomada de áudio Porta eSATA(opcional)	x1 x1 x1 x6 x3 x2
Tamanho da placa	244 mm (L) X 305 mm (A)		244 mm (L) X 305 mm (A)	
Sistemas operativos suportados	Windows XP / VISTA A Biostar reserva-se o direito de adicionar ou remover suporte para qualquer sistema operativo com ou sem aviso prévio.		Windows XP / VISTA A Biostar reserva-se o direito de adicionar ou remover suporte para qualquer sistema operativo com ou sem aviso prévio.	

POLISH

	Ver 5.x	*Ver 6.x*
Procesor	Socket AM2 / AM2+ AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ Procesory Architektura AMD 64 umożliwia przetwarzanie 32 i 64 bitowe Obsługa Hyper Transport 3.0 oraz Cool'n'Quiet	Socket AM2 / AM2+ AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ Procesory Architektura AMD 64 umożliwia przetwarzanie 32 i 64 bitowe Obsługa Hyper Transport 3.0 oraz Cool'n'Quiet
FSB	Obsługa HyperTransport 3.0 o szerokości pasma do 5.2 GT/s	Obsługa HyperTransport 3.0 o szerokości pasma do 5.2 GT/s
Chipset	AMD 770 AMD SB600	AMD 770 AMD SB600
Pamięć główna	Gniazda DDR2 DIMM x 4 Każde gniazdo DIMM obsługuje moduły 512/1024/2048MB DDR2 Maks. wielkość pamięci 8GB Moduł pamięci DDR2 z trybem podwójnego kanału Obsługa DDR2 533 / 667 / 800 Obsługa DDR2 1066 (by AM2+ CPU) Brak obsługi Registered DIMM oraz ECC DIMM	Gniazda DDR2 DIMM x 4 Każde gniazdo DIMM obsługuje moduły 512/1024/2048MB DDR2 Maks. wielkość pamięci 8GB Moduł pamięci DDR2 z trybem podwójnego kanału Obsługa DDR2 533 / 667 / 800 Obsługa DDR2 1066 (by AM2+ CPU) Brak obsługi Registered DIMM oraz ECC DIMM
Super I/O	ITE 8718F 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"	ITE 8718F 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"
IDE	Zintegrowany kontroler IDE Ultra DMA 33 / 66 / 100 / 133 Tryb Bus Master obsługa PIO tryb 0~4,	Zintegrowany kontroler IDE Ultra DMA 33 / 66 / 100 / 133 Tryb Bus Master obsługa PIO tryb 0~4,
SATA II	AMD SB600 (wbudowane) Jmicro JMB362 (eSATA) (opcja) Transfer danych do 3 Gb/s. Zgodność ze specyfikacją SATA w wersji 2.0. Obsługa RAID 0,1,1+0 (wbudowane) Obsługa NCQ/Port-Multiplier/RAID 0,1,5,0+1 (eSATA) (opcja)	AMD SB600 (wbudowane) Jmicro JMB362 (eSATA) (opcja) Transfer danych do 3 Gb/s. Zgodność ze specyfikacją SATA w wersji 2.0. Obsługa RAID 0,1,1+0 (wbudowane) Obsługa NCQ/Port-Multiplier/RAID 0,1,5,0+1 (eSATA) (opcja)
LAN	Marvell 88E8056 / 88E8039 (opcja) 10 / 100 / 1000 Mb/s z automatyczną negocjacją szybkości (Pasmo gigabitowe wyłącznie dla Marvell 88E8056) Działanie w trybie połowicznego/pełnego dupleksu	Marvell 88E8056 / 88E8039 (opcja) 10 / 100 / 1000 Mb/s z automatyczną negocjacją szybkości (Pasmo gigabitowe wyłącznie dla Marvell 88E8056) Działanie w trybie połowicznego/pełnego dupleksu

