WARNING!

Electronic Emission Notices

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions contained in this manual, may cause harmful interference to radio and television communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- REORIENT OR RELOCATE THE RECEIVING ANTENNA
- INCREASE THE SEPARATION BETWEEN THE EQUIPMENT AND THE RECEIVER
- CONNECT THE EQUIPMENT INTO AN OUTLET ON A CIRCUIT DIFFERENT FROM THAT OF THE RECEIVER
- CONSULT THE DEALER OR AN EXPERIENCED AUDIO/TELEVISION TECHNICIAN

NOTE: Connecting this device to peripheral devices that do not comply with Class B requirements, or using an unshielded peripheral data cable, could also result in harmful interference to radio or television reception.

The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

To ensure that the use of this product does not contribute to interference, it is necessary to use shielded I/O cables.

Copyright

This manual is copyrighted with all rights reserved. No portion of this manual may be copied or reproduced by any means.

While every precaution has been taken in the preparation of this manual, no responsibility for errors or omissions is assumed. Neither is any liability assumed for damages resulting from the use of the information contained herein.

Trademarks

All brand names, logos and registered trademarks mentioned are property of their respective owners.

TABLE OF CONTENT

Box Included Checklist

☑   Sapphire PE-AM2RS690MV Motherboard

☑   Cable for ATA 133 IDE

☑   Sapphire Driver CD for Motherboard

☑   Cable for Serial ATA II

☑   Rear External I/O Shield

☑   Sapphire PE-AM2RS690MV Motherboard User's Manual

Environmental Protection Announcement

Do not dispose this electronic device into the trash while discarding. To minimize pollution and ensure environment protection of mother earth, please recycle.

Features of Motherboard

The AMD 690V Series motherboards are based on the latest AMD 690V Chipset and SB600 chipset which supports the new generation innovative 64-bit AMD Socket AM2 dual core multi-tasking Socket AM2 Athlon64 X2 processors. With an integrated low-latency high-bandwidth DDR2 memory controller and the highly-scalable Hyper Transport technology-based system bus which is up to 1000 MHZ, AMD 690V Platform Processor Chipset motherboard series deliver the outstanding system performance and professional desktop platform solution with the advantages of new generation 64-bit AMD Socket AM2 Athlon64 X2 processors and the fully compatibility of the next generation operation system.

The AMD 690V Series motherboards support new generation Socket AM2 processors with an integrated DDR2 memory controller which provides with 266MHz / 333MHz/ 400MHz memory clock frequency for Dual channel DDR2 533 / DDR2 667 / DDR2 800 (Sempron processor of AM2 socket only supports up DDR2 667) DDR2 Module up to 8.0GB. The whole motherboard series are embedded with SB600 chipset that provides ULTRA ATA 133 connectors and Serial ATA2 with RAID 0, 1, and RAID 10 functions which support up to two IDE devices and four Serial ATA2 devices to accelerate hard disk drives and guarantee the data security without failure in advanced computing performance.

The AMD 690V Series motherboards integrated ATI Radeon X1250 Graphics support ATI innovated AVIVO Technology and Multiple Display configurations: CRT+ DVI-D or HDMI on rear panel and give you the best performance in game experience. AMD™ 690V chipset provides incredible flexibility and unlimited upgrade potential as it supports all Radeon® PCI – E graphics cards on a system configured for either single GPU or next generation multimedia operation. Designed with ATI's unique architecture to optimize speed and stability, this solution is perfect for overclocking – without the need of additional cooling systems.

The 690V series motherboards provide 10/100 LAN functions with Realtek RTL8101E-GR PCI-E 10/100 LAN which supports 10/100 Mbps data transfer rate. And the embedded Azalia 6-channel Audio CODEC is fully compatible with Sound Blaster Pro® standards that offer you with the home cinema quality and satisfying software compatibility.

The motherboards offer one PCI-Express x16 graphics slot of 4Gbyte/sec data transfer rate at each relative direction which gets 3.5 times of bandwidth more than AGP 8X and it's up to a peak concurrent bandwidth of 8Gbyte/sec at full speed to guarantee the ultimate GPU computing performance. Two32-bit PCI slots guarantee the rich connectivity for the I/O of peripherals; the motherboards are designed of tackling the profuse multimedia requirements nowadays.

Embedded USB controller as well as capability of expanding to 8 of USB2.0 functional ports delivering 480Mb/s bandwidth and rich connectivity, these motherboards meet the future USB demands which are also equipped with hardware monitor function on system to monitor and protect your system and maintain your non-stop business computing.

Special Design of Motherboard

CPU Smart Fan---(The Noise Management System　Only support 4-pin CPU cooler　)
It's never been a good idea to gain the performance of your system by sacrificing its acoustics. CPU Smart Fan Noise Management System is the answer to control the noise level needed for now-a-day's high performance computing system. The system will automatically increase the fan speed when CPU operating loading is high, after the CPU is in normal operating condition, the system will low down the fan speed for the silent operating environment. The system can provide the much longer life cycle for both CPU and the system fans for game use and business requirements.

CPU Vcore 7-Shift--- (Shift to Higher Performance)
The CPU voltage can be adjusted up by 7 steps for the precisely over-clocking of extra demanding computing performance.

