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## **CHAPTER 1: INTRODUCTION**

### **1.1 BEFORE YOU START**

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

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

### **1.2 PACKAGE CHECKLIST**

- ✦ HDD Cable X 1
- ✦ Serial ATA 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.

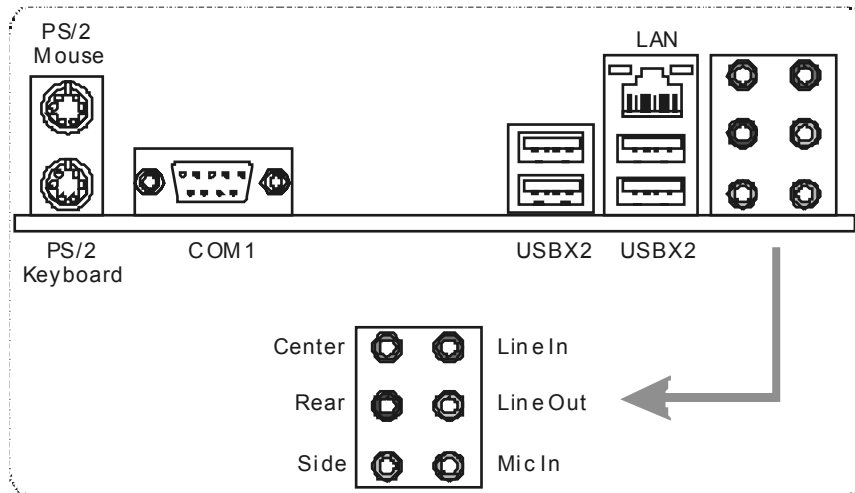
### 1.3 MOTHERBOARD FEATURES

|             | <i>NF560-A2G</i>   | <i>NF520-A2G</i>   |
|-------------|--|--|
| CPU         | Socket AM2<br>AMDAthlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron processors<br>AMD 64 Architecture enables 32 and 64 bit computing<br>Supports Hyper Transport and Cool'nQuiet                                     | Socket AM2<br>AMDAthlon 64 / Athlon 64 FX / Athlon 64 X2 / Sempron processors<br>AMD 64 Architecture enables 32 and 64 bit computing<br>Supports Hyper Transport and Cool'nQuiet                                     |
| FSB         | Support HyperTransport<br>Supports up to 1GHz Bandwidth  | Support HyperTransport<br>Supports up to 1GHz Bandwidth  |
| Chipset     | nVIDIA nForce 560  | nVIDIA nForce 520  |
| Super I/O   | ITE 8716F<br>Provides the most commonly used legacy Super I/O functionality<br>Low Pin Count Interface<br>Environment Control initiatives,<br>H/W Monitor<br>Fan Speed Controller<br>ITE's "Smart Guardian" function | ITE 8716F<br>Provides the most commonly used legacy Super I/O functionality<br>Low Pin Count Interface<br>Environment Control initiatives,<br>H/W Monitor<br>Fan Speed Controller<br>ITE's "Smart Guardian" function |
| Main Memory | DDR2 DIMM Slot x 4<br>Each DIMM supports 256/512/1024/2048 MB DDR2<br>Max Memory Capacity 8G<br>Dual Channel Mode DDR2 memory module<br>Supports DDR2 533/667/800<br>Registered DIMM and ECC DIMM is not supported   | DDR2 DIMM Slot x 4<br>Each DIMM supports 256/512/1024/2048 MB DDR2<br>Max Memory Capacity 8G<br>Dual Channel Mode DDR2 memory module<br>Supports DDR2 533/667/800<br>Registered DIMM and ECC DIMM is not supported   |
| IDE         | Integrated IDE Controller<br>Ultra DMA 33 / 66 / 100 / 133 Bus Master Mode supports PIO Mode 0~4,  | Integrated IDE Controller<br>Ultra DMA 33 / 66 / 100 / 133 Bus Master Mode supports PIO Mode 0~4,  |
| SATA        | Integrated Serial ATA Controller<br>Data transfer rates up to 3.0 Gb/s.<br>SATA Version 2.0 specification compliant.   | Integrated Serial ATA Controller<br>Data transfer rates up to 3.0 Gb/s.<br>SATA Version 2.0 specification compliant.   |
| LAN         | Marvell 88E8056 / 88E8039 (optional)<br>10 / 100 Mb/s / 1Gb/s auto negotiation (Ggabit bandwidth is for Marvell 88E8056 only)<br>Half / Full duplex capability   | Marvell 88E8056 / 88E8039 (optional)<br>10 / 100 Mb/s / 1Gb/s auto negotiation (Ggabit bandwidth is for Marvell 88E8056 only)<br>Half / Full duplex capability   |

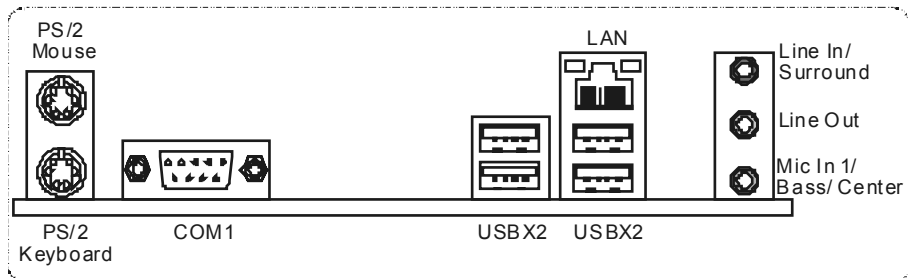
NF560-A2G/NF520-A2G

|                    | NF560-A2G  | NF520-A2G  |
|--------------------|--|--|
| Sound              | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>7.1 channels audio out (ALC888)<br>5.1 channels audio out (ALC662)<br>Supports HD Audio   | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>7.1 channels audio out (ALC888)<br>5.1 channels audio out (ALC662)<br>Supports HD Audio   |
| Slots              | PCI slot x3<br>PCI Express x16 slot x1<br>PCI Express x 1 slot x2  | PCI slot x3<br>PCI Express x16 slot x1<br>PCI Express x 1 slot x2  |
| On Board Connector | Floppy Connector x1<br>Printer Port Connector x1<br>IDE Connector x1<br>SATA Connector x4<br>Front Panel Connector x1<br>Front Audio Connector x1<br>CD-in Connector x1<br>S/PDIF out Connector x1<br>CPU Fan Header x1<br>System Fan Header x1<br>USB Connector x3<br>CMOS clear Header x1<br>Power Connector (24pin) x1<br>Power Connector (4pin) x1 | Floppy Connector x1<br>Printer Port Connector x1<br>IDE Connector x1<br>SATA Connector x4<br>Front Panel Connector x1<br>Front Audio Connector x1<br>CD-in Connector x1<br>S/PDIF out Connector x1<br>CPU Fan Header x1<br>System Fan Header x1<br>USB Connector x3<br>CMOS clear Header x1<br>Power Connector (24pin) x1<br>Power Connector (4pin) x1 |
| Back Panel I/O     | PS/2 Keyboard x1<br>PS/2 Mouse x1<br>Serial Port x1<br>LAN port x1<br>USB Port x4<br>Audio Jack (Ver 5.x) x6<br>Audio Jack (Ver 6.x) x3  | PS/2 Keyboard x1<br>PS/2 Mouse x1<br>Serial Port x1<br>LAN port x1<br>USB Port x4<br>Audio Jack (Ver 5.x) x6<br>Audio Jack (Ver 6.x) x3  |
| Board Size         | 200 mm (W) x 293 mm (L)  | 200 mm (W) x 293 mm (L)  |
| Special Feature    | RAID 0 / 1 / 0+1 / 5 support   | RAID 0 / 1 / 0+1 support   |
| OS Support         | Windows 2000 / XP / VISTA<br>Biostar Reserves the right to add or remove support for any OS with or without notice.  | Windows 2000 / XP / VISTA<br>Biostar Reserves the right to add or remove support for any OS with or without notice.  |

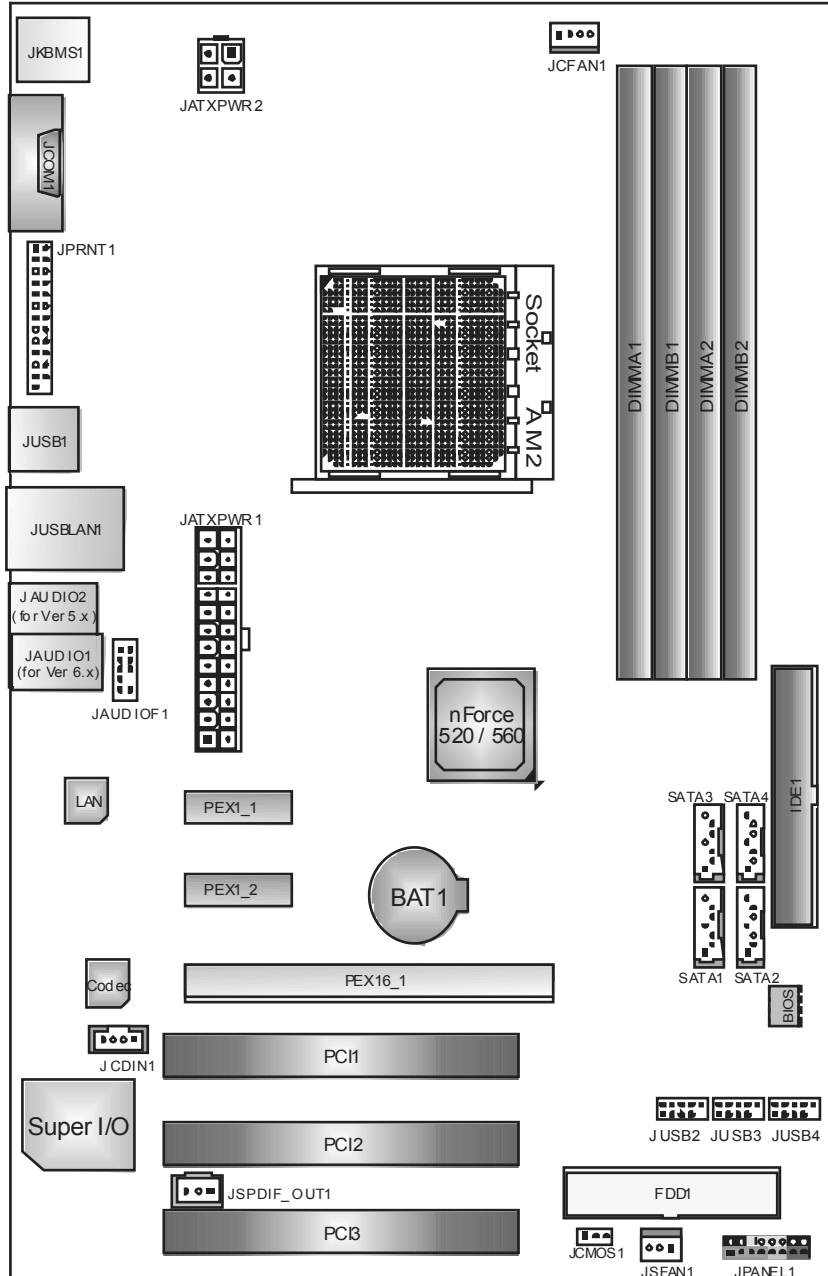
### 1.4 REAR PANEL CONNECTORS (FOR VER 5.x)



### 1.5 REAR PANEL CONNECTORS (FOR VER 6.x)



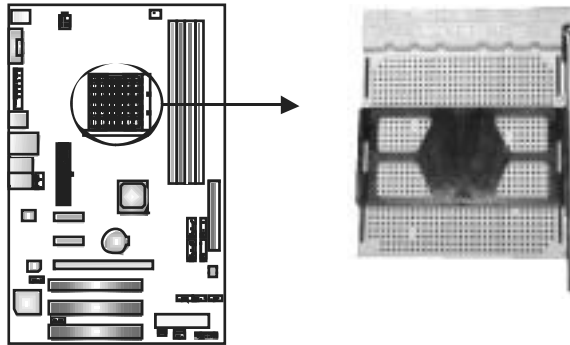
## 1.6 MOTHERBOARD LAYOUT



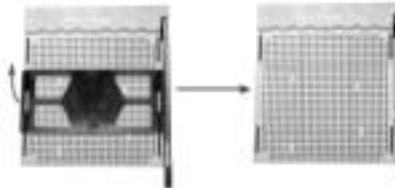
**Note:** ■ represents the 1<sup>st</sup> pin.

## **CHAPTER 2: HARDWARE INSTALLATION**

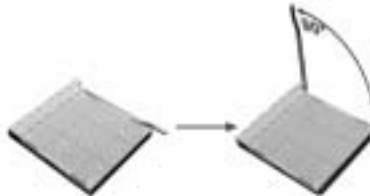
### **2.1 INSTALLING CENTRAL PROCESSING UNIT (CPU)**



**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.

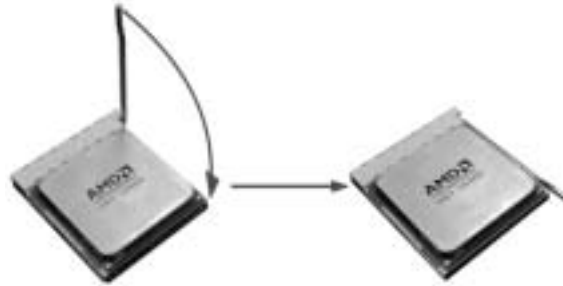


**Step 3:** Look for the white triangle on socket, and the gold triangle on CPU should point forwards this white triangle. The CPU will fit only in the correct orientation.





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

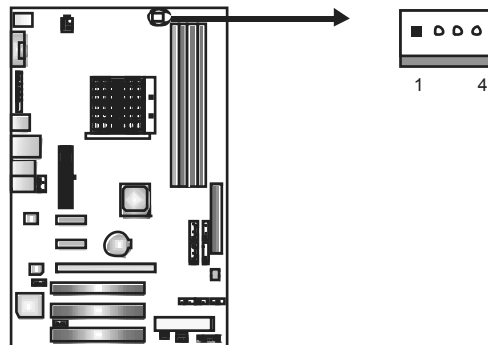


**Step 5:** Put the CPU Fan on the CPU and buckle it. Connect the CPU FAN power cable to the JCFAN1. This completes the installation.

## 2.2 FAN HEADERS

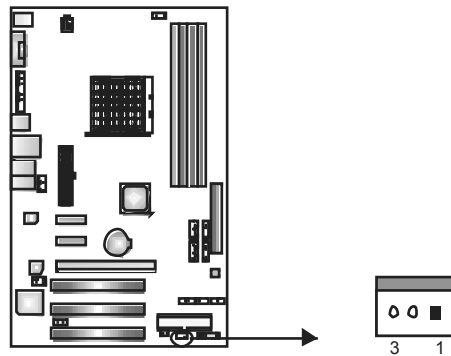
These fan headers support cooling-fans built in the computer. The fan cable and connector may be different according to the fan manufacturer. Connect the fan cable to the connector while matching the black wire to pin#1.

### JCFAN1: CPU Fan Header



| Pin | Assignment         |
|-----|--------------------|
| 1   | Ground             |
| 2   | +12V               |
| 3   | FAN RPM rate sense |
| 4   | Smart Fan Control  |

### JSFAN1: System Fan Header



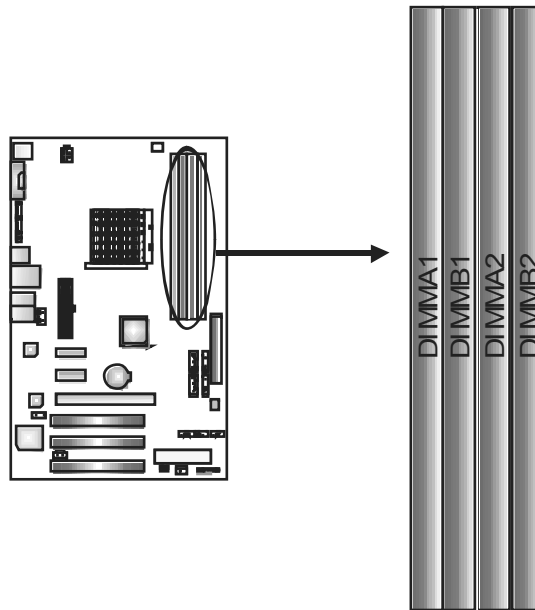
| Pin | Assignment         |
|-----|--------------------|
| 1   | Ground             |
| 2   | +12V               |
| 3   | FAN RPM rate sense |

**Note:**

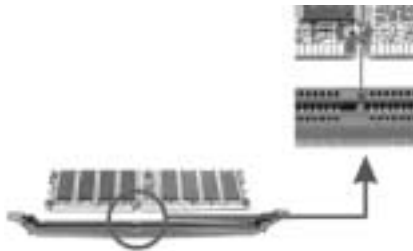
The JCFAN1 supports 4-pin head connector, and JSFAN1s supports 3-pin head connector. When connecting with wires onto connectors, please note that the red wire is the positive and should be connected to pin#2, and the black wire is Ground and should be connected to GND.

## 2.3 INSTALLING SYSTEM MEMORY

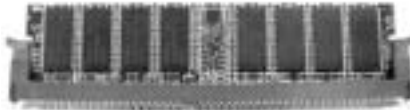
### A. Memory Modules



1. Unlock a DIMM slot by pressing the retaining dips 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               | 256MB/512MB/1024MB/2048MB | Max is 8GB.       |
| DIMMB1               | 256MB/512MB/1024MB/2048MB |                   |
| DIMMA2               | 256MB/512MB/1024MB/2048MB |                   |
| DIMMB2               | 256MB/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      |

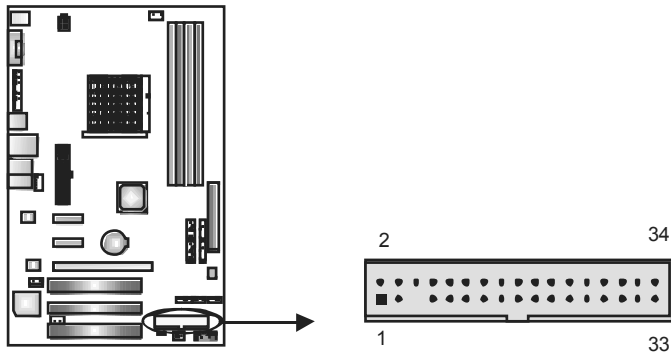
(O means memory installed, X means memory not installed.)