	Ver 5.x		*Ver 6.x*	
Kodek dźwiękowy	ALC888 7.1 kanałowe wyjście audio Obsługa High-Definition Audio		ALC662 5.1 kanałowe wyjście audio Obsługa High-Definition Audio	
Gniazda	Gniazdo PCI	x3	Gniazdo PCI	x3
	Gniazdo PCI Express Gen2 x16	x1	Gniazdo PCI Express Gen2 x16	x1
	Gniazdo PCI Express Gen2 x1	x2	Gniazdo PCI Express Gen2 x1	x2
Złącza wbudowane	Złącze napędu dyskietek	x1	Złącze napędu dyskietek	x1
	Złącze Port drukarki	x1	Złącze Port drukarki	x1
	Złącze IDE	x1	Złącze IDE	x1
	Złącze SATA	x4	Złącze SATA	x4
	Złącze panela przedniego	x1	Złącze panela przedniego	x1
	Przednie złącze audio	x1	Przednie złącze audio	x1
	Złącze wejścia CD	x1	Złącze wejścia CD	x1
	Złącze wyjścia S/PDIF	x1	Złącze wyjścia S/PDIF	x1
	Złącze główkowe wentylatora procesora	x1	Złącze główkowe wentylatora procesora	x1
	Złącze główkowe wentylatora systemowego	x2	Złącze główkowe wentylatora systemowego	x2
	Złącze główkowe kasowania CMOS	x1	Złącze główkowe kasowania CMOS	x1
	Złącze USB	x2	Złącze USB	x2
	Port szeregowy	x1	Port szeregowy	x1
	Złącze zasilania (24 pinowe)	x1	Złącze zasilania (24 pinowe)	x1
	Złącze zasilania (8 pinowe)	x1	Złącze zasilania (8 pinowe)	x1
	Złącze zasilania (4 pinowe)	x1	Złącze zasilania (4 pinowe)	x1
Back Panel I/O	Klawiatura PS/2	x1	Klawiatura PS/2	x1
	Mysz PS/2	x1	Mysz PS/2	x1
	Port LAN	x1	Port LAN	x1
	Port USB	x6	Port USB	x6
	Gniazdo audio	x6	Gniazdo audio	x3
	Port eSATA(opcja)	x2	Port eSATA(opcja)	x2
Wymiary płyty	244 mm (S) X 305 mm (W)		244 mm (S) X 305 mm (W)	
Obsluga systemu operacyjnego	Windows XP / VISTA Biostar zastrzega sobie prawo dodawania lub odwoływania obsługi dowolnego systemu operacyjnego bez powiadomienia.		Windows XP / VISTA Biostar zastrzega sobie prawo dodawania lub odwoływania obsługi dowolnego systemu operacyjnego bez powiadomienia.	

RUSSIAN

	Ver 5.x	*Ver 6.x*
CPU (центральный процессор)	Гнездо AM2 / AM2+ Процессоры AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ Архитектура AMD 64 разрешать обработка данных на 32 и 64 бит Поддержка Hyper Transport 3.0 и Cool'n'Quiet	Гнездо AM2 / AM2+ Процессоры AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ Архитектура AMD 64 разрешать обработка данных на 32 и 64 бит Поддержка Hyper Transport 3.0 и Cool'n'Quiet
FSB	Поддержка HyperTransport 3.0 с пропускной способностью до 5.2 GT/s	Поддержка HyperTransport 3.0 с пропускной способностью до 5.2 GT/s
Набор микросхем	AMD 770 AMD SB600	AMD 770 AMD SB600
Основная память	Слоты DDR2 DIMM x 4 Каждый модуль DIMM поддерживает 512/1024/2048МБDDR2 Максимальная ёмкость памяти 8ГБ Модуль памяти с двухканальным режимом DDR2 Поддержка DDR2 533 / 667 / 800 Поддержка DDR2 1066 (by AM2+ CPU) Не поддерживает зарегистрированные модули DIMM and ECC DIMM	Слоты DDR2 DIMM x 4 Каждый модуль DIMM поддерживает 512/1024/2048МБDDR2 Максимальная ёмкость памяти 8ГБ Модуль памяти с двухканальным режимом DDR2 Поддержка DDR2 533 / 667 / 800 Поддержка DDR2 1066 (by AM2+ CPU) Не поддерживает зарегистрированные модули DIMM and ECC DIMM
Super I/O	ITE 8718F 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)	ITE 8718F 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)
IDE	Встроенное устройство управления встроенными интерфейсами устройств Режим "хозяина" шины Ultra DMA 33 / 66 / 100 / 133 Поддержка режима PIO 0~4,	Встроенное устройство управления встроенными интерфейсами устройств Режим "хозяина" шины Ultra DMA 33 / 66 / 100 / 133 Поддержка режима PIO 0~4,
SATA II	AMD SB600 (Встроенный) Jmicro JMB362 (eSATA) (дополнительно) скорость передачи данных до 3 гигабит/с. Соответствие спецификации SATA версия 2.0. Поддержка RAID 0,1,1+0 (Встроенный) Поддержка NCQ/Port-Multiplier/RAID 0,1,5,0+1 (eSATA) (дополнительно)	AMD SB600 (Встроенный) Jmicro JMB362 (eSATA) (дополнительно) скорость передачи данных до 3 гигабит/с. Соответствие спецификации SATA версия 2.0. Поддержка RAID 0,1,1+0 (Встроенный) Поддержка NCQ/Port-Multiplier/RAID 0,1,5,0+1 (eSATA) (дополнительно)