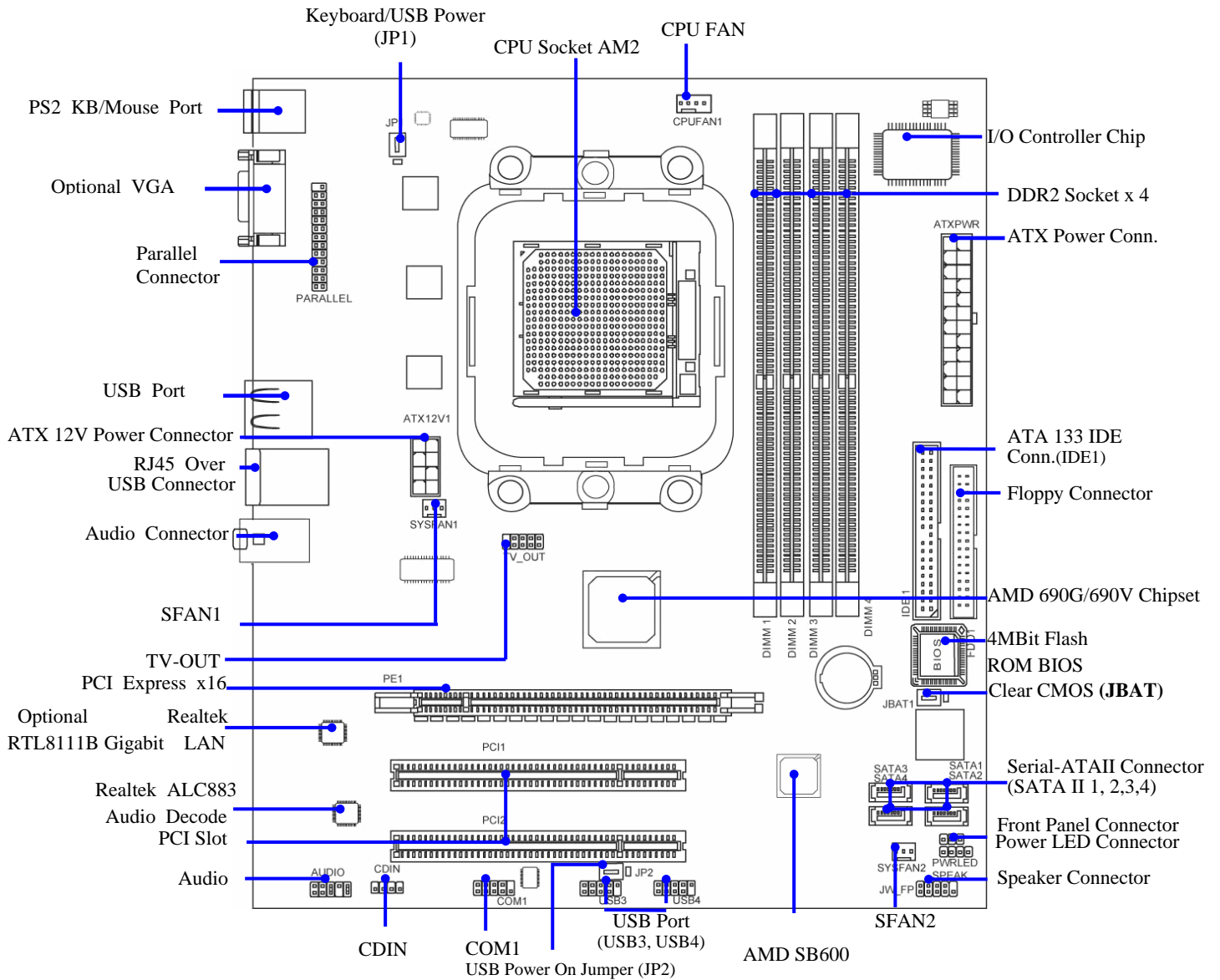**CPU Thermal Throttling Technology**---(The CPU Overheat Protection Technology)
To prevent the increasing heat from damage of CPU or accidental shutdown while at high workload, the CPU Thermal Throttling Technology will force CPU to enter partially idle mode from 87.5% to 12.5% according to preset CPU operating temperature in BIOS (from 40　to 90　). When the system senses the CPU operating temperature reaching the preset value, the CPU operating bandwidth will be decreased to the preset idle percentage to cool down the processor. When at throttling mode the beeper sound can be optionally selected to indicate it is in working.

Above Sapphire Feature Functions in this motherboard are designed for power user to use the over-clocking function in more flexible ways. But please be caution that the over-clocking maybe cause the fails in system reliabilities. This motherboard provides the guaranteed performance and meets the demands of the next generation computing. But if you insist to gain more system performance with variety possibilities of the components you choose, please be careful and make sure to read the detailed descriptions of these value added product features, please get them in the coming section.

Specification

Spec	Description
Design	∗ Micro ATX form factor 4 layers PCB size: 24.4 cm*21.0cm
Chipset	∗ AMD 690V Chipset and AMD SB600 Chipset
CPU Socket AM2	∗ Support 64bit AMD AM2 940-Pin package utilizes Flip-Chip Pin Grid Array package compatible processor ∗ Support for HTT 1GHz AMD Athlon 64 X2 processor and Athlon 64, and HTT 800MHz Sempron Processors
Memory Socket	∗ 240-pin DDR2 Module socket x 4 ∗ Support 4 pcs DDR2 533 / DDR2 667 / DDR2 800 Modules Expandable to 8.0 GB
Expansion Slot	∗ PCI-Express x16 slot 1pcs delivers up to 8 GB/s of concurrent bandwidth. ∗ 32-bit PCI slot x 2 pcs
Integrate IDE and Serial ATA2 RAID	∗ One IDE controllers support PCI Bus Mastering, ATA PIO / DMA and the ULTRA DMA 33/66/100/133 functions that deliver the data transfer rate up to 133 MB/s. ∗ Four Serial ATA2 ports provide 300 MB/sec data transfer rate with RAID 0, 1, 10 functions.
Integrated VGA	∗ Integrated with ATI Radeon X1200 / X1250 Graphic ∗ a core frequency of 400 MHz and 2 shader pipeline ∗ DirectX 9.0 compliant 2D/3D graphics processor ∗ supported ATI innovated AVIVO Technology
LAN (Option)	∗ Integrated Realtek RTL8111B-GR PCI-E gigabit LAN chip ∗ Supports Fast Ethernet LAN function provide 10/100/1000 Mb /s data transfer rate
LAN(Option)	∗ Integrated Realtek RTL8101E-GR PCI-E10/100 LAN chip ∗ Supports Fast Ethernet LAN function provide 10/100Mb /s data transfer rate
HD 6-CH Audio	∗ Realtek ALC883 Azalia HD 6-channel Audio Codec integrated ∗ Support 6-channel 3D surround & Positioning Audio ∗ Audio driver and utility included
BIOS	∗ Award 4MB Flash ROM
Multi I/O	∗ PS/2 keyboard and PS/2 mouse connectors ∗ Floppy disk drive connector x1 ∗ 1* Parallel port of 25-pin Block ∗ 1 * Serial port of 9-pin Block ∗ 1 * VGA port / 1 * TV-Out connector ∗ USB2.0 port x 4 and headers x 4 (connecting optional cable) ∗ Audio connector (Line-in, Line-out, MIC/ 6CH Audio)