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

## 2.4 CONNECTORS AND SLOTS

### FDD1: Floppy Disk Connector

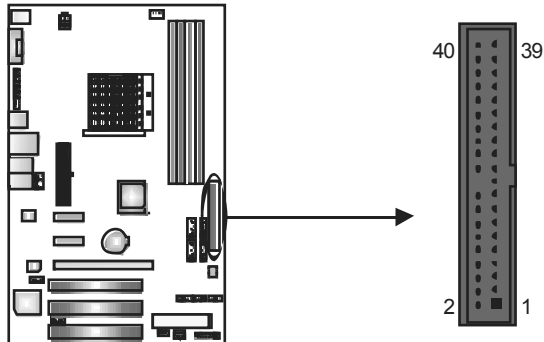
The motherboard provides a standard floppy disk connector that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the provided floppy drive ribbon cables.



### IDE1: Hard Disk Connector

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

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

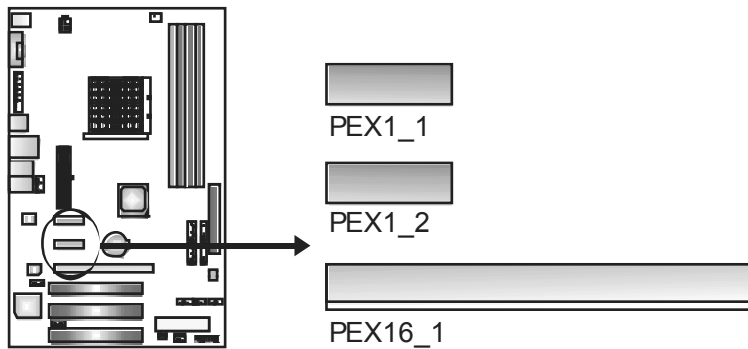


**PEX16\_1: PCI-Express x16 Slot**

- PCI-Express 1.0a compliant.
- Maximum theoretical realized bandwidth of 4GB/s simultaneously per direction, for an aggregate of 8GB/s totally.

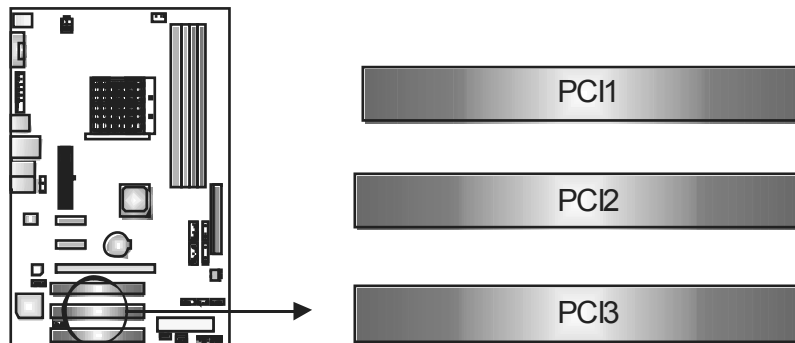
**PEX1\_1/ PEX1\_2: PCI-Express x1 Slots**

- PCI-Express 1.0a compliant.
- Data transfer bandwidth up to 250MB/s per direction; 500MB/s in total.
- PCI-Express supports a raw bit-rate of 2.5Gb/s on the data pins.
- 2X bandwidth over the traditional PCI architecture.



**PCI1/PCI2/PC3: 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

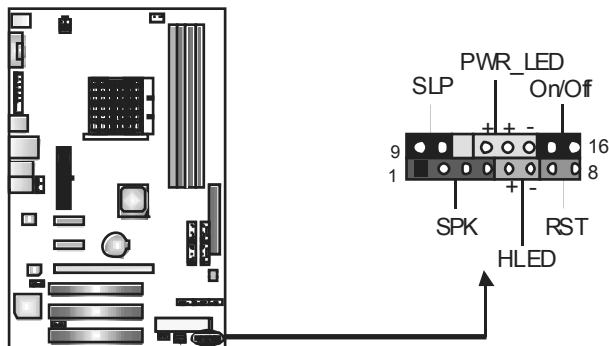
The illustration shows how to set up jumpers. When the jumper cap is placed on pins, the jumper is “close”, if not, that means the jumper is “open”.



### 3.2 DETAIL SETTINGS

#### JPANEL1: Front Panel Header

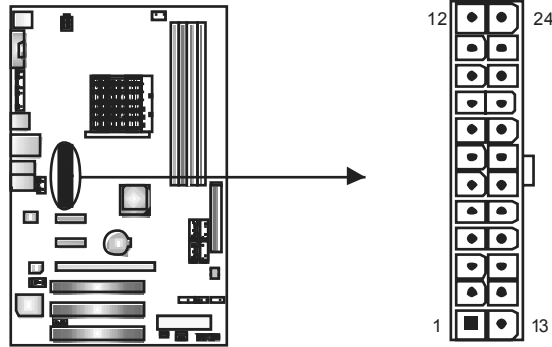
This 16-pin connector includes Power-on, Reset, HDD LED, Power LED, Sleep button, speaker Connection. It allows user to connect the PC case's front panel switch functions.



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

**ATX Power Source Connector: JATXPWR1**

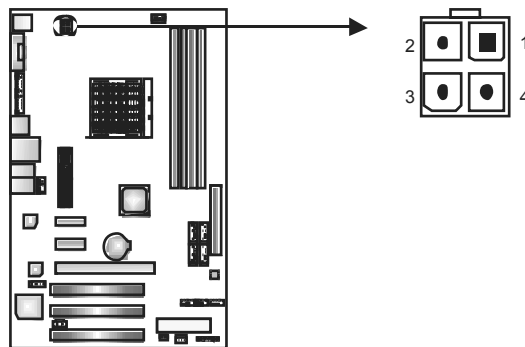
JATXPWR1 allows user to connect 24-pin power connector on the ATX power supply.



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

**JATXPWR2: ATX Power Source Connector**

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

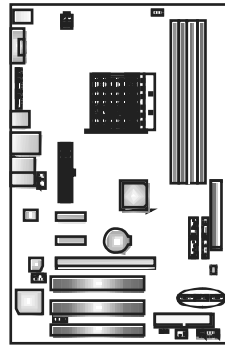


| Pin | Assignment |
|-----|------------|
| 1   | +12V       |
| 2   | +12V       |
| 3   | Ground     |
| 4   | Ground     |

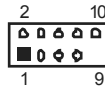


**JUSB2/JUSB3/JUSB4: Headers for USB 2.0 Ports at Front Panel**

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.



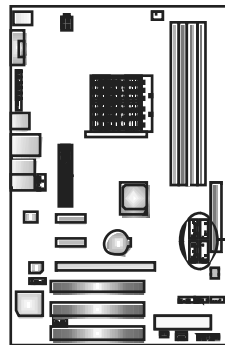
JUSB2 JUSB3 JUSB4



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

**SATA1/SATA2/SATA3/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.



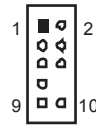
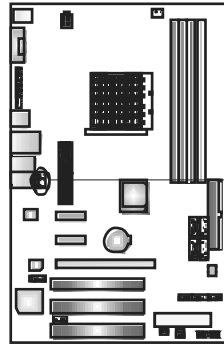
SATA3 SATA4  
SATA1 SATA2



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

**JAUDIO F1: Front Panel Audio Header**

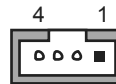
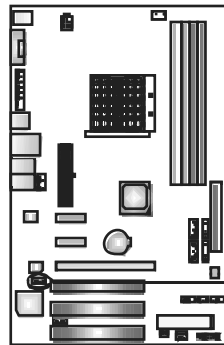
This header allows user to connect the front audio output cable with the PC front panel. It will disable the output on back panel audio connectors.



| 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**

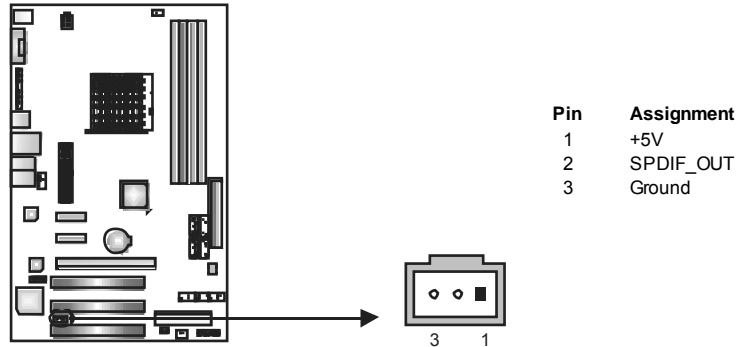
This connector allows user to connect the audio source from the variety devices, like CD-ROM, DVD-ROM, PCI sound card, PCI TV turner card etc.



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

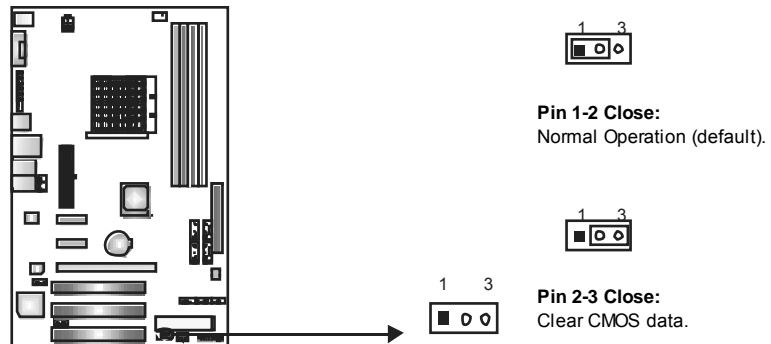
### JSPDIF\_OUT1: Digital Audio-out Connector

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



### 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.

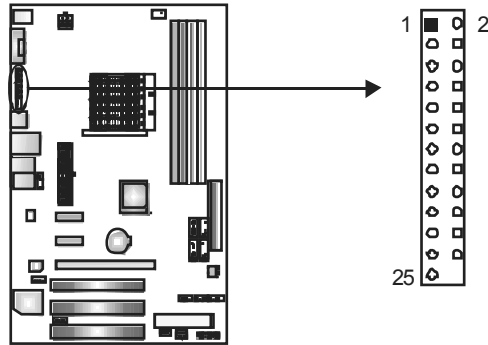


#### ※ Clear CMOS Procedures:

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 connect printer on the PC.



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

## CHAPTER 4: NVIDIA RAID FUNCTIONS

### 4.1 OPERATION SYSTEM

- Supports Windows XP Home/Professional Edition, and Windows 2000 Professional.

### 4.2 RAID ARRAYS

NVRAID 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 0+1:** RAID 0+1 combines the techniques used in RAID 0 and RAID 1.

**RAID 5:** RAID 5 provides fault tolerance and better utilization of disk capacity.

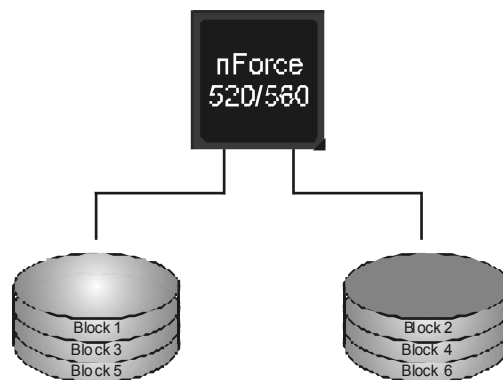
### 4.3 HOW RAID WORKS

#### 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.

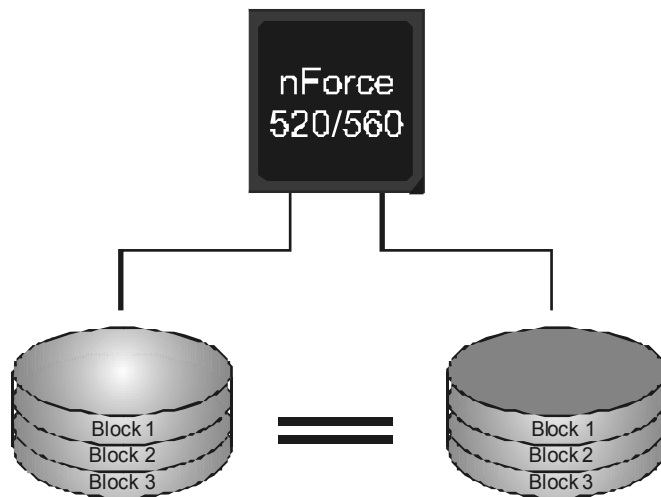


**RAID 1:**

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.

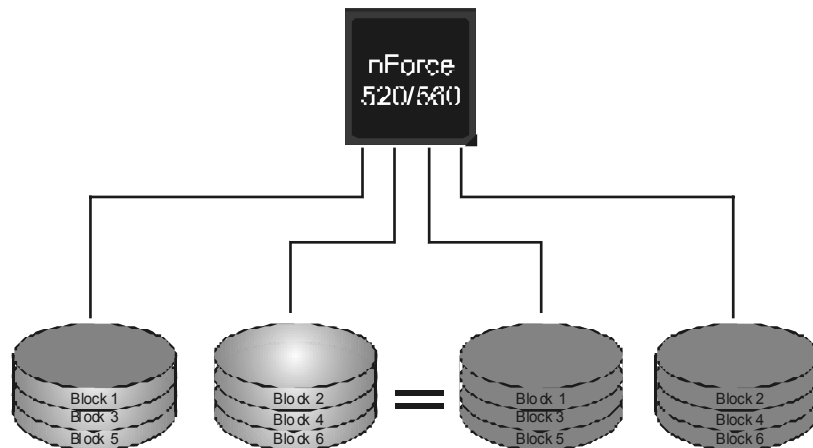


**RAID 0+1:**

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.

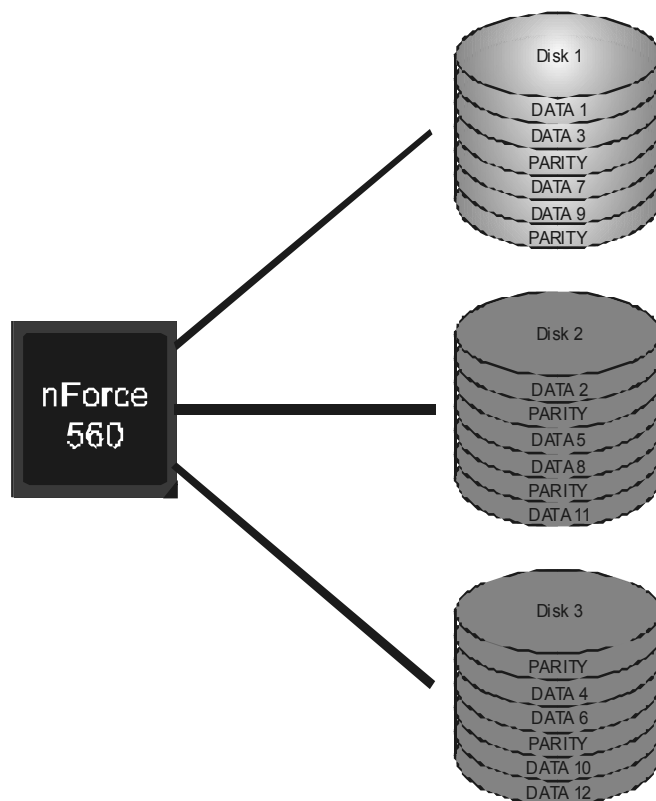


**RAID 5:**

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.



※ For more detailed setup information, please refer to the Driver CD, or go to [http://www.nvidia.com/page/pg\\_20011106217193.html](http://www.nvidia.com/page/pg_20011106217193.html) to download NVIDIA nForce Tutorial Flash.



## CHAPTER 5: USEFUL HELP

### 5.1 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 **SETUPEXE** 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>

## 5.2 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<br>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                           |

## 5.3 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.

## 5.4 TROUBLESHOOTING

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

## **CHAPTER 6: WARPSPEEDER™ III**



### **6.1 INTRODUCTION**

[WarpSpeeder™ III], a new powerful control utility, features three user-friendly functions including Overclock Manager, Overvoltage Manager, and Hardware Monitor.

With the Overclock Manager, users can easily adjust the frequency they prefer or they can get the best CPU performance with just one click. The Overvoltage Manager, on the other hand, helps to power up CPU core voltage and Memory voltage. The cool Hardware Monitor smartly indicates the temperatures, voltage and CPU fan speed as well as the chipset information. Also, in the About panel, you can get detail descriptions about BIOS model and chipsets. In addition, the frequency status of CPU, memory, VGA and PCI along with the CPU speed are synchronically shown on our main panel.

Moreover, to protect users' computer systems if the setting is not appropriate when testing and results in system fail or hang, [WarpSpeeder™ III] technology assures the system stability by automatically rebooting the computer and then restart to a speed that is either the original system speed or a suitable one.

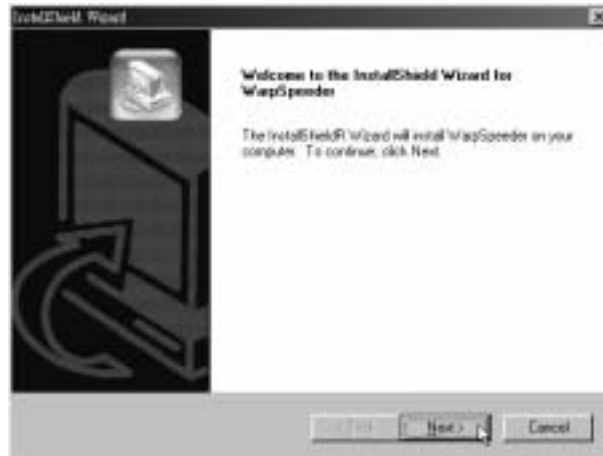
### **6.2 SYSTEM REQUIREMENT**

OS Support: Windows 98 SE, Windows Me, Windows 2000, Windows XP, Windows Vista

DirectX: DirectX 8.1 or above. (The Windows XP operating system includes DirectX 8.1. If you use Windows XP, you do not need to install DirectX 8.1.)