	Ver 5.x		*Ver 6.x*	
Локальная сеть	Marvell 88E8056 / 88E8039 (дополнительно) Автоматическое согласование 10 / 100 / 1000 Мб/с (гигабитная пропускная способность только для гигабитного физического уровня) Частичная / полная дуплексная способность		Marvell 88E8056 / 88E8039 (дополнительно) Автоматическое согласование 10 / 100 / 1000 Мб/с (гигабитная пропускная способность только для гигабитного физического уровня) Частичная / полная дуплексная способность	
Звуковой кодек	ALC888 Звуковая поддержка High-Definition 7.1канальный звуковой выход		ALC662 Звуковая поддержка High-Definition 5.1канальный звуковой выход	
Слоты	Слот PCI Слот PCI Express Gen2 x16 Слот PCI Express Gen2 x1	x3 x1 x2	Слот PCI Слот PCI Express Gen2 x16 Слот PCI Express Gen2 x1	x3 x1 x2
Встроенный разъём	Разъём НГМД Разъём Порт подключения принтера Разъём IDE Разъём SATA Разъём на лицевой панели Входной звуковой разъём Разъём ввода для CD Разъём вывода для S/PDIF Контактирующее приспособление вентилятора центрального процессора x1 Контактирующее приспособление вентилятора системы Открытое контактирующее приспособление CMOS USB-разъём Последовательный порт Разъем питания (24 вывод) Разъем питания (8 вывод) Разъем питания (4 вывод)	x1 x1 x1 x4 x1 x1 x1 x1 x2 x1 x2 x1 x1 x1 x1	Разъём НГМД Разъём Порт подключения принтера Разъём IDE Разъём SATA Разъём на лицевой панели Входной звуковой разъём Разъём ввода для CD Разъём вывода для S/PDIF Контактирующее приспособление вентилятора центрального процессора x1 Контактирующее приспособление вентилятора системы Открытое контактирующее приспособление CMOS USB-разъём Последовательный порт Разъем питания (24 вывод) Разъем питания (8 вывод) Разъем питания (4 вывод)	x1 x1 x1 x4 x1 x1 x1 x1 x2 x1 x2 x1 x1 x1 x1
Задняя панель средств ввода-вывода	Клавиатура PS/2 Мышь PS/2 Порт LAN USB-порт Гнездо для подключения наушников eSATA порт(дополнительно)	x1 x1 x1 x6 x6 x2	Клавиатура PS/2 Мышь PS/2 Порт LAN USB-порт Гнездо для подключения наушников eSATA порт(дополнительно)	x1 x1 x1 x6 x3 x2
Размер панели	244 мм (Ш) X 305 мм (В)		244 мм (Ш) X 305 мм (В)	
Поддержка OS	Windows XP / VISTA Biostar сохраняет за собой право добавлять или удалять средства обеспечения для OS с или без предварительного уведомления.		Windows XP / VISTA Biostar сохраняет за собой право добавлять или удалять средства обеспечения для OS с или без предварительного уведомления.	