Motherboard Layout

Keyboard/USB Power (JP1)

CPU Socket AM2

CPU FAN

PS2 KB/Mouse Port

I/O Controller Chip

Optional VGA

DDR2 Socket x 4

Parallel Connector

ATXPWR

ATX Power Conn.

USB Port

ATX 12V Power Connector

ATX12V1

ATA 133 IDE Conn.(IDE1)

RJ45 Over USB Connector

Floppy Connector

Audio Connector

SYSFAN1

V_OUT

AMD 690G/690V Chipset

SFAN1

4MBit Flash ROM BIOS

TV-OUT

BIOS

PCI Express x16

PE1

Clear CMOS (**JBAT**)

JBAT1

Optional Realtek RTL8111B Gigabit LAN

PCI1

Serial-ATAII Connector (SATA II 1, 2,3,4)

SATA3
SATA4
SATA1
SATA2

Realtek ALC883 Audio Decode

Front Panel Connector

PCI Slot

PCI2

Power LED Connector

PWRLED

Audio

AUDIO

CDIN

JP2

SYSFAN2

SPEAK

Speaker Connector

COM1

USB3

USB4

JW_FP

SFAN2

CDIN

COM1

USB Port (USB3, USB4)

AMD SB600

USB Power On Jumper (JP2)

Hardware Installation

Install Socket AM2 Supported AMD Processor

This motherboard provides a 940-pin surface mount, Zero Insertion Force (ZIF) socket, referred to as the mPGA940 socket supports AMD Athlon64 processor in the 940 Pin package utilizes Flip-Chip Pin Grid Array package technology.

The CPU that comes with the motherboard should have a cooling FAN attached to prevent overheating. If this is not the case, then purchase a correct cooling FAN before you turn on your system.

WARNING!	Be sure that there is sufficient air circulation across the processor's heatsink and CPU cooling FAN is working correctly, otherwise it may cause the processor and motherboard overheat and damage, you may install an auxiliary cooling FAN, if necessary.

To install a CPU, first turn off your system and remove its cover. Locate the ZIF socket and open it by first pulling the level sideways away from the socket then upward to a 90-degree angle. Insert the CPU with the correct orientation as shown below. The notched corner should point toward the end of the level. Because the CPU has a corner pin for two of the four corners, the CPU will only fit in the orientation as shown.

CPU ZIF mPGAB Socket
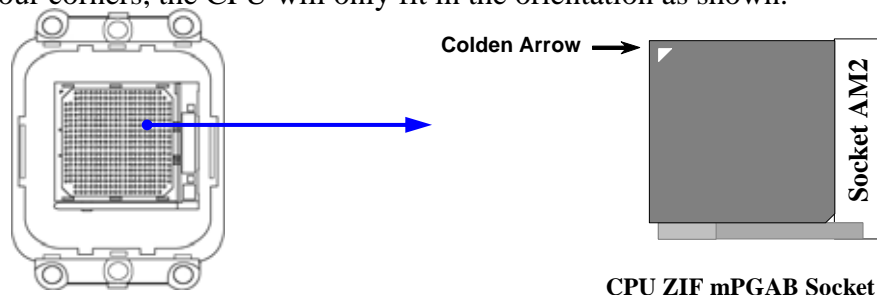
When you put the CPU into the ZIF socket   No force require to insert of the CPU, then press the level to Locate position slightly without any extra force.

Install Memory

This motherboard provides four 240-pin DDR2 DUAL INLINE MEMORY MODULES (DIMM) socket for DDR2 memory expansion available from minimum memory volume of 128MB to maximum memory volume of 8.0GB DDR SDRAM.

Valid Memory Configurations

| Bank	240-Pin DIMM	PCS	Total Memory
Bank 0, 1 (DIMM1)	DDR2 533/DDR2 667/DDR2 800	X1	128MB~2.0GB
Bank 2, 3 (DIMM2)	DDR2 533/DDR2 667/DDR2 800	X1	128MB~2.0GB
Bank 4, 5 (DIMM3)	DDR2 533/DDR2 667/DDR2 800	X1	128MB~2.0GB
Bank 6,7 (DIMM4)	DDR2 533/DDR2 667/DDR2 800	X1	128MB~2.0GB
Total	System Memory (Max. 8.0GB)	4	128MB~8.0GB

Recommend DIMM Module Combination

1. *One DIMM Module ----Plug in DIMM1*
2. *Two DIMM Modules---Plug in DIMM1 and DIMM2 for Dual channel function*
3. *Four DIMM Modules---Plug in DIMM1/DIMM2/DIMM3/DIMM4.*

For Dual channel Limited!
4. Dual channel function only supports when 2 DIMM Modules plug in either both DIMM1 & DIMM2 or DIMM3 &DIMM4, or four DIMM Modules plug in DIMM1~DIMM4.
5. DIMM1 & DIMM2 or DIMM3 & DIMM4 must be the same type, same size, same frequency for dual channel function.