## 6.3 INSTALLATION

1. Execute the setup execution file, and then the following dialog will pop up. Please click “Next” button and follow the default procedure to install.



2. When you see the following dialog in setup procedure, it means setup is completed. Click “Finish” button.



### Usage:

The following figures are only for reference, the screen printed in this user manual will change according to your motherboard on hand.

## 6.4 WARPSPEEDER™ III

### 1. Desktop Icon

After the [WarpSpeeder™ III] has been installed, a [WarpSpeeder™ III] icon will appear on the desktop, just like the icon shown below.



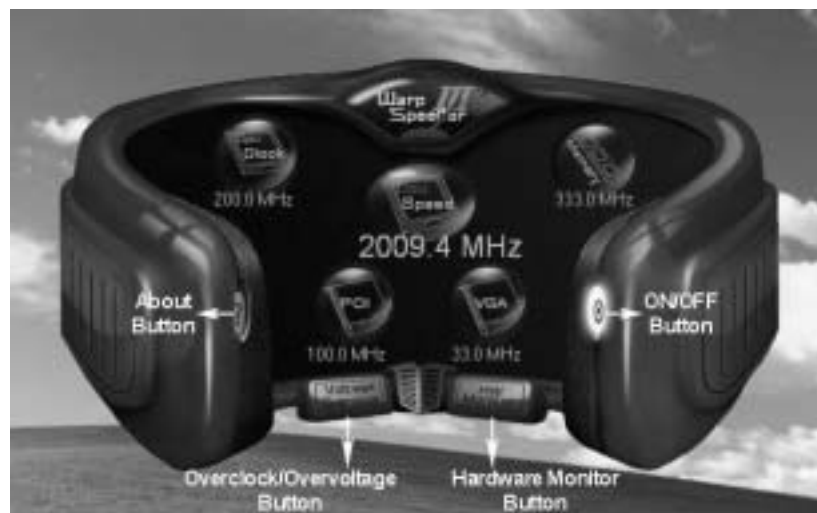
Now you can launch the [WarpSpeeder™ III] utility simply by double-clicking the desktop icon.

### 2. Main Panel

If you double-click the desktop icon, [WarpSpeeder™ III] 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 dock, VGA clock, and PCI dock information.
- b. Contains About, Voltage/Overdock, 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 right side, and the Overvoltage Panel is on the left side.



**Overclock Panel contains these features:**

a. “Auto-Overdock”:

User can click this button and [WarpSpeeder™ III] 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 proceed.



Then [WarpSpeeder™ III] 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 [WarpSpeeder™ III] 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 [WarpSpeeder™ III] 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 [WarpSpeeder™ III] utility will restore to the hardware default setting.

**Warning:**

Manually overclock is potentially dangerous, especially when the overlocking percentage is over 110 %. We strongly recommend you verify every speed you overclock by click the Verify button. Or, you can just click Auto overlock button and let [WarpSpeeder™ III] automatically gets the best result for you.

c. “V3 Engine”/“V6 Engine”/“V9 Engine”:

Provide user the ability to do real-time overdock adjustment.

d. “Recovery”:

Click this button and the [WarpSpeeder™ III] utility will restore all values to the hardware default setting.



**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.

**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 [WarpSpeeder™ III] utility.



**Note:**

Because the overclock, overvoltage, and hardware monitor features are controlled by several separate chipset, [WarpSpeeder™ III] divide these features to separate panels. If one chipset is not on board, the correlative button in Main panel will be disabled, but will not interfere other panels' functions. This property can make [WarpSpeeder™ III] utility more robust.

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**APPENDENCIES: SPEC IN OTHER LANGUAGE****GERMAN**

|                     | <i>NF560-A2G</i>  | <i>NF520-A2G</i>  |
|---------------------|---|---|
| CPU                 | Socket AM2<br>AMD Athlon 64 / Athlon 64 FX / Athlon 64 x2/<br>Sempron Prozessoren<br>Die AMD 64-Architektur unterstützt eine 32-Bit-<br>und 64-Bit-Datenverarbeitung<br>Unterstützt Hyper Transport und Cool'nQuiet                             | Socket AM2<br>AMD Athlon 64 / Athlon 64 FX / Athlon 64 x2/<br>Sempron Prozessoren<br>Die AMD 64-Architektur unterstützt eine 32-Bit-<br>und 64-Bit-Datenverarbeitung<br>Unterstützt Hyper Transport und Cool'nQuiet                             |
| FSB                 | Unterstützt HyperTransport mit einer<br>Bandbreite von bis zu 1 GHz   | Unterstützt HyperTransport mit einer<br>Bandbreite von bis zu 1 GHz   |
| Chipsatz            | nVIDIA rForce 560   | nVIDIA rForce 520   |
| Super E/A           | ITE 8716F<br>Bietet die häufig verwendeten alten Super<br>E/A-Funktionen.<br>Low Pin Court-Schnittstelle<br>Umgebungs-kontrolle,<br>Hardware-Überwachung<br>Lüfterdrehzahl-Controller<br>"Smart Guardian"-Funktion von ITE                      | ITE 8716F<br>Bietet die häufig verwendeten alten Super<br>E/A-Funktionen.<br>Low Pin Court-Schnittstelle<br>Umgebungs-kontrolle,<br>Hardware-Überwachung<br>Lüfterdrehzahl-Controller<br>"Smart Guardian"-Funktion von ITE                      |
| Arbeitsspeiche<br>r | DDR2 DIMM-Steckplätze x 4<br>Jeder DIMM unterstützt 256MB/512MB/1GB/<br>2GB DDR2<br>Max. 8GB Arbeitsspeicher<br>Dual-Kanal DDR2 Speichermodul<br>Unterstützt DDR2 533 / 667 / 800<br>registrierte DIMMs. ECC DIMMs werden nicht<br>unterstützt. | DDR2 DIMM-Steckplätze x 4<br>Jeder DIMM unterstützt 256MB/512MB/1GB/<br>2GB DDR2<br>Max. 8GB Arbeitsspeicher<br>Dual-Kanal DDR2 Speichermodul<br>Unterstützt DDR2 533 / 667 / 800<br>registrierte DIMMs. ECC DIMMs werden nicht<br>unterstützt. |
| IDE                 | Integrierter IDE-Controller<br>Ultra DMA 33 / 66 / 100 / 133 Bus<br>Master-Modus<br>Unterstützt PIO-Modus 0~4,  | Integrierter IDE-Controller<br>Ultra DMA 33 / 66 / 100 / 133 Bus<br>Master-Modus<br>Unterstützt PIO-Modus 0~4,  |
| SATA II             | Integrierter Serial ATA-Controller<br>Datenübertragungsrate bis zu 3Gb/s<br>Konform mit der SATA-Spezifikation Version<br>2.0.  | Integrierter Serial ATA-Controller<br>Datenübertragungsrate bis zu 3Gb/s<br>Konform mit der SATA-Spezifikation Version<br>2.0.  |
| LAN                 | Marvell 88E8056 / 88E8039(optional)<br>10 / 100 / 1000 Mb/s Auto-Negotiation<br>(Gigabit-Bandbreite nur beim Marvell 88E8056)<br>Halb-/Voll-duplex-Funktion   | Marvell 88E8056 / 88E8039(optional)<br>10 / 100 / 1000 Mb/s Auto-Negotiation<br>(Gigabit-Bandbreite nur beim Marvell 88E8056)<br>Halb-/Voll-duplex-Funktion   |

|                   | NF560-A2G  | NF520-A2G  |
|-------------------|--|--|
| Audio-Codec       | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>7.1-Kanal-Audioausgabe (ALC888)<br>5.1-Kanal-Audioausgabe (ALC662)<br>Unterstützt High-DefinitionAudio  | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>7.1-Kanal-Audioausgabe (ALC888)<br>5.1-Kanal-Audioausgabe (ALC662)<br>Unterstützt High-DefinitionAudio  |
| Steckplätze       | PCI-Steckplatz x3<br>PCI Express x16 Steckplatz x1<br>PCI Express x 1-Steckplatz x2  | PCI-Steckplatz x3<br>PCI Express x16 Steckplatz x1<br>PCI Express x 1-Steckplatz x2  |
| Onboard-Anschluss | Diskettenlaufwerkanschluss x1<br>Druckeranschluss Anschluss x1<br>IDE-Anschluss x1<br>SATA-Anschluss x4<br>Fronttafelanschluss x1<br>Front-Audioanschluss x1<br>CD-IN-Anschluss x1<br>S/PDIF- Ausgangsanschluss x1<br>CPU-Lüfter-Sockel x1<br>System-Lüfter-Sockel x1<br>"CMOS löschen"-Sockel x1<br>USB-Anschluss x3<br>Stromanschluss (24-polig) x1<br>Stromanschluss (4-polig) x1 | Diskettenlaufwerkanschluss x1<br>Druckeranschluss Anschluss x1<br>IDE-Anschluss x1<br>SATA-Anschluss x4<br>Fronttafelanschluss x1<br>Front-Audioanschluss x1<br>CD-IN-Anschluss x1<br>S/PDIF- Ausgangsanschluss x1<br>CPU-Lüfter-Sockel x1<br>System-Lüfter-Sockel x1<br>"CMOS löschen"-Sockel x1<br>USB-Anschluss x3<br>Stromanschluss (24-polig) x1<br>Stromanschluss (4-polig) x1 |
| Rückseiten-E/A    | PS/2-Tastatur x1<br>PS/2-Maus x1<br>Serieller Anschluss x1<br>LAN-Anschluss x1<br>USB-Anschluss x4<br>Audioanschluss (Ver 5.x) x6<br>Audioanschluss (Ver 6.x) x3   | PS/2-Tastatur x1<br>PS/2-Maus x1<br>Serieller Anschluss x1<br>LAN-Anschluss x1<br>USB-Anschluss x4<br>Audioanschluss (Ver 5.x) x6<br>Audioanschluss (Ver 6.x) x3   |
| Platinengröße     | 200 mm (B) X 293mm (L)   | 200 mm (B) X 293mm (L)   |
| Sonderfunktionen  | Unterstützt RAID 0 / 1/ 0+1 / 5  | Unterstützt RAID 0 / 1/ 0+1  |
| OS-Unterstützung  | Windows 2K / XP / VISTA<br>Biostar behält sich das Recht vor, ohne Ankündigung die Unterstützung für ein Betriebssystem hinzuzufügen oder zu entfernen.  | Windows 2K / XP / VISTA<br>Biostar behält sich das Recht vor, ohne Ankündigung die Unterstützung für ein Betriebssystem hinzuzufügen oder zu entfernen.  |

## FRANCE

|                    | NF560-A2G   | NF520-A2G   |
|--------------------|---|---|
| UC                 | Socket AM2<br>Processeurs AMD Athlon 64 / Athlon 64 FX / Athlon 64 x2/ Sempron<br>L'architecture AMD 64 permet le calcul 32 et 64 bits<br>Prend en charge Hyper Transport et Cod'nQuiet   | Socket AM2<br>Processeurs AMD Athlon 64 / Athlon 64 FX / Athlon 64 x2/ Sempron<br>L'architecture AMD 64 permet le calcul 32 et 64 bits<br>Prend en charge Hyper Transport et Cod'nQuiet   |
| Bus frontal        | Prend en charge Hyper Transport jusqu'à une bande passante de 1G  | Prend en charge Hyper Transport jusqu'à une bande passante de 1G  |
| Chipset            | nVIDIA nForce 560   | nVIDIA nForce 520   |
| Super E/S          | ITE 8716F<br>Fournit la fonctionnalité de Super E/S patrimoniales la plus utilisée.<br>Interface à faible compte de broches<br>Initiatives de contrôle environnementales,<br>Moniteur de matériel<br>Contrôleur de vitesse de ventilateur<br>Fonction "Garden intelligent" de l'ITE                               | ITE 8716F<br>Fournit la fonctionnalité de Super E/S patrimoniales la plus utilisée.<br>Interface à faible compte de broches<br>Initiatives de contrôle environnementales,<br>Moniteur de matériel<br>Contrôleur de vitesse de ventilateur<br>Fonction "Garden intelligent" de l'ITE                               |
| Mémoire principale | Fentes DDR2 DIMM x 4<br>Chaque DIMM prend en charge des DDR2 de 256/512 Mo et 1Go/2Go<br>Capacité mémoire maximale de 8 Go<br>Module de mémoire DDR2 à mode à double voie<br>Prend en charge la DDR2 533 / 667 / 800<br>Les DIMM à registres et DIMM avec code correcteurs d'erreurs ne sont pas prises en charge | Fentes DDR2 DIMM x 4<br>Chaque DIMM prend en charge des DDR2 de 256/512 Mo et 1Go/2Go<br>Capacité mémoire maximale de 8 Go<br>Module de mémoire DDR2 à mode à double voie<br>Prend en charge la DDR2 533 / 667 / 800<br>Les DIMM à registres et DIMM avec code correcteurs d'erreurs ne sont pas prises en charge |
| IDE                | Contrôleur IDE intégré<br>Mode principale de Bus Ultra DMA 33 / 66 / 100 / 133<br>Prend en charge le mode PIO 0~4,  | Contrôleur IDE intégré<br>Mode principale de Bus Ultra DMA 33 / 66 / 100 / 133<br>Prend en charge le mode PIO 0~4,  |
| SATA II            | Contrôleur Serial ATA intégré :<br>Taux de transfert jusqu'à 3 Go/s.<br>Conforme à la spécification SATA Version 2.0  | Contrôleur Serial ATA intégré :<br>Taux de transfert jusqu'à 3 Go/s.<br>Conforme à la spécification SATA Version 2.0  |
| LAN                | Marvell 88E8056 / 88E8039(optional)<br>10 / 100 / 1000 Mb/s négociation automatique<br>(La bande passante Gigabit est pour le Marvell 88E8056 uniquement)<br>Half / Full duplex capability  | Marvell 88E8056 / 88E8039(optional)<br>10 / 100 / 1000 Mb/s négociation automatique<br>(La bande passante Gigabit est pour le Marvell 88E8056 uniquement)<br>Half / Full duplex capability  |

NF560-A2G/NF520-A2G

|                           | NF560-A2G  | NF520-A2G  |
|---------------------------|--|--|
| Codec audio               | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>Sortie audio à 7.1 voies (ALC888)<br>Sortie audio à 5.1 voies (ALC662)<br>Prise en charge de l'audio haute définition   | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>Sortie audio à 7.1 voies (ALC888)<br>Sortie audio à 5.1 voies (ALC662)<br>Prise en charge de l'audio haute définition   |
| Fentes                    | Fente PCI x3<br>Slot PCI Express x16 x1<br>Slot PCI Express x 1 x2   | Fente PCI x3<br>Slot PCI Express x16 x1<br>Slot PCI Express x 1 x2   |
| Connecteur embarqué       | Connecteur de disquette x1<br>Connecteur de Port d'imprimante x1<br>Connecteur IDE x1<br>Connecteur SATA x4<br>Connecteur du panneau avant x1<br>Connecteur Audio du panneau avant x1<br>Connecteur d'entrée CD x1<br>Connecteur de sortie S/PDIF x1<br>Embase de ventilateur UC x1<br>Embase de ventilateur système x1<br>Embase d'effacement CMOS x1<br>Connecteur USB x3<br>Connecteur d'alimentation (24 broches) x1<br>Connecteur d'alimentation (4 broches) x1 | Connecteur de disquette x1<br>Connecteur de Port d'imprimante x1<br>Connecteur IDE x1<br>Connecteur SATA x4<br>Connecteur du panneau avant x1<br>Connecteur Audio du panneau avant x1<br>Connecteur d'entrée CD x1<br>Connecteur de sortie S/PDIF x1<br>Embase de ventilateur UC x1<br>Embase de ventilateur système x1<br>Embase d'effacement CMOS x1<br>Connecteur USB x3<br>Connecteur d'alimentation (24 broches) x1<br>Connecteur d'alimentation (4 broches) x1 |
| E/S du panneau arrière    | Clavier PS/2 x1<br>Souris PS/2 x1<br>Port série x1<br>Port LAN x1<br>Port USB x4<br>Fiche audio (Ver 5.x) x6<br>Fiche audio (Ver 6.x) x3   | Clavier PS/2 x1<br>Souris PS/2 x1<br>Port série x1<br>Port LAN x1<br>Port USB x4<br>Fiche audio (Ver 5.x) x6<br>Fiche audio (Ver 6.x) x3   |
| Dimensions de la carte    | 200 mm (l) X 293 mm (H)  | 200 mm (l) X 293 mm (H)  |
| Fonctionnalités spéciales | Prise en charge RAID 0 / 1 / 0+1 / 5   | Prise en charge RAID 0 / 1 / 0+1   |
| Support SE                | Windows 2K / XP / VISTA<br>Biostar se réserve le droit d'ajouter ou de supprimer le support de SE avec ou sans préavis.  | Windows 2K / XP / VISTA<br>Biostar se réserve le droit d'ajouter ou de supprimer le support de SE avec ou sans préavis.  |