ARABIC

	Ver 5.x	Ver 6.x
وحدة المعالجة المركزية	AM2 / AM2+مقبس AMD Athlon 64 / Athlon 64 FX / Athlon 64معالجات X2 / Sempron / AM2+ إجراء العمليات الحاسوبية بسرعة 32 و64 بتAMDتمكن تقنية Cool'n'Quiet و Hyper Transport 3.0تدعم تقنية	AM2 / AM2+مقبس AMD Athlon 64 / Athlon 64 FX / Athlon 64معالجات X2 / Sempron / AM2+ إجراء العمليات الحاسوبية بسرعة 32 و64 بتAMD 64تمكن تقنية Cool'n'Quiet و Hyper Transport 3.0تدعم تقنية
الناقل الأمامي الجانبي	5.2 GT/s بتردد يصل إلىHyperTransport 3.0تدعم تقنية	5.2 GT/s بتردد يصل إلى HyperTransport 3.0تدعم تقنية
مجموعة الشرائح	AMD 770 AMD SB600	AMD 770 AMD SB600
الذاكرة الرئيسية	قحة DDR2 DIMM عدد4 سعة DDR2 تدعم ذاكرة من نوع DIMM 512/1024/2048 ميجا بايت و1 جيجا بايت سعة ذاكرة قصوى 8 جيجا بايت مزدوجة القناةDDR2وحدة ذاكرة ميجا بايت800/667/533 سعتDDR2تدعم الذاكرة من نوع ميجا (By AM2+ CPU)1066 سعتDDR2تدعم الذاكرة من نوع بايت ECC وتلك التي لا تتوافق مع DIMMلا تدعم رقائق الذاكرة	قحة DDR2 DIMM عدد4 سعة DDR2 تدعم ذاكرة من نوع DIMM 512/1024/2048 ميجا بايت و1 جيجا بايت سعة ذاكرة قصوى 8 جيجا بايت مزدوجة القناةDDR2وحدة ذاكرة ميجا بايت800/667/533 سعتDDR2تدعم الذاكرة من نوع ميجا (By AM2+ CPU)1066 سعتDDR2تدعم الذاكرة من نوع بايت ECC وتلك التي لا تتوافق مع DIMMلا تدعم رقائق الذاكرة
Super I/O	ITE 8718F الأكثر استخداماً. Super I/Oتوفر وظيفة Low Pin Count Interfaceتدعم تقنية وسائل التحكم في البيئة: مراقب لمعرفة حالة الأجهزة مراقب في سرعة المروحة ITE من "Smart Guardian"وظيفة	ITE 8718F الأكثر استخداماً. Super I/Oتوفر وظيفة Low Pin Count Interfaceتدعم تقنية وسائل التحكم في البيئة: مراقب لمعرفة حالة الأجهزة مراقب في سرعة المروحة ITE من "Smart Guardian"وظيفة
منفذ IDE	متكامل IDEمتحكم Ultra DMA 33 / 66 / 100 / 133ناقل بتقنية وضع رئيسي PIO Mode 0~4دعم وضع	متكامل IDEمتحكم Ultra DMA 33 / 66 / 100 / 133ناقل بتقنية وضع رئيسي PIO Mode 0~4دعم وضع
SATA II	(المنافذ على سطح اللوحة) AMD SB600 (اختياري)(eSATA) Jmicro JMB362 نقل البيانات بسرعات تصل إلى 3 جيجابت/ثانية. 2.0. الإصدار SATAمطابقة لمواصفات (المنافذ على سطح اللوحة)RAID 0,1,1+0تدعم تقنية RAID 0,1,5,0+1/NCQ/Port-Multiplierتدعم تقنية (eSATA) (اختياري)	(المنافذ على سطح اللوحة) AMD SB600 (اختياري)(eSATA) Jmicro JMB362 نقل البيانات بسرعات تصل إلى 3 جيجابت/ثانية. 2.0. الإصدار SATAمطابقة لمواصفات (المنافذ على سطح اللوحة)RAID 0,1,1+0تدعم تقنية RAID 0,1,5,0+1/NCQ/Port-Multiplierتدعم تقنية (eSATA) (اختياري)