   Install DDR SDRAM modules to your motherboard is not difficult, you can refer to figure below to see how to install a 240-Pin DDR2 533/DDR2 667/DDR2 800 SDRAM module.
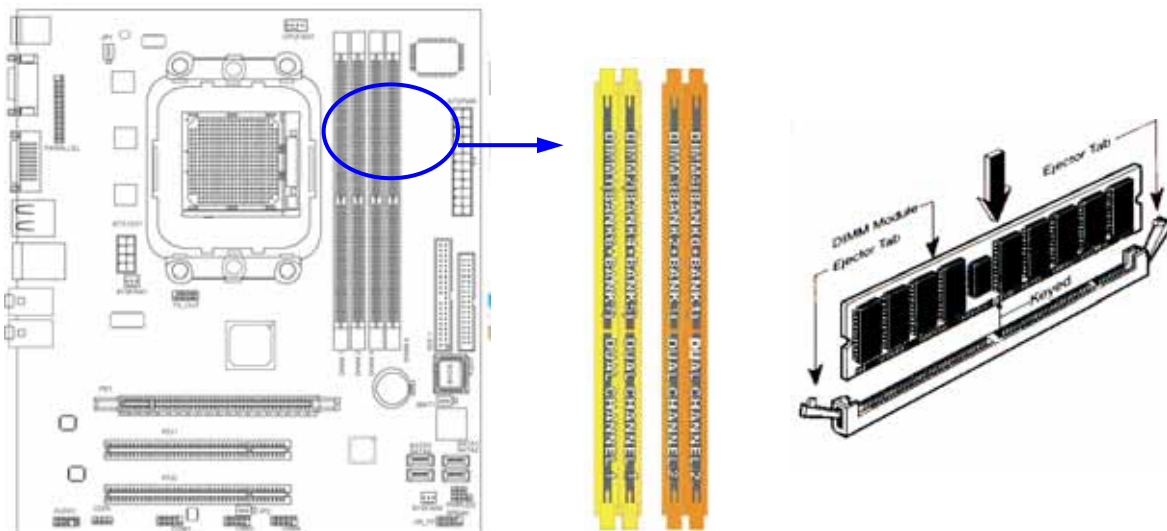

NOTE!	When you install DIMM module fully into the DIMM socket the eject tab should be locked into the DIMM module very firmly and fit into its indention on both sides.
WARNING!	For the DDR SDRAM CLOCK is set at 400MHz, use only DDR2 800- compliant DDR2 Modules. When this motherboard operate at 400Mhz, most system will not even boot if non-compliant modules are used because of the strict timing issues, if your DDR Modules are not DDR2 800-compliant, set the SDRAM clock to 200MHz to ensure system stability.

Expansion Cards

The motherboards offer one PCI-Express x16 graphics slot of 4Gbyte/sec data transfer rate at each relative direction which gets 3.5 times of bandwidth more than AGP 8X and it's up to a peak concurrent bandwidth of 8Gbyte/sec at full speed to guarantee the ultimate GPU computing performance. Two32-bit PCI slots guarantee the rich connectivity for the I/O of peripherals; the motherboards are designed of tackling the profuse multimedia requirements nowadays.


PE1 / PCI-E x16 Slot

32-bit PCI Slot
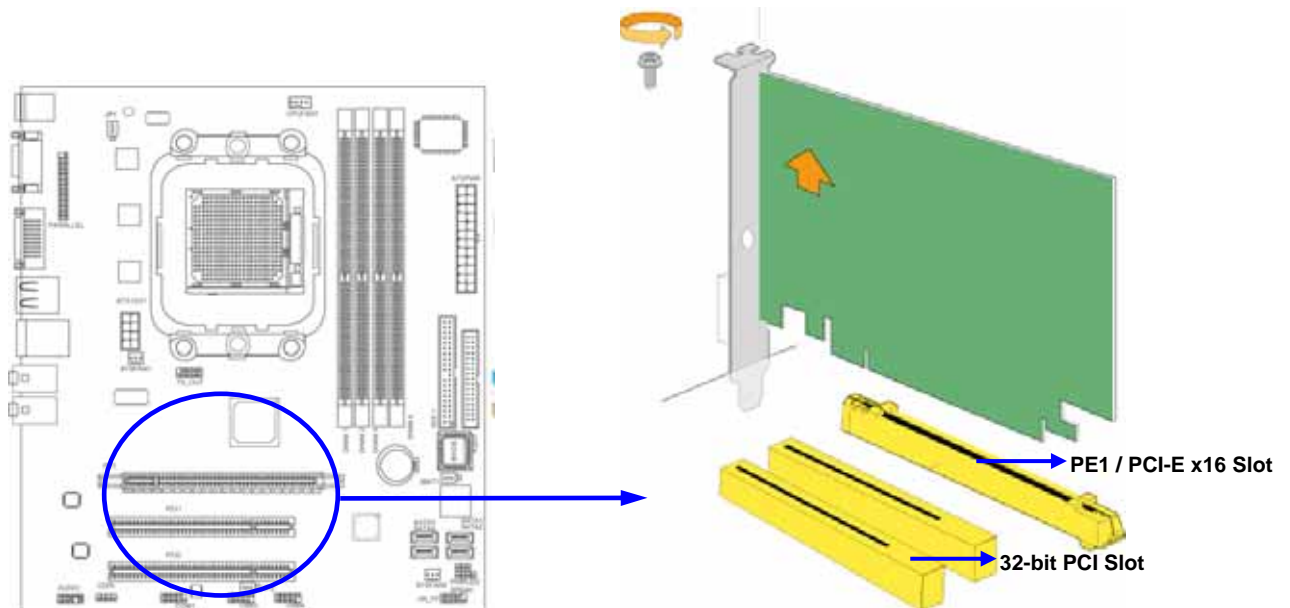
Connectors, Headers & Jumpers Setting