**ITALIAN**

|                    | <i>NF560-A2G</i>   | <i>NF520-A2G</i>   |
|--------------------|--|--|
| CPU                | Socket AM2<br>Processori AMD Athlon 64 / Athlon 64 FX / Athlon 64 x2/ Sempron<br>L'architettura AMD 64 abilita la computazione 32 e 64 bit<br>Supporto di Hyper Transport e Cool'n'Quiet   | Socket AM2<br>Processori AMD Athlon 64 / Athlon 64 FX / Athlon 64 x2/ Sempron<br>L'architettura AMD 64 abilita la computazione 32 e 64 bit<br>Supporto di Hyper Transport e Cool'n'Quiet   |
| FSB                | Supporto di Hyper Transport fino a 1G di larghezza di banda  | Supporto di Hyper Transport fino a 1G di larghezza di banda  |
| Chipset            | nVIDIA nForce 560  | nVIDIA nForce 520  |
| Super I/O          | ITE 8716F<br>Fornisce le funzionalità legacy Super I/O usate più comunemente.<br>Interfaccia LPC (Low Pin Count)<br>Funzioni di controllo dell'ambiente:<br>Monitoraggio hardware<br>Controller velocità ventolina<br>Funzione "Smart Guardian" di ITE | ITE 8716F<br>Fornisce le funzionalità legacy Super I/O usate più comunemente.<br>Interfaccia LPC (Low Pin Count)<br>Funzioni di controllo dell'ambiente:<br>Monitoraggio hardware<br>Controller velocità ventolina<br>Funzione "Smart Guardian" di ITE |
| Memoria principale | Alloggi DIMM DDR 2 x 4<br>Ciascun DIMM supporta DDR2 256/512MB e 1GB/2GB<br>Capacità massima della memoria a 8GB<br>Modulo di memoria DDR2 a canale doppio<br>Supporto di DDR2 533 / 667 / 800<br>DIMM registrati e DIMM ECC non sono supportati       | Alloggi DIMM DDR 2 x 4<br>Ciascun DIMM supporta DDR2 256/512MB e 1GB/2GB<br>Capacità massima della memoria a 8GB<br>Modulo di memoria DDR2 a canale doppio<br>Supporto di DDR2 533 / 667 / 800<br>DIMM registrati e DIMM ECC non sono supportati       |
| IDE                | Controller IDE integrato<br>Modalità Bus Master Ultra DMA 33 / 66 / 100 / 133<br>Supporto modalità PIO Mode 0-4  | Controller IDE integrato<br>Modalità Bus Master Ultra DMA 33 / 66 / 100 / 133<br>Supporto modalità PIO Mode 0-4  |
| SATA II            | Controller Serial ATA integrato<br>Velocità di trasferimento dei dati fino a 3 Gb/s.<br>Compatibile specifiche SATA Versione 2.0.  | Controller Serial ATA integrato<br>Velocità di trasferimento dei dati fino a 3 Gb/s.<br>Compatibile specifiche SATA Versione 2.0.  |
| LAN                | Marvell 88E8056 / 88E8039(optional)<br>Negoziazione automatica 10 / 100 / 1000 Mb/s (la larghezza di banda Gigabit è solo per Marvell 88E8056)<br>Capacità Half / Full Duplex  | Marvell 88E8056 / 88E8039(optional)<br>Negoziazione automatica 10 / 100 / 1000 Mb/s (la larghezza di banda Gigabit è solo per Marvell 88E8056)<br>Capacità Half / Full Duplex  |



NF560-A2G/NF520-A2G

|                              | NF560-A2G  | NF520-A2G  |
|------------------------------|--|--|
| Codec audio                  | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>Uscita audio 7.1 canali (ALC888)<br>Uscita audio 5.1 canali (ALC662)<br>Supporto audio High-Definition (HD)   | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>Uscita audio 7.1 canali (ALC888)<br>Uscita audio 5.1 canali (ALC662)<br>Supporto audio High-Definition (HD)   |
| Alloggi                      | Alloggio PCI x3<br>Alloggio PCI Express x16 x1<br>Alloggio PCI Express x1 x2   | Alloggio PCI x3<br>Alloggio PCI Express x16 x1<br>Alloggio PCI Express x1 x2   |
| Connettori su scheda         | Connettore floppy x1<br>Connettore Porta stampante x1<br>Connettore IDE x1<br>Connettore SATA x4<br>Connettore pannello frontale x1<br>Connettore audio frontale x1<br>Connettore CD-in x1<br>Connettore output SPDIF x1<br>Collettore ventolina CPU x1<br>Collettore ventolina sistema x1<br>Collettore cancellazione CMOS x1<br>Connettore USB x3<br>Connettore alimentazione x1<br>(24 pin)<br>Connettore alimentazione x1<br>(4 pin) | Connettore floppy x1<br>Connettore Porta stampante x1<br>Connettore IDE x1<br>Connettore SATA x4<br>Connettore pannello frontale x1<br>Connettore audio frontale x1<br>Connettore CD-in x1<br>Connettore output SPDIF x1<br>Collettore ventolina CPU x1<br>Collettore ventolina sistema x1<br>Collettore cancellazione CMOS x1<br>Connettore USB x3<br>Connettore alimentazione x1<br>(24 pin)<br>Connettore alimentazione x1<br>(4 pin) |
| I/O pannello posteriore      | Tastiera PS/2 x1<br>Mouse PS/2 x1<br>Porta seriale x1<br>Porta LAN x1<br>Porta USB x4<br>Connettore audio (Ver 5.x) x6<br>Connettore audio (Ver 6.x) x3  | Tastiera PS/2 x1<br>Mouse PS/2 x1<br>Porta seriale x1<br>Porta LAN x1<br>Porta USB x4<br>Connettore audio (Ver 5.x) x6<br>Connettore audio (Ver 6.x) x3  |
| Dimensioni scheda            | 200 mm (larghezza) x 293 mm (altezza)  | 200 mm (larghezza) x 293 mm (altezza)  |
| Caratteristiche speciali     | Supporto RAID 0 / 1 / 0+1 / 5  | Supporto RAID 0 / 1 / 0+1  |
| Sistemi operativi supportati | Windows 2K / XP / VISTA<br>Biostar si riserva il diritto di aggiungere o rimuovere il supporto di qualsiasi sistema operativo senza preavviso.   | Windows 2K / XP / VISTA<br>Biostar si riserva il diritto di aggiungere o rimuovere il supporto di qualsiasi sistema operativo senza preavviso.   |

**SPANISH**

|                   | <i>NF560-A2G</i>  | <i>NF520-A2G</i>  |
|-------------------|---|---|
| CPU               | <p>Conector AM2</p> <p>Procesadores AMD Athlon 64 / Athlon 64 FX / Athlon 64 x2 / Sempron</p> <p>La arquitectura AMD 64 permite el procesamiento de 32 y 64 bits</p> <p>Soporta las tecnologías Hyper Transport y Cool'n'Quiet</p>  | <p>Conector AM2</p> <p>Procesadores AMD Athlon 64 / Athlon 64 FX / Athlon 64 x2 / Sempron</p> <p>La arquitectura AMD 64 permite el procesamiento de 32 y 64 bits</p> <p>Soporta las tecnologías Hyper Transport y Cool'n'Quiet</p>  |
| FSB               | Admite HyperTransport con un ancho de banda de hasta 1G   | Admite HyperTransport con un ancho de banda de hasta 1G   |
| Conjunto de chips | nVIDIA nForce 560   | nVIDIA nForce 520   |
| Súper E/S         | <p>ITE 8716F</p> <p>Le ofrece las funcionalidades heredadas de uso más común Súper E/S.</p> <p>Interfaz de cuenta Low Pin</p> <p>Iniciativas de control de entorno, Monitor hardware</p> <p>Controlador de velocidad de ventilador</p> <p>Función "Guarda inteligente" de ITE</p> | <p>ITE 8716F</p> <p>Le ofrece las funcionalidades heredadas de uso más común Súper E/S.</p> <p>Interfaz de cuenta Low Pin</p> <p>Iniciativas de control de entorno, Monitor hardware</p> <p>Controlador de velocidad de ventilador</p> <p>Función "Guarda inteligente" de ITE</p> |
| Memoria principal | <p>Ranuras DIMM DDR2 x 4</p> <p>Cada DIMM admite DDR de 256/512MB y 1GB/2GB</p> <p>Capacidad máxima de memoria de 8GB</p> <p>Módulo de memoria DDR2 de canal Doble</p> <p>Admite DDR2 de 533 / 667 / 800</p> <p>No admite DIMM registrados o DIMM compatibles con ECC</p>         | <p>Ranuras DIMM DDR2 x 4</p> <p>Cada DIMM admite DDR de 256/512MB y 1GB/2GB</p> <p>Capacidad máxima de memoria de 8GB</p> <p>Módulo de memoria DDR2 de canal Doble</p> <p>Admite DDR2 de 533 / 667 / 800</p> <p>No admite DIMM registrados o DIMM compatibles con ECC</p>         |
| IDE               | <p>Controlador IDE integrado</p> <p>Modo bus maestro Ultra DMA 33 / 66 / 100 / 133</p> <p>Soporta los Modos PIO 0~4,</p>  | <p>Controlador IDE integrado</p> <p>Modo bus maestro Ultra DMA 33 / 66 / 100 / 133</p> <p>Soporta los Modos PIO 0~4,</p>  |
| SATA II           | <p>Controlador ATA Serie Integrado</p> <p>Tasas de transferencia de hasta 3 Gb/s.</p> <p>Compatible con la versión SATA 2.0.</p>  | <p>Controlador ATA Serie Integrado</p> <p>Tasas de transferencia de hasta 3 Gb/s.</p> <p>Compatible con la versión SATA 2.0.</p>  |
| Red Local         | <p>Marvell 88E8056 / 88E8039 (opcional)</p> <p>Negociación de 10 / 100 / 1000 Mb/s (el ancho de banda Gigabit es únicamente para Marvell 88E8056)</p> <p>Funciones Half / Full dúplex</p>   | <p>Marvell 88E8056 / 88E8039 (opcional)</p> <p>Negociación de 10 / 100 / 1000 Mb/s (el ancho de banda Gigabit es únicamente para Marvell 88E8056)</p> <p>Funciones Half / Full dúplex</p>   |

NF560-A2G/NF520-A2G

|                                       | NF560-A2G   |                                       | NF520-A2G   |    |
|---------------------------------------|---|---------------------------------------|---|----|
| Códex de sonido                       | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)   |                                       | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)   |    |
|                                       | Salida de sonido de 7.1 canales (ALC888)  |                                       | Salida de sonido de 7.1 canales (ALC888)  |    |
|                                       | Salida de sonido de 5.1 canales (ALC662)  |                                       | Salida de sonido de 5.1 canales (ALC662)  |    |
|                                       | Soporte de sonido de Alta Definición  |                                       | Soporte de sonido de Alta Definición  |    |
| Ranuras                               | Ranura PCI  | X3                                    | Ranura PCI  | X3 |
|                                       | Ranura PCI Express x16  | X1                                    | Ranura PCI Express x16  | X1 |
|                                       | Ranura PCI express x 1  | X2                                    | Ranura PCI express x 1  | X2 |
| Conectores en placa                   | Conector disco flexible   | X1                                    | Conector disco flexible   | X1 |
|                                       | Conector Puerto de impresora  | X1                                    | Conector Puerto de impresora  | X1 |
|                                       | Conector IDE  | X1                                    | Conector IDE  | X1 |
|                                       | Conector SATA   | X4                                    | Conector SATA   | X4 |
|                                       | Conector de panel frontal   | X1                                    | Conector de panel frontal   | X1 |
|                                       | Conector de sonido frontal  | X1                                    | Conector de sonido frontal  | X1 |
|                                       | Conector de entrada de CD   | X1                                    | Conector de entrada de CD   | X1 |
|                                       | Conector de salida S/PDIF   | X1                                    | Conector de salida S/PDIF   | X1 |
|                                       | Cabecera de ventilador de CPU   | X1                                    | Cabecera de ventilador de CPU   | X1 |
|                                       | Cabecera de ventilador de sistema   | X1                                    | Cabecera de ventilador de sistema   | X1 |
|                                       | Cabecera de borrado de CMOS   | X1                                    | Cabecera de borrado de CMOS   | X1 |
|                                       | Conector USB  | X3                                    | Conector USB  | X3 |
|                                       | Conector de alimentación (24 patillas)  | X1                                    | Conector de alimentación (24 patillas)  | X1 |
| Conector de alimentación (4 patillas) | X1  | Conector de alimentación (4 patillas) | X1  |    |
| Panel trasero de E/S                  | Teclado PS/2  | X1                                    | Teclado PS/2  | X1 |
|                                       | Ratón PS/2  | X1                                    | Ratón PS/2  | X1 |
|                                       | Puerto serie  | X1                                    | Puerto serie  | X1 |
|                                       | Puerto de red local   | X1                                    | Puerto de red local   | X1 |
|                                       | Puerto USB  | X4                                    | Puerto USB  | X4 |
|                                       | Conector de sonido (Ver 5.x)  | X6                                    | Conector de sonido (Ver 5.x)  | X6 |
| Conector de sonido (Ver 6.x)          | X3  | Conector de sonido (Ver 6.x)          | X3  |    |
| Tamaño de la placa                    | 200 mm. (A) X 293 mm. (H)   |                                       | 200 mm. (A) X 293 mm. (H)   |    |
| Funciones especiales                  | Admite RAID 0 / 1 / 0+1 / 5   |                                       | Admite RAID 0 / 1 / 0+1   |    |
| Soporte de sistema operativo          | Windows 2K / XP / VISTA<br>Bióstar se reserva el derecho de añadir o retirar el soporte de cualquier SO con o sin aviso previo. |                                       | Windows 2K / XP / VISTA<br>Bióstar se reserva el derecho de añadir o retirar el soporte de cualquier SO con o sin aviso previo. |    |

## PORTUGUESE

|                            | NF560-A2G   | NF520-A2G   |
|----------------------------|---|---|
| CPU                        | Socket AM2<br>Processadores AMD Athlon 64 / Athlon 64 FX / Athlon 64 x2 / Sempron<br>A arquitectura AMD 64 permite uma computação de 32 e 64 bits<br>Suporta as tecnologias Hyper Transport e Cool'n'Quiet  | Socket AM2<br>Processadores AMD Athlon 64 / Athlon 64 FX / Athlon 64 x2 / Sempron<br>A arquitectura AMD 64 permite uma computação de 32 e 64 bits<br>Suporta as tecnologias Hyper Transport e Cool'n'Quiet  |
| FSB                        | Suporta a tecnologia HyperTransport com uma largura de banda até 1G   | Suporta a tecnologia HyperTransport com uma largura de banda até 1G   |
| Chipset                    | nVIDIA nForce 560   | nVIDIA nForce 520   |
| Especificação do Super I/O | ITE 8716F<br>Proporciona as funcionalidades mais utilizadas em termos da especificação Super I/O.<br>Interface LPC (Low Pin Count).<br>Iniciativas para controlo do ambiente<br>Monitorização do hardware<br>Controlador da velocidade da ventoinha<br>Função "Smart Guardian" da ITE | ITE 8716F<br>Proporciona as funcionalidades mais utilizadas em termos da especificação Super I/O.<br>Interface LPC (Low Pin Count).<br>Iniciativas para controlo do ambiente<br>Monitorização do hardware<br>Controlador da velocidade da ventoinha<br>Função "Smart Guardian" da ITE |
| Memória principal          | Ranhuras DIMM DDR2 x 4<br>Cada módulo DIMM suporta uma memória DDR2 de 256/512 MB & 1 GB/2 GB<br>Capacidade máxima de memória: 8 GB<br>Módulo de memória DDR2 de canal duplo<br>Suporta módulos DDR2 533 / 667 / 800<br>Os módulos DIMM registados e os DIMM ECC não são suportados   | Ranhuras DIMM DDR2 x 4<br>Cada módulo DIMM suporta uma memória DDR2 de 256/512 MB & 1 GB/2 GB<br>Capacidade máxima de memória: 8 GB<br>Módulo de memória DDR2 de canal duplo<br>Suporta módulos DDR2 533 / 667 / 800<br>Os módulos DIMM registados e os DIMM ECC não são suportados   |
| IDE                        | Controlador IDE integrado<br>Modo Bus master Ultra DMA 33 / 66 / 100 / 133<br>Suporta o modo PIO 0~4,   | Controlador IDE integrado<br>Modo Bus master Ultra DMA 33 / 66 / 100 / 133<br>Suporta o modo PIO 0~4,   |
| SATA II                    | Controlador Serial ATA integrado<br>Velocidades de transmissão de dados até 3 Gb/s.<br>Compatibilidade com a especificação SATA versão 2.0.   | Controlador Serial ATA integrado<br>Velocidades de transmissão de dados até 3 Gb/s.<br>Compatibilidade com a especificação SATA versão 2.0.   |
| LAN                        | Marvell 88E8056 / 88E8039 (opcional)<br>Auto negociação de 10 / 100 / 1000 Mb/s (a largura de banda Ggabit refere-se apenas à especificação Marvell 88E8056)<br>Capacidade semi/full-duplex   | Marvell 88E8056 / 88E8039 (opcional)<br>Auto negociação de 10 / 100 / 1000 Mb/s (a largura de banda Ggabit refere-se apenas à especificação Marvell 88E8056)<br>Capacidade semi/full-duplex   |

|                                    | NF560-A2G   | NF520-A2G   |
|------------------------------------|---|---|
| Codec de som                       | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>Saída de áudio de 7.1 canais (ALC888)<br>Saída de áudio de 5.1 canais (ALC662)<br>Suporta a especificação High-Definition Audio  | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>Saída de áudio de 7.1 canais (ALC888)<br>Saída de áudio de 5.1 canais (ALC662)<br>Suporta a especificação High-Definition Audio  |
| Ranhuras                           | Ranhura PCI x3<br>Ranhura PCI Express x16 x1<br>Ranhura PCI Express x 1 x2  | Ranhura PCI x3<br>Ranhura PCI Express x16 x1<br>Ranhura PCI Express x 1 x2  |
| Conectores na placa                | Conector da unidade de disquetes x1<br>Conector da para impressora x1<br>Conector IDE x1<br>Conector SATA x4<br>Conector do painel frontal x1<br>Conector de áudio frontal x1<br>Conector para entrada de CDs x1<br>Conector de saída S/PDIF x1<br>Conector da ventoinha da CPU x1<br>Conector da ventoinha do sistema x1<br>Conector para limpeza do CMOS x1<br>Conector USB x3<br>Conector de alimentação x1<br>(24 pinos)<br>Conector de alimentação x1<br>(4 pinos) | Conector da unidade de disquetes x1<br>Conector da para impressora x1<br>Conector IDE x1<br>Conector SATA x4<br>Conector do painel frontal x1<br>Conector de áudio frontal x1<br>Conector para entrada de CDs x1<br>Conector de saída S/PDIF x1<br>Conector da ventoinha da CPU x1<br>Conector da ventoinha do sistema x1<br>Conector para limpeza do CMOS x1<br>Conector USB x3<br>Conector de alimentação x1<br>(24 pinos)<br>Conector de alimentação x1<br>(4 pinos) |
| Entradas/Saídas no painel traseiro | Teclado PS/2 x1<br>Rato PS/2 x1<br>Porta série x1<br>Porta LAN x1<br>Porta USB x4<br>Tomada de áudio (Ver 5.x) x6<br>Tomada de áudio (Ver 6.x) x3   | Teclado PS/2 x1<br>Rato PS/2 x1<br>Porta série x1<br>Porta LAN x1<br>Porta USB x4<br>Tomada de áudio (Ver 5.x) x6<br>Tomada de áudio (Ver 6.x) x3   |
| Tamanho da placa                   | 200 mm (L) X 293mm (A)  | 200 mm (L) X 293mm (A)  |
| Características especiais          | Suporta as funções RAID 0 / 1 / 0+1 / 5   | Suporta as funções RAID 0 / 1 / 0+1   |
| Sistemas operativos suportados     | Windows 2K / XP / VISTA<br>A Biostar reserva-se o direito de adicionar ou remover suporte para qualquer sistema operativo com ou sem aviso prévio.  | Windows 2K / XP / VISTA<br>A Biostar reserva-se o direito de adicionar ou remover suporte para qualquer sistema operativo com ou sem aviso prévio.  |