	Ver 5.x		Ver 6.x	
شبكة داخلية	(اختياري)88E8039/ Marvell 88E8056 تفاوض تلقائي 100/10 ميجا بايت / ثانية و1جيجا بت/ثانية Marvell 88E8056النطاق الترددي للجيجابت مقصور فقط على إمكانية النقل المزدوج الكامل/النصفي		(اختياري)88E8039/ Marvell 88E8056 تفاوض تلقائي 100/10 ميجا بايت / ثانية و1جيجا بت/ثانية Marvell 88E8056النطاق الترددي للجيجابت مقصور فقط على إمكانية النقل المزدوج الكامل/النصفي	
كوديك الصوت	ALC888 تدعم تقنية الصوت عالي التعريف من 7.1 قوات لخرج الصوت		ALC662 تدعم تقنية الصوت عالي التعريف من 5.1 قوات لخرج الصوت	
الفتحات	فتحة PCI	عدد3	فتحة PCI	عد3
	فتحة PCI Express Gen2 x16	عدد 1	فتحة PCI Express Gen2 x16	عدد 1
	فتحة PCI Express Gen2 x1	عدد 2	فتحة PCI Express Gen2 x1	عدد 2
المنافذ على سطح اللوحة	منفذ محرك أقراص مرنة	عدد 1	منفذ محرك أقراص مرنة	عدد 1
	منفذ طابعة	عدد 1	منفذ طابعة	عدد 1
	منفذ IDE	عدد 1	منفذ IDE	عدد 1
	منفذ SATA	عدد4	منفذ SATA	عدد4
	منفذ اللوحة الأمامية	عدد 1	منفذ اللوحة الأمامية	عدد 1
	منفذ الصوت الأمامي	عدد 1	منفذ الصوت الأمامي	عدد 1
	منفذ CD-IN	عدد 1	منفذ CD-IN	عدد 1
	منفذ خرج S/PDIF	عدد 1	منفذ خرج S/PDIF	عدد 1
	وصلة مروحة وحدة المعالجة المركزية	عدد 1	وصلة مروحة وحدة المعالجة المركزية	عدد 1
	وصلة مروحة النظام	عدد2	وصلة مروحة النظام	عد2
	وصلة مسح CMOS	عدد 1	وصلة مسح CMOS	عدد 1
	منفذ USB	عدد 2	منفذ USB	عدد 2
	منفذ تسلسلي	عدد1	منفذ تسلسلي	عدد1
	منفذ توصيل الطاقة (24دبوس)	عدد 1	منفذ توصيل الطاقة (24دبوس)	عدد 1
	منفذ توصيل الطاقة (8دبابيس)	عدد 1	منفذ توصيل الطاقة (8دبابيس)	عدد 1
	منفذ توصيل الطاقة (4دبابيس)	عدد 1	منفذ توصيل الطاقة (4دبابيس)	عدد 1
مناقذ دخل/خرج اللوحة الخلفية	لوحة مفاتيح PS/2	عدد 1	لوحة مفاتيح PS/2	عدد 1
	ماوس PS/2	عدد 1	ماوس PS/2	عدد 1
	منفذ شبكة اتصال محلية	عد1	منفذ شبكة اتصال محلية	عد1
	مناقذ USB	عدد 6	مناقذ USB	عدد 6
	مقبس صوت	عدد 6	مقبس صوت	عدد 3
	منفذeSATA(اختياري)	عدد2	منفذeSATA(اختياري)	عدد2
حجم اللوحة	244 مم (عرض) X 305 مم (ارتفاع)		244 مم (عرض) X 305 مم (ارتفاع)	
دعم أنظمة التشغيل	Windows XP / VISTA بحقها في إضافة أو إزالة الدعم لأي نظام تشغيل بإخطار أو Biostarتحتفظ بدون إخطار.		Windows XP / VISTA بحقها في إضافة أو إزالة الدعم لأي نظام تشغيل بإخطار أو Biostarتحتفظ بدون إخطار.	