Connectors

(1) **Power Connector (24-pinblock) : ATXPWR1**

ATX Power Supply connector: This is a new defined 24-pins connector that usually comes with ATX case. The ATX Power Supply allows using soft power on momentary switch that connect from the front panel switch to 2-pins Power On jumper pole on the motherboard. When the power switch on the back of the ATX power supply turned on, the full

PIN	ROW1	ROW2
1	3.3V	3.3V
2	3.3V	-12V
3	GND	GND
4	5V	Soft Power On
5	GND	GND
6	5V	GND
7	GND	GND
8	Power OK	-5V
9	+5V (for Soft Logic)	+5V
10	+12V	+5V
11	+12V	+5V
12	+3V	GND

20-Pin   **24-Pin**

power will not come into the system board until the front panel switch is momentarily pressed. Press this switch again will turn off the power to the system board.
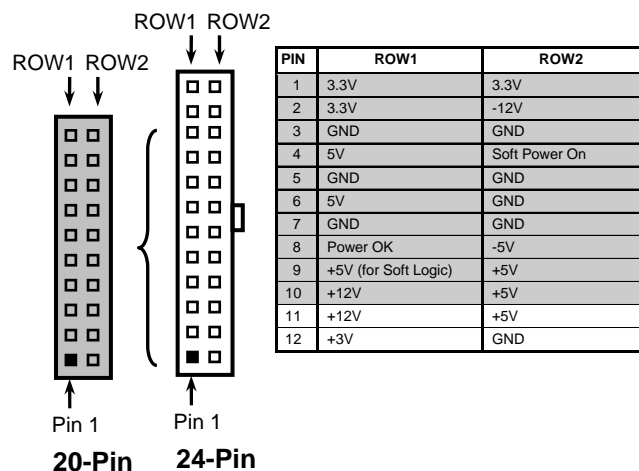
** We recommend that you use an ATX 12V Specification 2.0-compliant power supply unit (PSU) with a minimum of 350W power rating. This type has 24-pin and 4-pin power plugs.

** If you intend to use a PSU with 20-pin and 4-pin power plugs, make sure that the 20-pin power plug can provide at least 15A on +12V and the power supply unit has a minimum power rating of 350W. The system may become unstable or may not boot up if the power is inadequate.

(2) **ATX 12V Power Connector (8-pin block) : ATX12V1**

This is a new defined 8-pins connector that usually comes with ATX Power Supply. The ATX Power Supply which fully supports AM2 processor must including this connector for support extra 12V voltage to maintain system power consumption. Without this connector might cause system unstable because the power supply can not provide sufficient current for system.

(3) **PS/2 Mouse & PS/2 Keyboard Connector: KB1**

The connectors are for PS/2 keyboard and PS/2 Mouse.

(3) **USB Port connector: CN3**

The connectors are 4-pin connectors that connect USB devices to the system board.

(5) **LAN Port connector: UL1**

This connector is standard RJ45 connector for Network
The USBLAN1 support optional 10M/100M or 10M/100Mb/1000Mb s data transfer rate

(6) **Audio Line-In, Lin-Out, MIC, Surrback, Surround, CEN/LEF Connector: SURROUND1 / CN1**

This Connector are 6 phone Jack for LINE-OUT, LINE-IN, MIC, Surrback, Surround, CEN/LEF
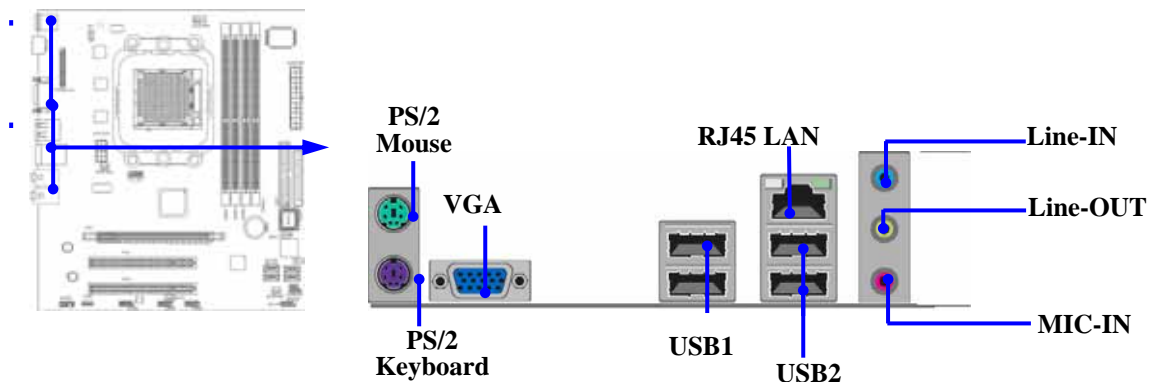
Line-in :   (BLUE)   Audio input to sound chip
**Line-out : (GREEN)**   Audio output to speaker
MIC : (PINK)   Microphone Connector

PS/2 Mouse　　**VGA**　　**RJ45 LAN**　　**Line-IN**　　**Line-OUT**　　**MIC-IN**　　**PS/2 Keyboard**　　**USB1**　　**USB2**

(7) Floppy drive Connector (34-pin block): FDD1
 This connector supports the provided floppy drive ribbon cable.
 After connecting the single plug end to motherboard,
 connect the two plugs at other end to the floppy drives.

**FDD**

Pin 1

Floppy Drive Connector
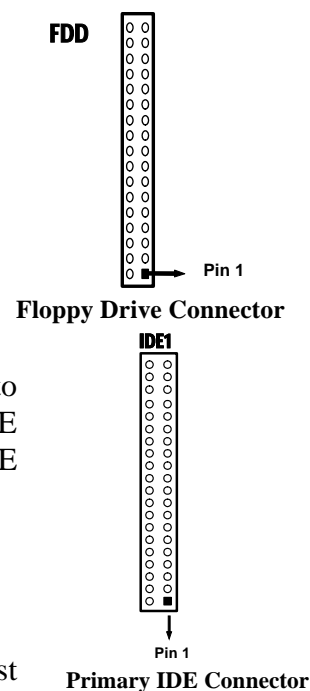
(8) Primary IDE Connector (40-pin block): IDE1
 This connector connects to the next set of Master and Slave
 hard disks. Follow the same procedure described for the
 primary IDE connector.   You may also configure two hard disks to
 be both Masters using one ribbon cable on the primary IDE
 connector and another ribbon cable on the secondary IDE
 connector.