**POLISH**

|                  | <i>NF560-A2G</i>   | <i>NF520-A2G</i>   |
|------------------|--|--|
| Procesor         | Socket AM2<br>AMDAthlon 64 / Athlon 64 FX / Athlon 64 x2/<br>Sempron Procesory<br>Architektura AMD 64 umożliwia przetwarzanie<br>32 i 64 bitowe<br>Obsługa Hyper Transport oraz Cool'nQuiet  | Socket AM2<br>AMDAthlon 64 / Athlon 64 FX / Athlon 64 x2/<br>Sempron Procesory<br>Architektura AMD 64 umożliwia przetwarzanie<br>32 i 64 bitowe<br>Obsługa Hyper Transport oraz Cool'nQuiet  |
| FSB              | Obsługa HyperTransport oszerokości pasma do<br>1G  | Obsługa HyperTransport oszerokości pasma do<br>1G  |
| Chipset          | nVIDIA nForce 560  | nVIDIA nForce 520  |
| Pamięć<br>główna | Gniazda DDR2 DIMM x 4<br>Każde gniazdo DIMM obsługuje moduły<br>256/512MB oraz 1GB/2GB DDR2<br>Maks. wielkość pamięci 8GB<br>Moduł pamięci DDR2z trybem podwójnego<br>kanału<br>Obsługa DDR2 533 / 667 / 800<br>Brak obsługi Registered DIMM oraz ECC DIMM | Gniazda DDR2 DIMM x 4<br>Każde gniazdo DIMM obsługuje moduły<br>256/512MB oraz 1GB/2GB DDR2<br>Maks. wielkość pamięci 8GB<br>Moduł pamięci DDR2z trybem podwójnego<br>kanału<br>Obsługa DDR2 533 / 667 / 800<br>Brak obsługi Registered DIMM oraz ECC DIMM |
| Super I/O        | ITE 8716F<br>Zapewnia najbardziej powszechne funkcje Super<br>I/O.<br>Interfejs Low Pin Court<br>Funkcje kontroli warunków pracy,<br>Monitor H/W<br>Kontroler prędkości wentylatora<br>Funkcją ITE "Smart Guardian"  | ITE 8716F<br>Zapewnia najbardziej powszechne funkcje Super<br>I/O.<br>Interfejs Low Pin Court<br>Funkcje kontroli warunków pracy,<br>Monitor H/W<br>Kontroler prędkości wentylatora<br>Funkcją ITE "Smart Guardian"  |
| IDE              | Zintegrowany kontroler IDE<br>Ultra DMA 33 / 66 / 100 / 133 Tryb Bus Master<br>obsługa PIO tryb 0~4,   | Zintegrowany kontroler IDE<br>Ultra DMA 33 / 66 / 100 / 133 Tryb Bus Master<br>obsługa PIO tryb 0~4,   |
| SATA II          | Zintegrowany kontroler Serial ATA<br>Transfer danych do 3 Gb/s.<br>Zgodność ze specyfikacją SATA w wersji 2.0.   | Zintegrowany kontroler Serial ATA<br>Transfer danych do 3 Gb/s.<br>Zgodność ze specyfikacją SATA w wersji 2.0.   |
| LAN              | Marvell 88E8056 / 88E8039 (opcja)<br>10 / 100 / 1000 Mb/s z automatyczną negocjacją<br>szybkości (Pasmo gigabitowe wyłącznie dla<br>Marvell 88E8056)<br>Działanie w trybie półowicznego / pełnego<br>dupleksu  | Marvell 88E8056 / 88E8039 (opcja)<br>10 / 100 / 1000 Mb/s z automatyczną negocjacją<br>szybkości (Pasmo gigabitowe wyłącznie dla<br>Marvell 88E8056)<br>Działanie w trybie półowicznego / pełnego<br>dupleksu  |

|  | NF560-A2G  | NF520-A2G  |
|--|--|--|
| Kodek<br>dźwiękowy                     | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)  | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)  |
|  | 7.1 kanałowe wyjście audio (ALC888)  | 7.1 kanałowe wyjście audio (ALC888)  |
|  | 5.1 kanałowe wyjście audio (ALC662)  | 5.1 kanałowe wyjście audio (ALC662)  |
|  | Obsługa High-DefinitionAudio   | Obsługa High-DefinitionAudio   |
| Gniazda                                | Gniazdb PCI x3   | Gniazdb PCI x3   |
|  | Gniazdb PCI Express x16 x1   | Gniazdb PCI Express x16 x1   |
|  | Gniazdb PCI Express x 1 x2   | Gniazdb PCI Express x 1 x2   |
| Złącza<br>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 głośnikowe wentylatora procesora x1   | Złącze głośnikowe wentylatora procesora x1   |
|  | Złącze głośnikowe wentylatora systemowego x1   | Złącze głośnikowe wentylatora systemowego x1   |
|  | Złącze głośnikowe kasowania CMOS x1  | Złącze głośnikowe kasowania CMOS x1  |
| Złącze USB x3                          | Złącze USB x3  |  |
| Złącze zasilania (24 pinowe) x1        | Złącze zasilania (24 pinowe) x1  |  |
| Złącze zasilania (4 pinowe) x1         | Złącze zasilania (4 pinowe) x1   |  |
| Back Panel<br>I/O                      | Klawiatura PS/2 x1   | Klawiatura PS/2 x1   |
|  | Mysz PS/2 x1   | Mysz PS/2 x1   |
|  | Port szeregowy x1  | Port szeregowy x1  |
|  | Port LAN x1  | Port LAN x1  |
|  | Port USB x4  | Port USB x4  |
|  | Gniazdb audio (Ver 5.x) x6   | Gniazdb audio (Ver 5.x) x6   |
|  | Gniazdb audio (Ver 6.x) x3   | Gniazdb audio (Ver 6.x) x3   |
| Wymiary<br>płyty                       | 200 mm (S) X 293 mm (W)  | 200 mm (S) X 293 mm (W)  |
| Funkcje<br>specjalne                   | Obsługa RAID 0 / 1 / 0+1 / 5   | Obsługa RAID 0 / 1 / 0+1   |
| Obsługa<br>systemu<br>operacyjne<br>go | Windows 2K / XP / VISTA<br>Biostar zastrzega sobie prawo dodawania lub<br>odwoływania obsługi dowolnego systemu<br>operacyjnego bez powiadomienia. | Windows 2K / XP / VISTA<br>Biostar zastrzega sobie prawo dodawania lub<br>odwoływania obsługi dowolnego systemu<br>operacyjnego bez powiadomienia. |

## RUSSIAN

|                                | <i>NF560-A2G</i>   | <i>NF520-A2G</i>   |
|--------------------------------|--|--|
| CPU<br>(центральный процессор) | Гнездо AM2<br>Процессоры AMD Athlon 64 / Athlon 64 FX / Athlon 64X2 / Sempron<br>Архитектура AMD 64 разрешать обработка данных на 32 и 64 бит<br>Поддержка Hyper Transport и Cool'nQuiet   | Гнездо AM2<br>Процессоры AMD Athlon 64 / Athlon 64 FX / Athlon 64X2 / Sempron<br>Архитектура AMD 64 разрешать обработка данных на 32 и 64 бит<br>Поддержка Hyper Transport и Cool'nQuiet   |
| FSB                            | Поддержка HyperTransport с пропускной способностью до 1G   | Поддержка HyperTransport с пропускной способностью до 1G   |
| Набор микросхем                | nVIDIA GeForce 560   | nVIDIA GeForce 520   |
| Основная память                | Слоты DDR2 DIMM x 4<br>Каждый модуль DIMM поддерживает 256/512МБ & 1ГБ/2ГБ DDR2<br>Максимальная ёмкость памяти 8 ГБ<br>Модуль памяти с двухканальным режимом DDR2<br>Поддержка DDR2 533 / 667 / 800<br>Не поддерживает зарегистрированные модули DIMM and ECC DIMM                             | Слоты DDR2 DIMM x 4<br>Каждый модуль DIMM поддерживает 256/512МБ & 1ГБ/2ГБ DDR2<br>Максимальная ёмкость памяти 8 ГБ<br>Модуль памяти с двухканальным режимом DDR2<br>Поддержка DDR2 533 / 667 / 800<br>Не поддерживает зарегистрированные модули DIMM and ECC DIMM                             |
| Super I/O                      | ITE 8716F<br>Обеспечивает наиболее используемые действующие функциональные возможности Super I/O.<br>Интерфейс с низким количеством выводов<br>Инициативы по охране окружающей среды,<br>Аппаратный монитор<br>Регулятор скорости<br>Функция ITE "Smart Guardian"<br>(Интеллектуальная защита) | ITE 8716F<br>Обеспечивает наиболее используемые действующие функциональные возможности Super I/O.<br>Интерфейс с низким количеством выводов<br>Инициативы по охране окружающей среды,<br>Аппаратный монитор<br>Регулятор скорости<br>Функция ITE "Smart Guardian"<br>(Интеллектуальная защита) |
| IDE                            | Встроенное устройство управления встроенными интерфейсами устройств<br>Режим "хвояина" шины Ultra DMA 33 / 66 / 100 / 133<br>Поддержка режима PIO 0~4,   | Встроенное устройство управления встроенными интерфейсами устройств<br>Режим "хвояина" шины Ultra DMA 33 / 66 / 100 / 133<br>Поддержка режима PIO 0~4,   |
| SATA                           | Встроенное последовательное устройство управления ATA<br>скорость передачи данных до 3 гигабит/с.<br>Соответствие спецификации SATA версия 2.0.  | Встроенное последовательное устройство управления ATA<br>скорость передачи данных до 3 гигабит/с.<br>Соответствие спецификации SATA версия 2.0.  |
| Локальная сеть                 | Marvell 88E8056 / 88E8039 (дополнительно)<br>Автоматическое согласование 10 / 100 / 1000 Мб/с (гигабитная пропускная способность только для гигабитного физического уровня)<br>Частичная / полная дуплексная способность   | Marvell 88E8056 / 88E8039 (дополнительно)<br>Автоматическое согласование 10 / 100 / 1000 Мб/с (гигабитная пропускная способность только для гигабитного физического уровня)<br>Частичная / полная дуплексная способность   |



NF560-A2G/NF520-A2G

|  | NF560-A2G  | NF520-A2G  |
|--|--|--|
| Звуковой кодек                         | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>7.1-канальный звуковой выход (ALC888)<br>5.1-канальный звуковой выход (ALC662)<br>7.1-канальный звуковой выход  | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>7.1-канальный звуковой выход (ALC888)<br>5.1-канальный звуковой выход (ALC662)<br>5.1-канальный звуковой выход  |
| Слоты                                  | Слот PCI x3<br>Слот PCI Express x16 x1<br>Слот PCI Express x 1 x2  | Слот PCI x3<br>Слот PCI Express x16 x1<br>Слот PCI Express x 1 x2  |
| Встроенный разъем                      | Разъем НГМД x1<br>Разъем Порт подключения принтера x1<br>Разъем IDE x1<br>Разъем SATA x4<br>Разъем на лицевой панели x1<br>Входной звуковой разъем x1<br>Разъем ввода для CD x1<br>Разъем вывода для S/PDIF x1<br>Контактирующее приспособление вентилятора центрального процессора x1<br>Контактирующее приспособление вентилятора системы x1<br>Открытое контактирующее приспособление CMOS x1<br>USB-разъем x3<br>Разъем питания (24 вывод) x1<br>Разъем питания (4 вывод) x1 | Разъем НГМД x1<br>Разъем Порт подключения принтера x1<br>Разъем IDE x1<br>Разъем SATA x4<br>Разъем на лицевой панели x1<br>Входной звуковой разъем x1<br>Разъем ввода для CD x1<br>Разъем вывода для S/PDIF x1<br>Контактирующее приспособление вентилятора центрального процессора x1<br>Контактирующее приспособление вентилятора системы x1<br>Открытое контактирующее приспособление CMOS x1<br>USB-разъем x3<br>Разъем питания (24 вывод) x1<br>Разъем питания (4 вывод) x1 |
| Задняя панель средств ввода-вывода     | Клавиатура PS/2 x1<br>Мышь PS/2 x1<br>Последовательный порт x1<br>Порт LAN x1<br>USB-порт x4<br>Гнездо для подключения наушников (Ver 5.x) x6<br>Гнездо для подключения наушников (Ver 6.x) x3   | Клавиатура PS/2 x1<br>Мышь PS/2 x1<br>Последовательный порт x1<br>Порт LAN x1<br>USB-порт x4<br>Гнездо для подключения наушников (Ver 5.x) x6<br>Гнездо для подключения наушников (Ver 6.x) x3   |
| Размер панели                          | 200 мм (Ш) X 293 мм (В)  | 200 мм (Ш) X 293 мм (В)  |
| Специальные технические характеристики | Поддержка RAID 0/ 1 / 0+1 / 5  | Поддержка RAID 0/ 1 / 0+1  |
| Поддержка OS                           | Windows 2K / XP / VISTA<br>Biosstar сохраняет за собой право добавлять или удалять средства обеспечения для OS с или без предварительного уведомления.   | Windows 2K / XP / VISTA<br>Biosstar сохраняет за собой право добавлять или удалять средства обеспечения для OS с или без предварительного уведомления.   |

## ARABIC

| NF520-A2G  | NF560-A2G  |                          |
|--|--|--------------------------|
| AM2 مقبس<br>AMD Athlon 64 / Athlon 64FX /<br>Athlon 64 x2/ Sempron<br>معالجات<br>إجراء العمليات لحملوية بسعة 32 و 64 بت AMD تمكن تقنية<br>Hyper Transport و Cod'nQuiet تدعم تقنية  | AM2 مقبس<br>AMD Athlon 64 / Athlon 64FX /<br>Athlon 64 x2/ Sempron<br>معالجات<br>إجراء العمليات لحملوية بسعة 32 و 64 بت AMD تمكن تقنية<br>Hyper Transport و Cod'nQuiet تدعم تقنية  | وحدة المعالجة<br>المركبة |
| تردد 1000 بتتردد يصل إلى Hyper Transport تدعم تقنية  | تردد 1000 بتتردد يصل إلى Hyper Transport تدعم تقنية  | النفذ الأمامي الجانبي    |
| nVIDIA nForce 520  | nVIDIA nForce 560  | مجموعة الشرائح           |
| عدد 4<br>فتحة DDR2 DIMM<br>ميجا 256/512 سعة DDR2 دعم ذاكرة من نوع DIMM تدعم عمل قحة<br>بليت و 2/1 جيجابايت<br>سعة ذاكرة قصوى 8 جيجا بايت<br>مزوجة لفتحة DDR2 وحدة ذاكرة<br>ساعات 800 / 667 / 533 ميجا بايت DDR2 تدعم الذاكرة من نوع<br>ECC و تلك التي لا تتوافق مع DIMM لا دعم رقائق الذاكرة | عدد 4<br>فتحة DDR2 DIMM<br>ميجا 256/512 سعة DDR2 دعم ذاكرة من نوع DIMM تدعم عمل قحة<br>بليت و 2/1 جيجابايت<br>سعة ذاكرة قصوى 8 جيجا بايت<br>مزوجة لفتحة DDR2 وحدة ذاكرة<br>ساعات 800 / 667 / 533 ميجا بايت DDR2 تدعم الذاكرة من نوع<br>ECC و تلك التي لا تتوافق مع DIMM لا دعم رقائق الذاكرة | الذاكرة الرئيسية         |
| ITE 8716F<br>الأكثر استخداماً، Super I/O توفر وظيفة<br>Low Pin Count Interface تدعم تقنية<br>وسائل التحكم في البيئة<br>مرقب لمعومة حللة الأجهزة<br>مرقب في سعة لمروحة<br>ITE من "Smart Guardian" وظيفة   | ITE 8716F<br>الأكثر استخداماً، Super I/O توفر وظيفة<br>Low Pin Count Interface تدعم تقنية<br>وسائل التحكم في البيئة<br>مرقب لمعومة حللة الأجهزة<br>مرقب في سعة لمروحة<br>ITE من "Smart Guardian" وظيفة   | Super I/O                |
| متكامل IDE متحكم<br>Ultra DMA 33 / 66 / 100 / 133 نقل ببقية<br>وضع رئيسي<br>PIO Mode 0~4 دعم وضع   | متكامل IDE متحكم<br>Ultra DMA 33 / 66 / 100 / 133 نقل ببقية<br>وضع رئيسي<br>PIO Mode 0~4 دعم وضع   | منفذ IDE                 |
| متكامل Serial ATA متحكم<br>قل البيانات بسرعات تصل إلى 3 جيجابايت/ثانية.<br>الإصدار SATA مطابقة للمواصفات<br>2.0.   | متكامل Serial ATA متحكم<br>قل البيانات بسرعات تصل إلى 3 جيجابايت/ثانية.<br>الإصدار SATA مطابقة للمواصفات<br>2.0.   | SATA II                  |
| Marvell 88E8056 /<br>88E8039 (اختياري)<br>تقوض قلتي 100/10 ميجا بايت / ثلثية و 1 جيجا بت/ثانية<br>Marvel 88E8056 انطلق الترددي لجيبليت مقصور قط على<br>إمكانية النقل لمزيج الكامل/القصي  | Marvell 88E8056 /<br>88E8039 (اختياري)<br>تقوض قلتي 100/10 ميجا بايت / ثلثية و 1 جيجا بت/ثانية<br>Marvel 88E8056 انطلق الترددي لجيبليت مقصور قط على<br>إمكانية النقل لمزيج الكامل/القصي  | شبكة داخلية              |