JAPANESE

	Ver 5.x	*Ver 6.x*
CPU	Socket AM2 / AM2+ AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ 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 ハイパートランスポート3.0とクールアンドクワイアットをサポートします	Socket AM2 / AM2+ AMD Athlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron / AM2+ 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 ハイパートランスポート3.0とクールアンドクワイアットをサポートします
FSB	5.2 GT/sのバンド幅までハイパートランスポート3.0をサポートします	5.2 GT/sのバンド幅までハイパートランスポート3.0をサポートします
チップセット	AMD 770 AMD SB600	AMD 770 AMD SB600
メインメモリ	DDR2 DIMMスロット x 4 各DIMMは 512/1024/2048MB DDR2をサポート 最大メモリ容量8GB デュアル チャンネルモードDDR2メモリモジュール DDR2 533 / 667 / 800をサポート DDR2 1066をサポート (by AM2+ CPU) 登録済みDIMMとECC DIMMはサポートされません	DDR2 DIMMスロット x 4 各DIMMは 512/1024/2048MB DDR2をサポート 最大メモリ容量8GB デュアル チャンネルモードDDR2メモリモジュール DDR2 533 / 667 / 800をサポート DDR2 1066をサポート (by AM2+ CPU) 登録済みDIMMとECC DIMMはサポートされません
Super I/O	ITE 8718F 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	ITE 8718F 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
IDE	統合IDEコントローラ Ultra DMA 33 / 66 / 100 / 133バスマスタモード PIO Mode 0~4のサポート、	統合IDEコントローラ Ultra DMA 33 / 66 / 100 / 133バスマスタモード PIO Mode 0~4のサポート、
SATA II	AMD SB600 (オンボードコネクタ) Jmicro JMB362 (eSATA) (オプション) 最高3 Gb/秒のデータ転送速度 SATAバージョン2.0仕様に準拠。 RAID 0,1,1+0のサポート(オンボードコネクタ) RAID 0,1,5,0+1/NCQ/Port-Multiplierのサポート (eSATA) (オプション)	AMD SB600 (オンボードコネクタ) Jmicro JMB362 (eSATA) (オプション) 最高3 Gb/秒のデータ転送速度 SATAバージョン2.0仕様に準拠。 RAID 0,1,1+0のサポート(オンボードコネクタ) RAID 0,1,5,0+1/NCQ/Port-Multiplierのサポート (eSATA) (オプション)

	Ver 5.x		*Ver 6.x*	
LAN	Marvell 88E8056 / 88E8039(オプション) 10 / 100 / 1000 Mb/秒のオートネゴシエーション (Gigabitバンド幅はMarvell 88E8056専用です) 半/全二重機能		Marvell 88E8056 / 88E8039(オプション) 10 / 100 / 1000 Mb/秒のオートネゴシエーション (Gigabitバンド幅はMarvell 88E8056専用です) 半/全二重機能	
サウンド Codec	ALC888 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		ALC662 ハイデフィニションオーディオのサポート 5.1 チャンネルオーディオアウト	
スロット	PCIスロット	x3	PCIスロット	x3
	PCI Express Gen2 x16スロット	x1	PCI Express Gen2 x16スロット	x1
	PCI Express Gen2 x1スロット	x2	PCI Express Gen2 x1スロット	x2
オンボードコネクタ	フロッピーコネクタ	x1	フロッピーコネクタ	x1
	プリンタポートコネクタ	x1	プリンタポートコネクタ	x1
	IDEコネクタ	x1	IDEコネクタ	x1
	SATAコネクタ	x4	SATAコネクタ	x4
	フロントパネルコネクタ	x1	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	フロントオーディオコネクタ	x1
	CDインコネクタ	x1	CDインコネクタ	x1
	S/PDIFアウトコネクタ	x1	S/PDIFアウトコネクタ	x1
	CPUファンヘッダ	x1	CPUファンヘッダ	x1
	システムファンヘッダ	x2	システムファンヘッダ	x2
	CMOSクリアヘッダ	x1	CMOSクリアヘッダ	x1
	USBコネクタ	x2	USBコネクタ	x2
	シリアルポート	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(24ピン)	x1
	電源コネクタ(8ピン)	x1	電源コネクタ(8ピン)	x1
	電源コネクタ(4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キーボード	x1
	PS/2マウス	x1	PS/2マウス	x1
	LANポート	x1	LANポート	x1
	USBポート	x6	USBポート	x6
	オーディオジャック	x6	オーディオジャック	x3
	eSATAポート(オプション)	x2	eSATAポート(オプション)	x2
ボードサイズ	244 mm (幅) X 305 mm (高さ)		244 mm (幅) X 305 mm (高さ)	
OSサポート	Windows XP / VISTA 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。		Windows XP / VISTA 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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