IDE1

Pin 1

Primary IDE Connector

- Two hard disks can be connected to each connector. The first
  HDD is referred to as the "Master" and the second HDD is referred
  to as the "Slave".
- For performance issues, we strongly suggest you don't install a CD-ROM or DVD-ROM
  drive on the same IDE channel as a hard disk.   Otherwise, the system performance on this
  channel may drop.

(9)   Serial-ATA Port connector:
 SATA1 / SATA2 / SATA3/ SATA4
 These connectors support the provided Serial
 ATA and Serial ATA2 IDE hard disk cable to
 connecting the motherboard and serial ATA
 hard disk.

SATA4

SATA3

SATA2

SATA1
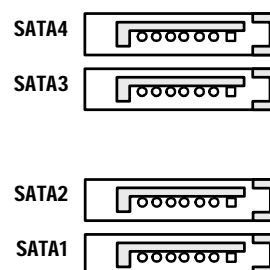
Serial-ATA1 & 2 Compatible Connectors

(10)   D-Sub 15-pin Connector: VGA
 VGA is the 15-pin D-Subminiature female connector; it is for the display devices, such
 as the CRT monitor, LCD monitor and so on.

(11)   DVI: Digital Visual Interface **(Optional)**
 This interface standard designed to maximize the visual quality of digital display
 devices such as flat panel LCD computer displays and digital projectors.

(12)   HDMI: High-Definition Multimedia Interface **(Optional)**
 This point-to-point interface is for audio and video signals designed as a single-cable
 solution for home theater and consumer electronics equipment.

Headers

(1) Line-Out/MIC Header for Front Panel (9-pin): AUDIO1

These headers connect to Front Panel Line-out, MIC connector with cable.   Without install the cable, this header default setting is 5-6 short, 9-10 short. When you install the cable you have take off these jumpers.
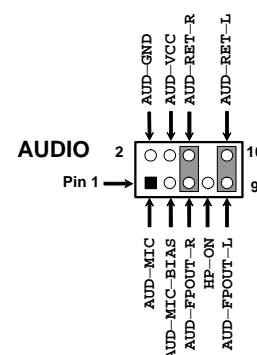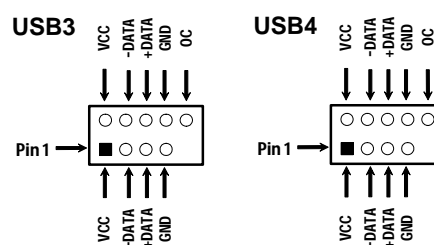

Line-Out, MIC Headers

(2) USB Port Headers (9-pin) :

USB3 / USB4

These headers are used for connecting the additional USB port plug.   By attaching an option USB cable, your can be provided with two additional USB plugs affixed to the back panel.

USB Port Headers

(3) Speaker connector: SPEAK1

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

(4) Power LED: PWR LED1

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

(5) IDE Activity LED: HD LED

This connector connects to the hard disk activity indicator light on the case.

(6) Reset switch lead: RESET

This 2-pin connector connects to the case-mounted reset switch for rebooting your computer without having to turn off your power switch.   This is a preferred method of rebooting in order to prolong the lift of the system's power supply.   See the figure below.
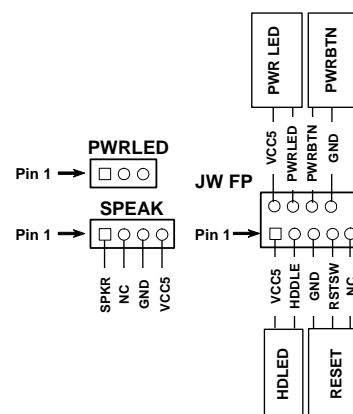

System Case Connections

(7) Power switch: PWR BTN

This 2-pin connector connects to the case-mounted power switch to power ON/OFF the system.

(8) FAN Power Headers: SYSFAN1, SYSFAN2 (3-pin), CPUFAN (4-pin)

These connectors support cooling fans of 350mA (4.2 Watts) or less, depending on the fan manufacturer, the wire and plug may be different. The red wire should be positive, while the black should be ground. Connect the fan's plug to the board taking into consideration the polarity of connector.

FAN Power Headers
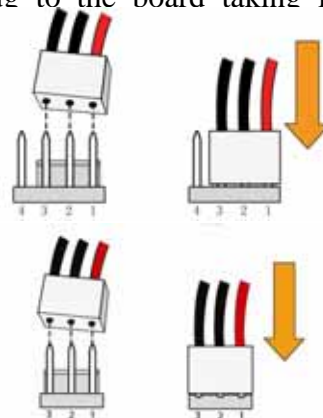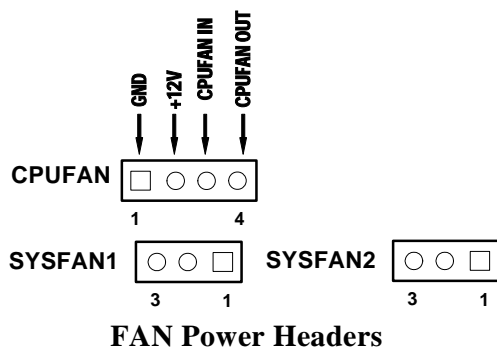
(9) CD Audio-In Headers (4-pin) : CDIN

CDIN are the connectors for CD-Audio Input signal. Please connect it to CD-ROM CD-Audio output connector.
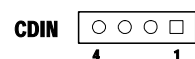
CD Audio-In Headers

(10) Parallel Port Header (25-pin male): PARALLEL1

The On-board Parallel Port can be disabled through the BIOS SETUP.