NF560-A2G/NF520-A2G

| NF520-A2G   |                                   | NF560-A2G   |                                   |                        |
|---|-----------------------------------|---|-----------------------------------|------------------------|
| ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>قنوات لخرج الصوت7.1 (ALC888)<br>قنوات لخرج الصوت5.1 (ALC662)<br>5.1 قنوات لخرج الصوت |                                   | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>قنوات لخرج الصوت7.1 (ALC888)<br>قنوات لخرج الصوت5.1 (ALC662)<br>7.1 قنوات لخرج الصوت |                                   | كوديك الصوت            |
| عدد 3   | فتحة PCI                          | عدد 3   | فتحة PCI                          | الفتحات                |
| عدد 1   | فتحة PCI Expressx 16              | عدد 1   | فتحة PCI Expressx 16              |                        |
| عدد 2   | فتحة PCI Express x 1              | عدد 2   | فتحة PCI Express x 1              |                        |
| عدد 1   | مقذ محرك أقراص مرنة               | عدد 1   | مقذ محرك أقراص مرنة               | المنافذ على سطح اللوحة |
| عدد 1   | مقذ طابعة                         | عدد 1   | مقذ طابعة                         |                        |
| عدد 1   | مقذ IDE                           | عدد 1   | مقذ IDE                           |                        |
| عدد 4   | مقذ SATA                          | عدد 4   | مقذ SATA                          |                        |
| عدد 1   | مقذ اللوحة الأملية                | عدد 1   | مقذ اللوحة الأملية                |                        |
| عدد 1   | مقذ الصوت الأملي                  | عدد 1   | مقذ الصوت الأملي                  |                        |
| عدد 1   | مقذ CD-IN                         | عدد 1   | مقذ CD-IN                         |                        |
| عدد 1   | مقذ خرج S/PDIF                    | عدد 1   | مقذ خرج S/PDIF                    |                        |
| عدد 1   | وصلة مروحة وحدة المعالجة المركزية | عدد 1   | وصلة مروحة وحدة المعالجة المركزية |                        |
| عدد 1   | وصلة مروحة النظم                  | عدد 1   | وصلة مروحة النظم                  |                        |
| عدد 1   | وصلة مسح CMOS                     | عدد 1   | وصلة مسح CMOS                     |                        |
| عدد 3   | مقذ USB                           | عدد 3   | مقذ USB                           |                        |
| عدد 1   | مقذ توصيل الطاقة (24دوس)          | عدد 1   | مقذ توصيل الطاقة (24دوس)          |                        |
| عدد 1   | مقذ توصيل الطاقة (4دبليس)         | عدد 1   | مقذ توصيل الطاقة (4دبليس)         |                        |
| عدد 1   | لوحة مفاتيح PS/2                  | عدد 1   | لوحة مفاتيح PS/2                  |                        |
| عدد 1   | مؤس PS/2                          | عدد 1   | مؤس PS/2                          |                        |
| عدد 1   | مقذ تسلسلي                        | عدد 1   | مقذ تسلسلي                        |                        |
| عدد 1   | مقذ شبكة اتصال محلية              | عدد 1   | مقذ شبكة اتصال محلية              |                        |
| عدد 4   | منافذ USB                         | عدد 4   | منافذ USB                         |                        |
| عدد 6   | مقيس صوت (Ver 5.x)                | عدد 6   | مقيس صوت (Ver 5.x)                |                        |
| عدد 3   | مقيس صوت (Ver 6.x)                | عدد 3   | مقيس صوت (Ver 6.x)                |                        |
| RAID 0 / 1 / 0+1 دعم تقنية  |                                   | RAID 0 / 1 / 0+1 / 5 دعم تقنية  |                                   | مزايا خاصة             |
| 200مم (عرض) X 293مم (ارتفاع)  |                                   | 200مم (عرض) X 293مم (ارتفاع)  |                                   | حجم اللوحة             |
| Windows 2000 / XP / VISTA<br>بخطها في إضافة أو إزالة لاعم لني نظام تشغيل باخطل أو Biostar تحفظ بيون اخطل.                   |                                   | Windows 2000 / XP / VISTA<br>بخطها في إضافة أو إزالة لاعم لني نظام تشغيل باخطل أو Biostar تحفظ بيون اخطل.                   |                                   | دعم أنظمة التشغيل      |

## JAPANESE

|           | NF560-A2G  | NF520-A2G  |
|-----------|--|--|
| CPU       | Socket AM2<br>AMD Athlon 64 / Athlon 64 FX / Athlon 64 x2 /<br>Sempron プロセッサ<br>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<br>ハイパートランスポートとクールアンドクワイアットをサポートします            | Socket AM2<br>AMD Athlon 64 / Athlon 64 FX / Athlon 64 x2 /<br>Sempron プロセッサ<br>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<br>ハイパートランスポートとクールアンドクワイアットをサポートします            |
| FSB       | 1G のバンド幅までハイパートランスポートをサポートします  | 1G のバンド幅までハイパートランスポートをサポートします  |
| チップセット    | nVIDIA rForce 560  | nVIDIA rForce 520  |
| メインメモリ    | DDR2 DIMMスロット x 4<br>各DIMMは 256/512MB & 1GB/2GB DDR2をサポート<br>最大メモリ容量8GB<br>デュアル チャンネルモードDDR2メモリモジュール<br>DDR2 533 / 667 / 800をサポート<br>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<br>各DIMMは 256/512MB & 1GB/2GB DDR2をサポート<br>最大メモリ容量8GB<br>デュアル チャンネルモードDDR2メモリモジュール<br>DDR2 533 / 667 / 800をサポート<br>登録済みDIMMとECC DIMMはサポートされません |
| Super I/O | ITE 8716F<br>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。<br>低ピンカウントインターフェイス<br>環境コントロールイニシアチブ、<br>H/Wモニター<br>ファン速度コントローラ / モニター<br>ITEの「スマートガーディアン」機能                   | ITE 8716F<br>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。<br>低ピンカウントインターフェイス<br>環境コントロールイニシアチブ、<br>H/Wモニター<br>ファン速度コントローラ / モニター<br>ITEの「スマートガーディアン」機能                   |
| IDE       | 統合IDEコントローラ<br>Ultra DMA 33 / 66 / 100 / 133バスマスタモード<br>PIO Mode 0~4のサポート、   | 統合IDEコントローラ<br>Ultra DMA 33 / 66 / 100 / 133バスマスタモード<br>PIO Mode 0~4のサポート、   |
| SATA II   | 統合シリアルATAコントローラ<br>最高3 Gb/秒のデータ転送速度<br>SATAバージョン2.0仕様に対応。  | 統合シリアルATAコントローラ<br>最高3 Gb/秒のデータ転送速度<br>SATAバージョン2.0仕様に対応。  |
| LAN       | Marvell 88E8056 / 88E8039(オプション)<br>10 / 100 / 1000 Mb/秒のオートネゴシエーション<br>(Gigabitバンド幅はMarvell 88E8056専用です)<br>半/全二重機能   | Marvell 88E8056 / 88E8039(オプション)<br>10 / 100 / 1000 Mb/秒のオートネゴシエーション<br>(Gigabitバンド幅はMarvell 88E8056専用です)<br>半/全二重機能   |

NF560-A2G/NF520-A2G

|               | NF560-A2G  | NF520-A2G  |
|---------------|--|--|
| サウンド<br>Codec | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>7.1チャンネルオーディオアウト (ALC888)<br>5.1チャンネルオーディオアウト (ALC662)<br>7.1チャンネルオーディオアウト  | ALC888 (Ver 5.x) / ALC662 (Ver 6.x)<br>7.1チャンネルオーディオアウト (ALC888)<br>5.1チャンネルオーディオアウト (ALC662)<br>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<br>PCI Express x16スロット x1<br>PCI Express x 1スロット x2   | PCIスロット x3<br>PCI Express x16スロット x1<br>PCI Express x 1スロット x2   |
| オンボードコ<br>ネクタ | フロッピーコネクタ x1<br>プリンタポートコネクタ x1<br>IDEコネクタ x1<br>SATAコネクタ x4<br>フロントパネルコネクタ x1<br>フロントオーディオコネクタ x1<br>CDインコネクタ x1<br>S/PDIFアウトコネクタ x1<br>CPUファンヘッダ x1<br>システムファンヘッダ x1<br>CMOS クリアヘッダ x1<br>USBコネクタ x3<br>電源コネクタ (24ピン) x1<br>電源コネクタ (4ピン) x1 | フロッピーコネクタ x1<br>プリンタポートコネクタ x1<br>IDEコネクタ x1<br>SATAコネクタ x4<br>フロントパネルコネクタ x1<br>フロントオーディオコネクタ x1<br>CDインコネクタ x1<br>S/PDIFアウトコネクタ x1<br>CPUファンヘッダ x1<br>システムファンヘッダ x1<br>CMOS クリアヘッダ x1<br>USBコネクタ x3<br>電源コネクタ (24ピン) x1<br>電源コネクタ (4ピン) x1 |
| 背面パネル<br>I/O  | PS/2キーボード x1<br>PS/2マウス x1<br>シリアルポート x1<br>LANポート x1<br>USBポート x4<br>オーディオジャック (Ver 5.x) x6<br>オーディオジャック (Ver 6.x) x3   | PS/2キーボード x1<br>PS/2マウス x1<br>シリアルポート x1<br>LANポート x1<br>USBポート x4<br>オーディオジャック (Ver 5.x) x6<br>オーディオジャック (Ver 6.x) x3   |
| ボードサイズ        | 200 mm (幅) X 293 mm (高さ)   | 200 mm (幅) X 293 mm (高さ)   |
| 特殊機能          | RAID 0 / 1 / 0+1 / 5のサポート  | RAID 0 / 1 / 0+1のサポート  |
| OSサポート        | Windows 2000 / XP / VISTA<br>Bicstarは事前のサポートなしにOSサポートを追加ま<br>たは削除する権利を留保します。   | Windows 2000 / XP / VISTA<br>Bicstarは事前のサポートなしにOSサポートを追加ま<br>たは削除する権利を留保します。   |

2007/06/28

# ***NF560-A2G/NF520-A2G BIOS Setup***

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| <b>BIOS Setup .....</b>                 | <b>1</b>  |
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# **NF560-A2G/NF520-A2G**

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## **BIOS Setup**

### **Introduction**

The purpose of this manual is to describe the settings in the Phoenix-Award™ BIOS Setup program on this motherboard. The Setup program allows users to modify the basic system configuration and save these settings to CMOS RAM. The power of CMOS RAM is supplied by a battery so that it retains the Setup information when the power is turned off.

Basic Input-Output System (BIOS) determines what a computer can do without accessing programs from a disk. This system controls most of the input and output devices such as keyboard, mouse, serial ports and disk drives. BIOS activates at the first stage of the booting process, loading and executing the operating system. Some additional features, such as virus and password protection or chipset fine-tuning options are also included in BIOS.

The rest of this manual will to guide you through the options and settings in BIOS Setup.

### **Plug and Play Support**

This PHOENIX-AWARD BIOS supports the Plug and Play Version 1.0A specification and ESCD (Extended System Configuration Data) write.

### **EPA Green PC Support**

This PHOENIX-AWARD BIOS supports Version 1.03 of the EPA Green PC specification.

### **APM Support**

This PHOENIX-AWARD BIOS supports Version 1.1&1.2 of the Advanced Power Management (APM) specification. Power management features are implemented via the System Management Interrupt (SMI). Sleep and Suspend power management modes are supported. Power to the hard disk drives and video monitors can also be managed by this PHOENIX-AWARD BIOS.

# NF560-A2G/NF520-A2G

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## **ACPI Support**

Phoenix-Award ACPI BIOS support Version 1.0b of Advanced Configuration and Power interface specification (ACPI). It provides ASL code for power management and device configuration capabilities as defined in the ACPI specification, developed by Microsoft, Intel and Toshiba.

## **PCI Bus Support**

This PHOENIX-AWARD BIOS also supports Version 3.0 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

## **DRAM Support**

DDR2 SDRAM (Double Data Rate Synchronous DRAM) is supported.

## **Supported CPUs**

This PHOENIX-AWARD BIOS supports the AMD CPU.

## **Using Setup**

Use the arrow keys to highlight items in most of the place, press <Enter> to select, use the <PgUp> and <PgDn> keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program by using the keyboard.

| <b>Keystroke</b> | <b>Function</b>   |
|------------------|---|
| Up arrow         | Move to previous item   |
| Down arrow       | Move to next item   |
| Left arrow       | Move to the item on the left (menu bar)   |
| Right arrow      | Move to the item on the right (menu bar)  |
| Move Enter       | Move to the item you desired  |
| PgUp key         | Increase the numeric value or make changes  |
| PgDn key         | Decrease the numeric value or make changes  |
| + Key            | Increase the numeric value or make changes  |
| - Key            | Decrease the numeric value or make changes  |
| Esc key          | Main Menu – Quit and not save changes into CMOS<br>Status Page Setup Menu and Option Page Setup Menu – Exit<br>Current page and return to Main Menu |
| F1 key           | General help on Setup navigation keys   |
| F5 key           | Load previous values from CMOS  |
| F7 key           | Load the optimized defaults   |
| F10 key          | Save all the CMOS changes and exit  |



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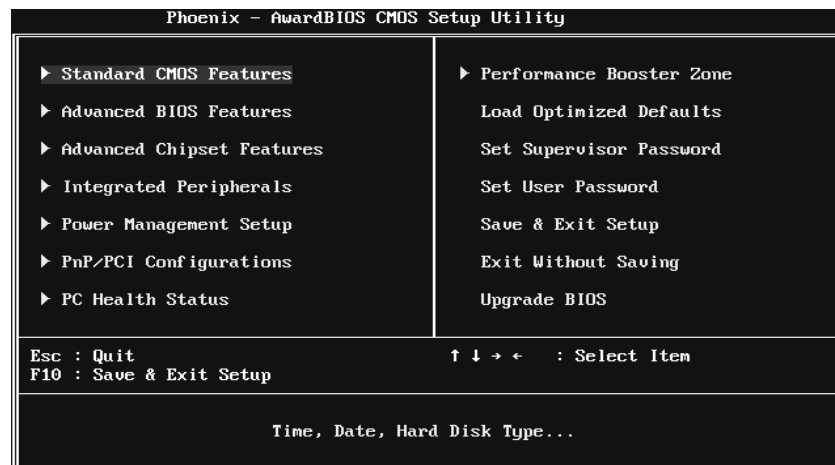
## 1 Main Menu

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

**!! WARNING !!**

For better system performance, the BIOS firmware is being continuously updated. The BIOS information described in this manual (**Figure 1, 2, 3, 4, 5, 6, 7, 8, 9**) is for your reference only. The actual BIOS information and settings on board may be slightly different from this manual.

■ **Figure 1: Main Menu**



### Standard CMOS Features

This submenu contains industry standard configurable options.

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## **Advanced BIOS Features**

This submenu allows you to configure advanced features of the BIOS.

## **Advanced Chipset Features**

This submenu allows you to configure special chipset features.

## **Integrated Peripherals**

This submenu allows you to configure certain IDE hard drive options and Programmed Input/ Output features.

## **Power Management Setup**

This submenu allows you to configure the power management features.

## **PnP/PCI Configurations**

This submenu allows you to configure certain “Plug and Play” and PCI options.

## **PC Health Status**

This submenu allows you to monitor the hardware of your system.

## **Performance Booster Zone**

This submenu allows you to change CPU Vcore Voltage and CPU/PCI clock. (However, we suggest you to use the default setting. Changing the voltage and clock improperly may damage the CPU or M/B!)

## **Load Optimized Defaults**

This selection allows you to reload the BIOS when problem occurs during system booting sequence. These configurations are factory settings optimized for this system. A confirmation message will be displayed before defaults are set.



Load Optimized Defaults (Y/N)? N

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## Set Supervisor Password

Setting the supervisor password will prohibit everyone except the supervisor from making changes using the CMOS Setup Utility. You will be prompted with to enter a password.



Enter Password:

## Set User Password

If the Supervisor Password is not set, then the User Password will function in the same way as the Supervisor Password. If the Supervisor Password is set and the User Password is set, the “User” will only be able to view configurations but will not be able to change them.



Enter Password:

## Save & Exit Setup

Save all configuration changes to CMOS (memory) and exit setup. Confirmation message will be displayed before proceeding.



SAVE to CMOS and EXIT (Y/N)? Y

## Exit Without Saving

Abandon all changes made during the current session and exit setup. Confirmation message will be displayed before proceeding.



Quit Without Saving (Y/N)? N

## **NF560-A2G/NF520-A2G**

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### **Upgrade BIOS**

This submenu allows you to upgrade bios.

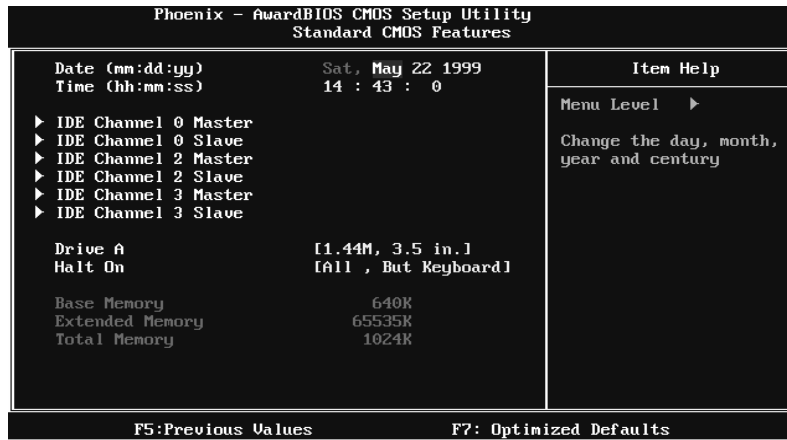
BIOS UPDATE UTILITY (Y/N)? N

# NF560-A2G/NF520-A2G

## 2 Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into several categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

■ **Figure 2: Standard CMOS Setup**



### Main Menu Selections

This table shows the items and the available options on the Main Menu.

| Item                     | Options                      | Description   |
|--------------------------|------------------------------|---|
| Date                     | mm : dd : yy                 | Set the system date. Note that the 'Day' automatically changes when you set the date. |
| Time                     | hh : mm : ss                 | Set the system internal clock.  |
| IDE Channel 0/2/3 Master | Options are in its sub menu. | Press <Enter> to enter the sub menu of detailed options                               |
| IDE Channel 0/2/3 Slave  | Options are in its sub menu. | Press <Enter> to enter the sub menu of detailed options.                              |

## NF560-A2G/NF520-A2G

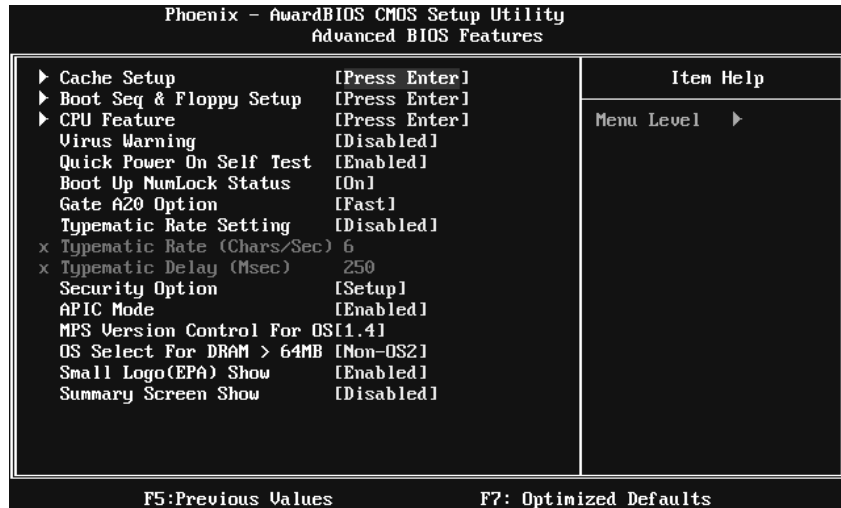
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| Item            | Options  | Description  |
|-----------------|--|--|
| Drive A         | 360K, 5.25 in<br>1.2M, 5.25 in<br>720K, 3.5 in<br>1.44M, 3.5 in<br>2.88M, 3.5 in<br>None | Select the type of floppy disk drive installed in your system.                           |
| Halt On         | All Errors<br>No Errors<br>All, but Keyboard<br>All, but Diskette<br>All, but Disk/ Key  | Select the situation in which you want the BIOS to stop the POST process and notify you. |
| Base Memory     | N/A  | Displays the amount of conventional memory detected during boot up.                      |
| Extended Memory | N/A  | Displays the amount of extended memory detected during boot up.                          |
| Total Memory    | N/A  | Displays the total memory available in the system.                                       |

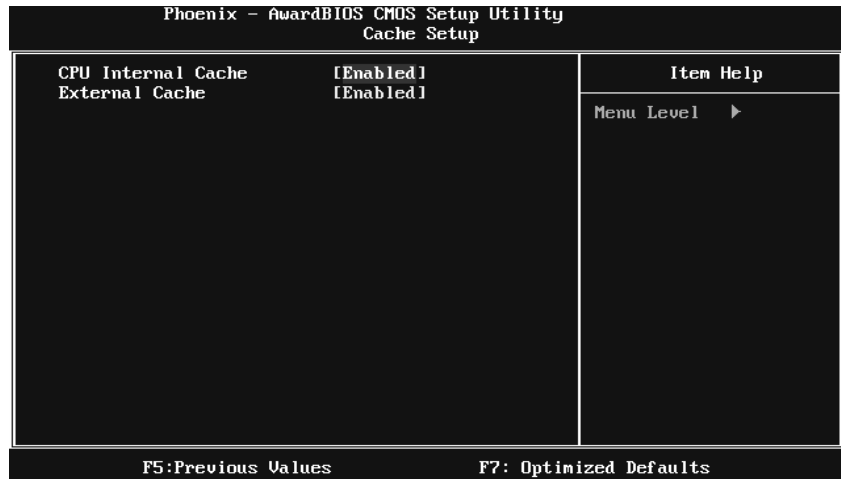
# NF560-A2G/NF520-A2G

## 3 Advanced BIOS Features

■ Figure 3: Advanced BIOS Setup



### Cache Setup



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## CPU Internal Cache

Depending on the CPU/chipset in use, you may be able to increase memory access time with this option.

**Enabled** (default) Enable cache.

Disabled Disable cache.

## External Cache

This option enables or disables "Level 2" secondary cache on the CPU, which may improve performance.

**Enabled** (default) Enable cache.

Disabled Disable cache.

## Boot Seq & Floppy Setup

This item allows you to setup boot sequence & Floppy.

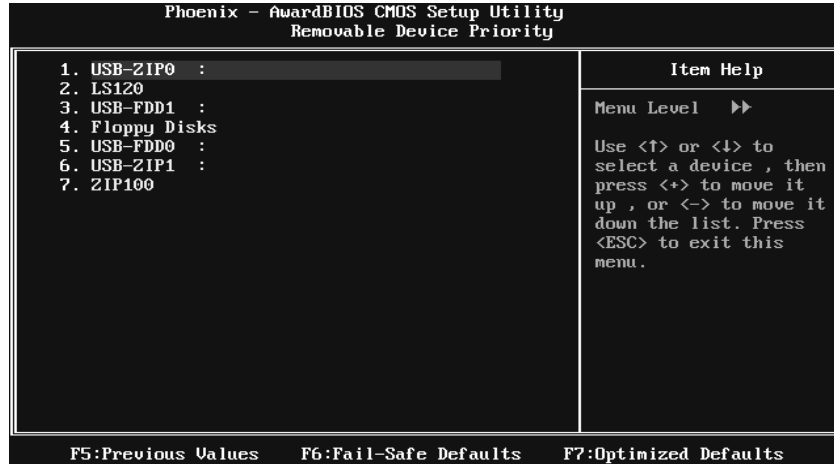
| Phoenix - AwardBIOS CMOS Setup Utility    |                       |
|---|-----------------------|
| Boot Seq & Floppy Setup                   |                       |
| ▶ Removable Device Priority [Press Enter] | Item Help             |
| ▶ Hard Disk Boot Priority [Press Enter]   | Menu Level ▶          |
| ▶ CD-ROM Boot Priority [Press Enter]      | Select Removable Boot |
| First Boot Device [Removable]             | Device Priority       |
| Second Boot Device [Hard Disk]            |                       |
| Third Boot Device [CDROM]                 |                       |
| Boot Other Device [Enabled]               |                       |
| Boot Up Floppy Seek [Enabled]             |                       |
| F5: Previous Values                       |                       |
| F7: Optimized Defaults                    |                       |



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## Removable Device Priority

Select Removable Boot Device Priority.

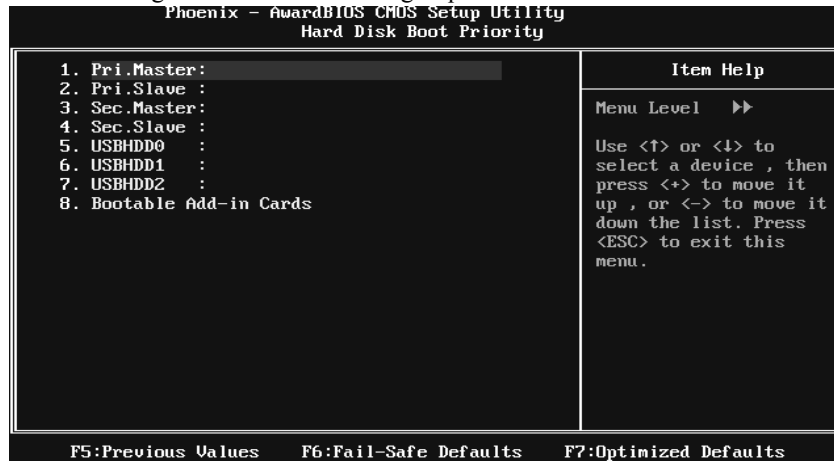


The Choices: Floppy Disks, Zip100, USB-FDD0, USB-FDD1, USB-ZIP0, USB-ZIP1, LS120.

## Hard Disk Boot Priority

The BIOS will attempt to arrange the Hard Disk boot sequence automatically.

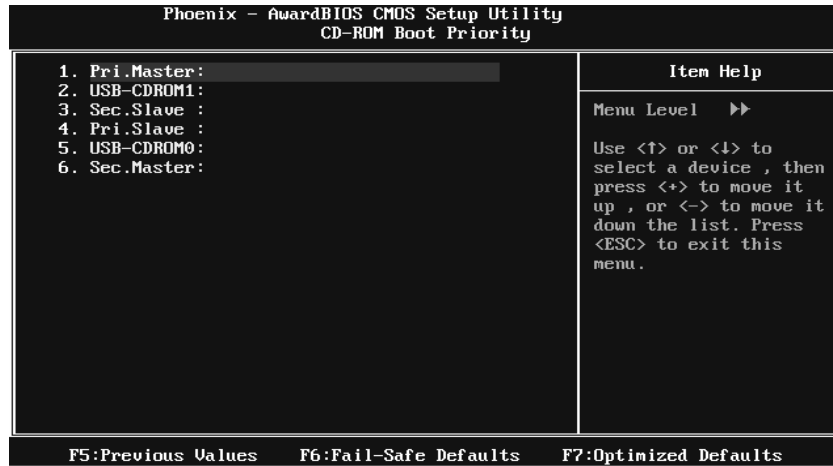
You can change the Hard Disk booting sequence here.



The Choices: Pri. Master, Pri. Slave, Sec. Master, Sec. Slave, USB HDD0, USB HDD1, USB HDD2, and Bootable Add-in Cards.

# NF560-A2G/NF520-A2G

## CD-ROM Boot Priority



**The Choices:** Pri. Master, Pri. Slave, Sec. Master, Sec. Slave, USB CDR0M0, USB CDR0M 1.

### First/Second/Third Boot Device

The BIOS will attempt to load the operating system in this order.

**The Choices:** Removable, Hard Disk, CDROM, Legacy LAN, Disabled.

### Boot Other Device

When enabled, BIOS will try to load the operating system from other device when it failed to load from the three devices above.

**The Choices:** Enabled (default), Disabled

### Boot Up Floppy Seek

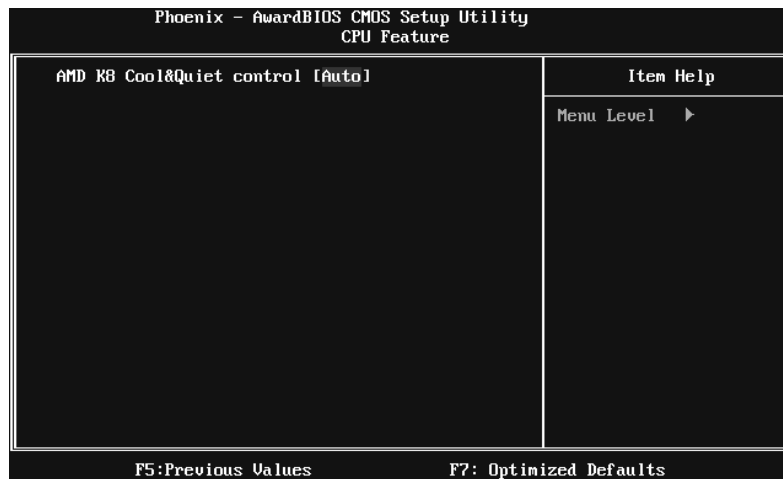
When enabled, System will test the floppy drives to determine if they have 40 or 80 tracks during boot up. Disabling this option reduces the time it takes to boot-up.

**The Choices:** Enabled (default), Disabled.

# NF560-A2G/NF520-A2G

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## CPU Feature



### **AMD K8 Cool&Quiet control**

The item allows you select K8 Cool'n'Quiet control.

**The Choices:** Auto (default), Disabled.

## Virus Warning

This option allows you to choose the VIRUS Warning feature that is used to protect the IDE Hard Disk boot sector. If this function is enabled and an attempt is made to write to the boot sector, BIOS will display a warning message on the screen and sound an alarm beep.

**Disabled** (default) Virus protection is disabled.

**Enabled** Virus protection is activated.

## Quick Power On Self Test

Enabling this option will cause an abridged version of the Power On Self-Test (POST) to execute after you power up the computer.

**Disabled** Normal POST.

**Enabled** (default) Enable quick POST.

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## **Boot Up NumLock Status**

Selects the NumLock State after the system switched on.

The Choices:

**On** (default)      Numpad is number keys.  
**Off**                Numpad is arrow keys.

## **Gate A20 Option**

Select if chipset or keyboard controller should control Gate A20.

**Normal**            A pin in the keyboard controller controls GateA20.  
**Fast** (default)    Lets chipset control Gate A20.

## **Typematic Rate Setting**

When a key is held down, the keystroke will repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be configured.

**The Choices:** **Disabled** (default), Enabled.

## **Typematic Rate (Chars/Sec)**

Sets the rate at which a keystroke is repeated when you hold the key down.

**The Choices:** 6 (default), 8, 10, 12, 15, 20, 24, 30.

## **Typematic Delay (Msec)**

Sets the delay time after the key is held down before it begins to repeat the keystroke.

**The Choices:** 250 (default), 500, 750, 1000.

## **Security Option**

This option will enable only individuals with passwords to bring the system online and/or to use the CMOS Setup Utility.

**System:**            A password is required for the system to boot and is also required to access the Setup Utility.

**Setup** (default):    A password is required to access the Setup Utility only.  
This will only apply if passwords are set from the Setup main menu.

# **NF560-A2G/NF520-A2G**

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## **APIC MODE**

Selecting Enabled enables APIC device mode reporting from the BIOS to the operating system.

**The Choices:** Enabled (default), Disabled.

## **MPS Version Control For OS**

The BIOS supports version 1.1 and 1.4 of the Intel multiprocessor specification. Select version supported by the operation system running on this computer.

**The Choices:** 1.4 (default), 1.1.

## **OS Select For DRAM > 64MB**

A choice other than Non-OS2 is only used for OS2 systems with memory exceeding 64MB.

**The Choices:** Non-OS2 (default), OS2.

## **Small Logo(EPA) Show**

This item allows you to select whether the “Small Logo” shows. Enabled (default) “Small Logo” shows when system boots up. Disabled No “Small Logo” shows when system boots.

**The Choices:** Enabled (default), Disabled.

## **Summary Screen Show**

This item allows you to enable/disable the summary screen. Summary screen means system configuration and PCI device listing.

**The Choices:** Disabled (default), Enabled.

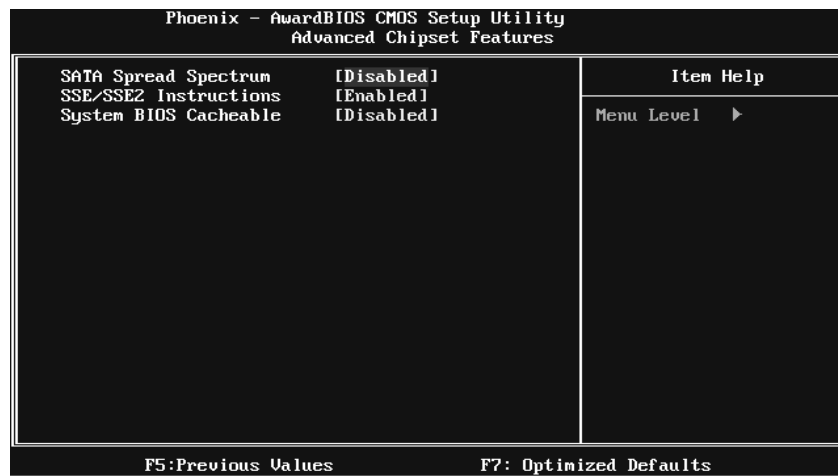
# NF560-A2G/NF520-A2G

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## 4 Advanced Chipset Features

This submenu allows you to configure the specific features of the chipset installed on your system. This chipset manage bus speeds and access to system memory resources, such as DRAM. It also coordinates communications with the PCI bus. The default settings that came with your system have been optimized and therefore should not be changed unless you are suspicious that the settings have been changed incorrectly.

■ **Figure 4: Advanced Chipset Setup**



### SATA Spread Spectrum

This item allows you to enable/disable the Spread Spectrum function.  
**The Choices:** Disabled (default), Enabled.