Pin 1
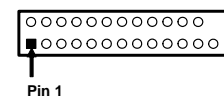
PARALLEL

(11) Serial COM Port Header: COM1

COM1 is the 9-pin block pin-header. The On-board serial port can be disabled through BIOS SETUP.

Pin1
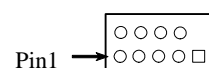
Serial COM Port 9-pin Block

(12) TV-OUT Header

TV-OUT is the 9-pin block pin-header. TV-out is commonly used to label the connector of equipment offering an analog video signal that is acceptable for a television AV input.

Pin1

TV-OUT Conn. 9-pin Block

BIOS & SETUP

BIOS Setup Utility

About the Phoenix-Award BIOS Setup Utility

The motherboard uses the latest Award BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basin Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

> **Hard drives, diskette drivers and peripherals**
> **Video display type and display options**
> **Password protection to prevent unauthorized use**
> **Power Management features**

The settings made in the Setup Utility affect how the computer performs. Before using the Setup utility, ensure that you understand the Setup Utility options.

The Standard Configuration
A standard configuration has already been set in the Setup Utility. However, we recommend that you understand to make any changes in the feature.

This Setup Utility should be used:

- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

Entering the Setup Utility
When you power on the system, BIOS enters the Power-On Self Test (POST) routines.

POST is a series of build-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Main Menu

Once you enter the Award BIOS CMOS Setup Utility, the Main Menu will appear one the screen. The Main Menu allows you to select from various setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

Phoenix – AwardBIOS CMOS Setup Utility

▶ Standard CMOS Features	▶ Power User Overclocking Settings
▶ Advanced BIOS Features	▶ CPU Thermal Throtting Setup
▶ Advanced Chipset Fetures	▶ Password Settings
▶ Integrated Peripherals	Load Failed-Safe Default
▶ Power Management Setup	Load Optimized Default
▶ PnP / PCI Configurations	Save & Exit Setup
▶ PC Health Status	Exit without Saving

ESC : Quit   ♦♦♦♦ : Select Item
F10 : Save & Exit Setup

Time, Date, Hard Disk Type ……

(Note: The sample BIOS Setup Menu included here only shows a typical case, and may not be exactly the same as the one on your unit.)

Note that a brief description of each highlighted item will appear at the bottom of the screen.

Setup SATA RAID

Press the delete key accessed the BIOS Setup Utility.

When you have entered, the Main Menu appears on the screen. Use the arrow keys to select the item " Integrated Peripherals" and press the <Enter> key to accept. Use the arrow keys to select the item "South OnChip IDE Device" and press the <Enter> key to accept. After that, use the arrow keys to set the item " ATI SATA Type" to "RAID"

Creat a Bootable Logical Drive

‧ Description

‧ Create a Logical Drive

Description

A logical drive appears to the computer as a single hard disk drive. As a result, you can install your operating system onto a logical drive and boot your computer from the logical drive. The following steps describe how to create a bootable logical drive.

Create a Logical Drive

You will now use the onboard FastBuild BIOS utility ot create a logical drive.

1. Boot your system. If this is the first time you have booted with the disk drives installed, the ATI onboard BIOS will display the following screen (below).

RAID AHCI ™ BIOS Version 2.5.1540.18

© 2004-2005 ATI Technology , Inc. All rights reserved.

No Array is defined…

Press <Ctrl-F> to enter FastBuild ™ Utility…

---

2. Press the **Ctrl-F** keys to display the FastBuild Utility Main Menu (below).

FastBuild ™ Utility © 2004-2005 ATI Technology, Inc.

<div align="center">

Main Menu

Viov Drive Assignments.…...[1]

Define LD……...….……...[2]

Delete LD…………………..[3]

Controller Configuration…...[4]

Keys Available
</div>

Press 1...4 to select option   [Esc]….Exit

---

3. Press **2** on the Main Menu screen to display the Define LD Menu (below).

FastBuild ™ Utility © 2004-2005 ATI Technology, Inc.

Define LD Menu

LD No	RAID Mode	Total Drv	Capacity (MB)	Status
LD 1	----	----	----	----
LD 2	----	----	----	----
LD 3	----	----	----	----
LD 4	----	----	----	----
LD 5	----	----	----	----
LD 6	----	----	----	----
LD 7	----	----	----	----
LD 8	----	----	----	----

```
                          Keys Available
    [↑] UP          [↓] Down          [Esc] Exit          [Enter] Select
```

4. Press the arrow keys to highlight an logical drive number you want to defines and press **Enter** to select it.

    The Define LD Menu for the logical drive number you selected will next appear (below).

```
FastBuild ™ Utility © 2004-2005 ATI Technology, Inc.

                  Define LD Menu
    LD No          RAID Mode          Total Drv
    LD 1           RAID 1                2


    Stripe Block: NA                        Fast Init: OFF
    Gigabyte Boundary: ON                   Cache Mode: Write Back
```

Drive Assignments

Channel ID	Drive Model	Capacity (MB)	Assignment
1:	Mas ST380013AS	80027	Y
2:	Mas ST380013AS	80027	Y
3:	Mas ST380013AS	80027	N
4:	Mas ST380013AS	80027	N

```
                          Keys Available
    [↑] UP        [↓] Down      [Esc] Exit     [Space] Change Option   [Ctrl-Y] Save
```

5. Choose the RAID Level you want. In the Define LD Menu section, press the Space bar to cycle through logical drive types:

    • RAID 0 (Stripe)

    • RAID 1 (Mirror)

    • RAID 10 (Stripe / Mirror)

NOTE: While you can use any available RAID Level for your bootable logical drive, ATI recommends RAID 1 for most applications.

6. Press the arrow keys to move to the next option. Option choices depend on th RAID Level you selected.

    • Initialize logical drive , zero the disk drives. RADI 1 or 10 only

    • Stripe Block Size, the default 64KB is best for most applications. RAID 0 or 10 only.

    • Gigabyte Boundary, allows use of slightly smaller replacement drives.

    • Cache Mode, WriteThru or WriteBack.

7.   Press the arrow keys to move to Disk Assignments. Press the space bar to toggle between N and Y for each available drive. Y means this disk drive will be assigned to the logical drive.

Assign the appropriate number of disk drives to your logical drive.

8.   Press **Ctrl-Y** to save your logical drive configuration.

You have the option of using all of the disk drive capacity for one logical drive or allocating a portion to a second logical drive.

> Press Ctrl-Y to modify Array Capacity or press any other Key to use Maximum Capacity …

Choose one of the following actions:

    • Use the full capacity of the disk drives for a single logical drive. Go to "One Logical Drive" below.

    • Split the disk drives among two logical drives. Go to "Two Logical Drives" below.

One Logical Drive

Continued from Create a Logical Drive step 8, above.

1.   Press any key (except for **Ctrl-Y**) to use the full portion of the logical drive for one logical drive.

2.   Press **Esc** to exit to the Main Menu. Press **Esc** again to exit the Utility.

3.   Press **Y** to restart the computer.

You have successfully created a new RAID logical drive.

Two Logical Drives

Continued from Create Logical Drive Step 8, above.

1.   Press **Ctrl-Y** to allocate a portion of the disk drives to the first logical drives.

> FastBuild ™ Utility © 2004-2005 ATI Technology, Inc.

```
            Define LD Menu
  LD No          RAID Mode      Total Drv
  LD 1           RAID 1              2
  Stripe Block: NA                         Fast Init: OFF
  Gigabyte Boundary: ON                    Cache Mode: Write Back
 Drive Assignments
Channel ID         Drive Model          Capacity (MB)          Assignment
     1:        Mas ST380013AS              80027                   Y
     2:        Mas ST3┌──────────────────────────────────────┐Y
     3:        Mas ST3│ Enter array capacity (in MB) here: 100000 │N
     4:        Mas ST380013AS              80027               N
                             Keys Available
     [↑] UP       [↓] Down       [Esc] Exit     [Space] Change Option   [Ctrl-Y] Save
```

2. Enter the desired capacity in MB for the first logical drive and press **Enter.**

The Define LD Menu displays again.

FastBuild ™ Utility © 2004-2005 ATI Technology, Inc.				
Define LD Menu				
LD No	RAID Mode	Total Drv	Capacity (MB)	Status
LD 1	RAID 1	2	10000	Functional
LD 2	----	----	----	----
LD 3	----	----	----	----
LD 4	----	----	----	----
LD 5	----	----	----	----
LD 6	----	----	----	----
LD 7	----	----	----	----
LD 8	----	----	----	----
Keys Available				
[↑] UP	[↓] Down	[Esc] Exit	[Enter] Select	

3. Press the up and down arrow keys to select an available logical drive number and press **Enter**.

FastBuild ™ Utility © 2004-2005 ATI Technology, Inc.

```
              Define LD Menu
  LD No         RAID Mode        Total Drv
  LD 1          RAID 1           2


  Stripe Block: NA                       Fast Init: OFF
  Gigabyte Boundary: ON                  Cache Mode: Write Back

  Drive Assignments
Channel ID         Drive Model        Capacity (MB)        Assignment
    1:           Mas ST380013AS          39960                 Y
    2:           Mas ST380013AS          39960                 Y
    3:           Mas ST380013AS          80027                 N
    4:           Mas ST380013AS          80027                 N

                              Keys Available
   [↑] UP       [↓] Down      [Esc] Exit     [Space] Change Option    [Ctrl-Y] Save
```

4. Choose the RAID level and options for the second logical drive.

Note that the disk drives in Channels 1 and 2 reflect smaller capacities because a portion of their capacity belongs the first logical drive.

In this example the disk drives in Channels 3 and 4 are not assigned to a logical drive.

5. Press **Ctrl-Y** to save your logical drive configuration.

6. Press **Ecs** to exit to the Main Menu. Press **Esc** again to exit the Utility.

7. Press **Y** to restart the computer.

You have successfully created a new RAID logical drive.

BIOS/FLASH Update Procedure

Before updating the BIOS, users have to "Disable" the "Flash Part Write Protect" selection in "PnP / PCI Configurations" of BIOS SETUP. Otherwise the system the will not allow you to upgrade BIOS by Award Flash Utility.

STEP 1. Prepare a DOS bootable diskette. (you may make one by click START click RUN type SYS A:click OK)

STEP 2. Copy utility program to your DOS bootable diskette. You may copy from DRIVER CD X:\FLASH\AWDFLASH.EXE or download from our web site.

STEP 3. Download and make a copy of the latest BIOS from the web site to your DOS bootable diskette.

STEP 4. Insert your DOS boot diskette into A:,
start the computer, type "Awdflash A:\ XXXX.BIN /SN/PY/CC/R"
XXXX .BIN is the file name of latest BIOS
SN   means   don't save existing BIOS data
PY   means   renew existing BIOS data
CC   means   clear existing CMOS data
R   means   restart computer
You can type "Awdflash /? To list all switch and command definitions.

STEP 5. Push ENTER to update and flash the BIOS, then the system will restart automatically.

Trouble Shooting

Problem	Solution
No power to the system to the all power light don't illuminate, fan inside power supply doesn't turn on.	1. Make sure power cable is security 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 ever pressure on both ends of the DIMM , press down firmly until the module snaps into places.
System doesn't 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 date and applications files. 2. Reformat the hard drive. Reinstall applications and date using backup disks.
Screen message says "Invalid Configuration" or "CMOS Failure"	Review system 's equipment .Make sure correct information on is in setup.
Can not 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 manufacture for compatibility with other drives.