### SSE/SSE2 instructions

This item allows you to enable/disable SSE/SSE2 instruction.  
**The Choices:** Enabled (default), Disabled.

## **NF560-A2G/NF520-A2G**

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### **System BIOS Cacheable**

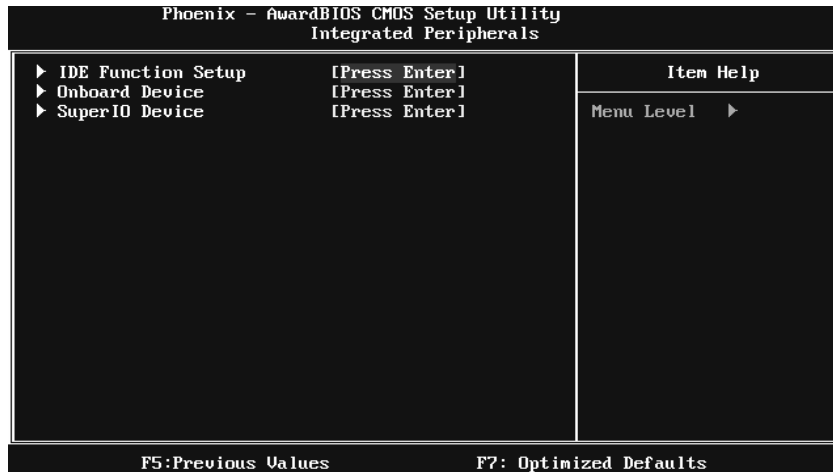
Selecting the “Enabled” option allows caching of the system BIOS ROM at F0000h-FFFFFh, which is able to improve the system performance. However, any programs that attempts to write to this memory block will cause conflicts and result in system errors.

**The Choices:** **Disabled** (default), Enabled.

# NF560-A2G/NF520-A2G

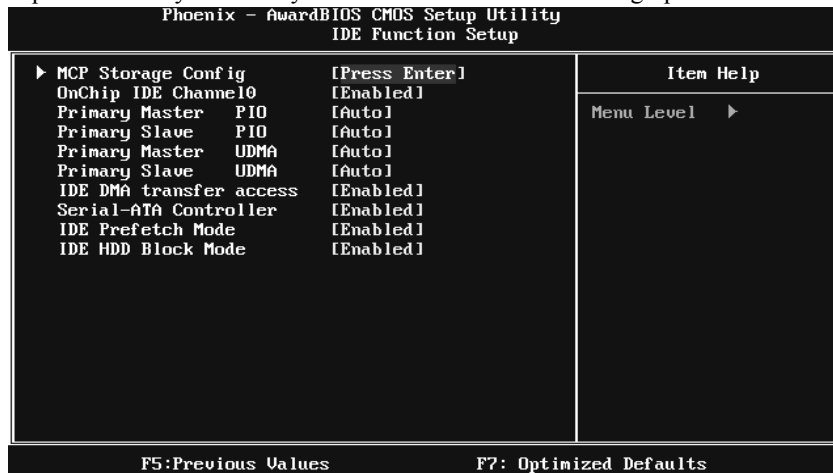
## 5 Integrated Peripherals

■ Figure 5. Integrated Peripherals



### IDE Function Setup

Highlight the “Press Enter” label next to the “IDE Function Setup” label and press enter key will take you a submenu with the following options:





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## SATA Operation Mode

This option allows you to choose SATA function.

**The Choices:** IDE (default), RAID, AHCI.

## SATA Pri-/Sec- Master/Slave RAID

This option allows you to enable or disable SATA Primary/Secondary RAID.

**The Choices:** Disabled (default), Enabled.

## On-chip IDE Channel 0

The motherboard chipset contains a PCI IDE interface with support for two IDE channels. Select "Enabled" to activate the first and/or second IDE interface. Select "Disabled" to deactivate an interface if you are going to install a primary and/or secondary add-in IDE interface.

**The Choices:** Enabled (default), Disabled.

## Primary Master/Slave PIO

The IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the IDE devices that the onboard IDE interface supports. Modes 0 to 4 will increase performance progressively. In Auto mode, the system automatically determines the best mode for each device.

**The Choices:** Auto (default), Mode0, Mode1, Mode2, Mode3, Mode4.

# NF560-A2G/NF520-A2G

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## Primary Master/Slave UDMA

Ultra DMA function can be implemented if it is supported by the IDE hard drives in your system. As well, your operating environment requires a DMA driver (Windows 95 or OSR2 may need a third party IDE bus master driver). If your hard drive and your system software both support Ultra DMA, select Auto to enable BIOS support.

**The Choices:** Auto (default), Disabled.

## IDE DMA Transfer Access

This item allows you to enable or disable the IDE DMA transfer access.

**The Choices:** Enabled (default), Disabled.

## Serial-ATA Controller

This item allows you to enable or disable the Serial ATA function.

**The Choices:** Enabled (default), Disabled.

## IDE Prefetch Mode

The “onboard” IDE drive interfaces supports IDE prefetch function for faster drive access. If the interface on your drive does not support prefetching, or if you install a primary and/or secondary add-in IDE interface, set this option to “Disabled”.

**The Choices:** Enabled (default), Disabled.

## IDE HDD Block Mode

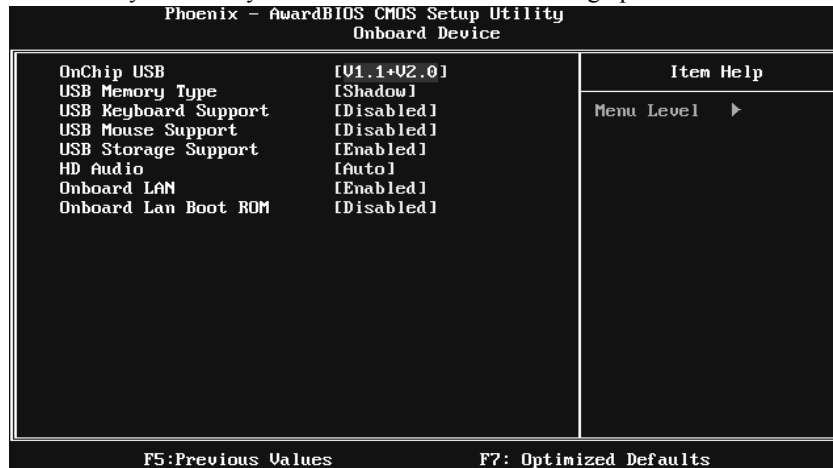
Block mode is also called block transfer, multiple commands, or multiple sectors read / write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read / write per sector where the drive can support.

**The Choices:** Enabled (default), Disabled.

# NF560-A2G/NF520-A2G

## Onboard Device

Highlight the “Press Enter” label next to the “Onboard Device” label and press the enter key will take you a submenu with the following options:



### **OnChip USB**

This option should be enabled if your system has a USB installed on the system board. You may need to disable this feature if you add a higher performance controller.

**The Choices:** V1.1+V2.0 (default), Disabled, V1.1

### **USB Memory Type**

This option allows you to choose the USB memory type.

**The Choices:** SHADOW (default), Base Memory(640K).

### **USB Keyboard/Mouse Support**

This item allows you to enable or disable the USB Keyboard / Mouse Legacy Support.

**Enabled** Enable USB Keyboard / Mouse Support.

**Disabled (default)** Disable USB Keyboard/ Mouse Support.

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## USB Storage Support

This item allows you to enable or disable the USB Storage device Legacy Support.

**Enabled** (default) Enable USB Storage Support.

Disabled Disable USB Storage Support.

## HD Audio

This option allows you to control the onboard HD audio.

**The Choices:** Auto (default), Disabled.

## Onboard LAN

This option allows you to control the onboard LAN.

**The Choices:** Enabled (default), Disabled.

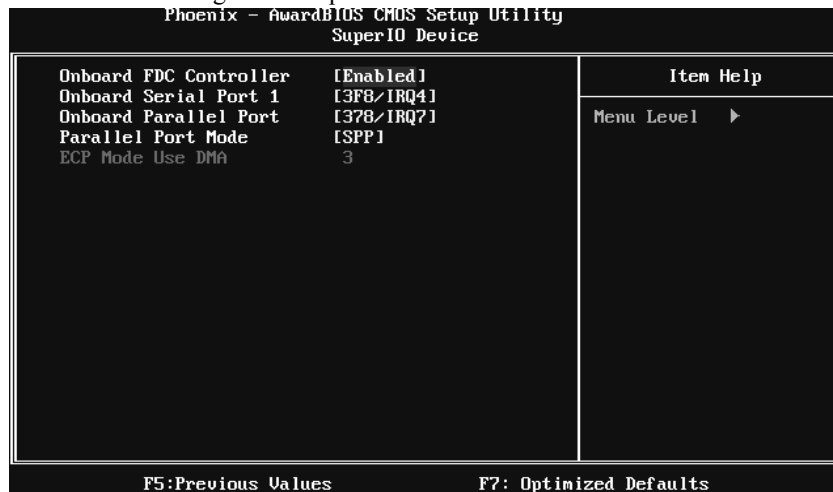
## Onboard LAN Boot ROM

This item allows you to enable or disable the Onboard LAN Boot ROM.

**The Choices:** Disabled (default), Enabled.

## SuperIO Device

Press Enter to configure the Super I/O device.



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## Onboard FDC Controller

Select enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you installed another FDC or the system uses no floppy drive, select disabled in this field.

**The Choices:** Enabled (default), Disabled.

## Onboard Serial Port 1

Select an address and corresponding interrupt for the first and second serial ports.

**The Choices:** 3F8/IRQ4 (default), Disabled, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto.

## Onboard Parallel Port

This item allows you to determine access onboard parallel port controller with which I/O Address.

**The Choices:** 378/IRQ7 (default), 278/IRQ5, 3BC/IRQ7, Disabled.

## Parallel Port Mode

This item allows you to determine how the parallel port should function. The default value is SPP.

The Choices:

- |               |  |
|---------------|--|
| SPP (default) | Using Parallel port as Standard Printer Port.      |
| EPP           | Using Parallel Port as Enhanced Parallel Port.     |
| ECP           | Using Parallel port as Extended Capabilities Port. |
| ECP+EPP       | Using Parallel port as ECP & EPP mode.             |

## ECP Mode Use DMA

Select a DMA Channel for the port.

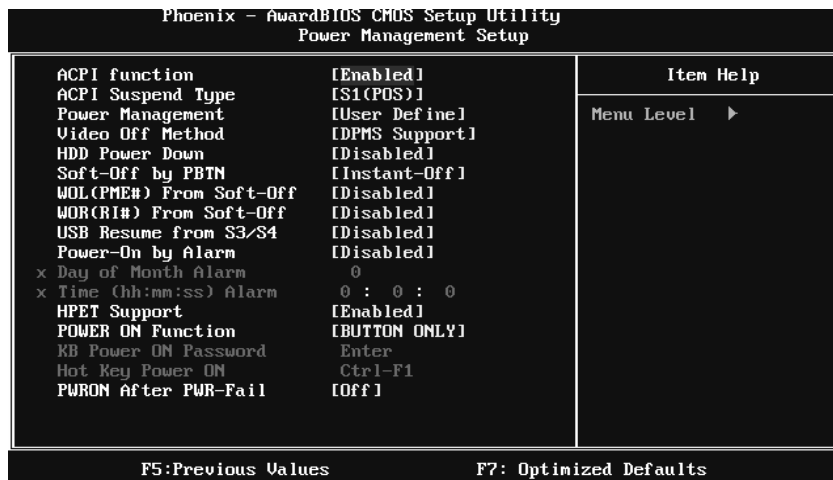
**The Choices:** 3 (default), 1.

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## 6 Power Management Setup

The Power Management Setup Menu allows you to configure your system to utilize energy conservation and power up/power down features.

■ **Figure 6. Power Management Setup**



### ACPI Function

This item displays the status of the Advanced Configuration and Power Management (ACPI).

**The Choices:** Enabled (default), Disabled.

### ACPI Suspend Type

The item allows you to select the suspend type under the ACPI operating system.

**The Choices:** S1 (POS) (default) Power on Suspend  
S3 (STR) Suspend to RAM  
S1 & S3 POS+STR

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## **Power Management**

This category allows you to select the power saving method and is directly related to the following modes:

1. HDD Power Down.
2. Suspend Mode.

There are three options of Power Management, three of which have fixed mode settings

### *Min. Power Saving*

Minimum power management.

Suspend Mode = 1 hr.

HDD Power Down = 15 min

### *Max. Power Saving*

Maximum power management only available for s1 CPU's.

Suspend Mode = 1 min.

HDD Power Down = 1 min.

### **User Define** (default)

Allow you to set each option individually.

When you choose user define, you can adjust each of the item from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min.

## **Video Off Method**

This option determines the manner when the monitor goes blank.

### V/H SYNC+Blank

This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

### Blank Screen

This option only writes blanks to the video buffer.

### **DPMS Support** (default)

Initial display power management signaling.

## **HDD Power Down**

When enabled, the hard-disk drives will power down after a set time of system inactivity. All other devices remain active.

**The Choices: Disabled** (default), 1 Min, 2 Min, 3 Min, 4 Min, 5 Min, 6 Min, 7 Min, 8 Min, 9 Min, 10 Min, 11 Min, 12 Min, 13 Min, 14 Min, 15Min.

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## **Soft-Off by PBTN**

This item determines the behavior of system power button. Instant off turn off the power immediately, and Delay 4 Sec. will require you to press and hold the power button for 4 seconds to cut off the system power.

**The Choices:** Delay 4 Sec, **Instant-Off** (default).

## **WOL(PME#)/ From Soft-Off**

This item allows you to enable or disable Wake On LAN from Soft-Off function.

**The Choices:** **Disabled** (default), Enabled.

## **WOR(RI#) From Soft-Off**

This item allows you to enable or disable Wake On Ring from Soft-Off function.

**The Choices:** **Disabled** (default), Enabled.

## **USB Resume From S3/S4**

This item allows you to enable or disabled the USB resume from S3/S4 function.

**The Choices:** **Disabled** (default), Enabled.

## **Power-On by Alarm**

This function is for setting date and time for your computer to boot up. When enabled, you can choose the date and time to boot up the system.

**The Choices:** **Disabled** (default), Enabled.

Date (of Month) Alarm

You can choose which month the system will boot up.

Time (hh:mm:ss) Alarm

You can choose the system boot up time, input hour, minute and second to specify.

**Note: If you have change the setting, you must let the system boot up until it goes to the operating system, before this function will work.**



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## **HPET Support**

This option allows you to disabled or enables the High Precision Event Timer.  
**The Choices:** **Enabled** (default), Disabled.

## **POWER ON Function`**

This item allows you to choose the power on method.  
**The Choices:** **Button Only**(default), Password, Hot Key, Mouse Move/Click, Mouse Double Click, Any Key, Keyboard 98.

## **KB Power ON Password**

Input password and press Enter to set the Keyboard power on password.

## **Hot Key Power ON**

Choose the Hot Key combination to boot up the system.  
**The Choices:** **Ctrl-F1**(default), Ctrl-F2, Ctrl-F3, Ctrl-F4, Ctrl-F5, Ctrl-F6, Ctrl-F7, Ctrl-F8, Ctrl-F9, Ctrl-F10, Ctrl-F11, and Ctrl-F12.

## **PWRON After PWR-Fail**

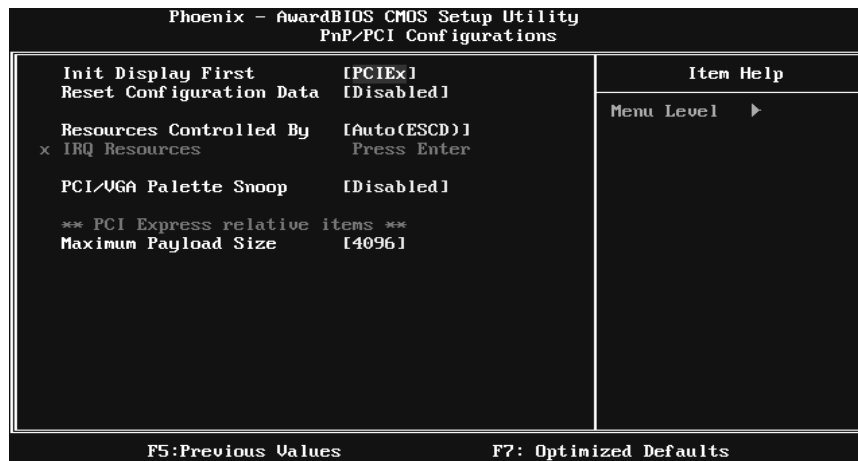
This setting specifies how your system should behave after a power fail or interrupts occurs. By choosing off will leave the computer in the power off state. Choosing On will reboot the computer. Former-Sts will restore the system to the status before power failure or interrupt occurs.  
**The Choices:** **Off** (default), On, Former-Sts.

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## 7 PnP/PCI Configurations

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

### ■ Figure 7: PnP/PCI Configurations



### Init Display First

This item allows you to decide to active whether PCI Slot or on-chip VGA first.  
**The Choices:** PCI Slot, PCIEx (default).

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## Reset Configuration Data

The system BIOS supports the PnP feature which requires the system to record which resources are assigned and protects resources from conflict. Every peripheral device has a node, which is called ESCD. This node records which resources are assigned to it. The system needs to record and update ESCD to the memory locations. These locations are reserved in the system BIOS. If the Disabled (default) option is chosen, the system's ESCD will update only when the new configuration varies from the last one. If the Enabled option is chosen, the system is forced to update ESCDs and then is automatically set to the "Disabled" mode.

The above settings will be shown on the screen only if "Manual" is chosen for the resources controlled by function.

Legacy is the term, which signifies that a resource is assigned to the ISA Bus and provides non-PnP ISA add-on cards. PCI / ISA PnP signify that a resource is assigned to the PCI Bus or provides for ISA PnP add-on cards and peripherals.

**The Choices:** Disabled (default), Enabled.

## Resources Controlled By

By Choosing "Auto(ESCD)" (default), the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral. By Choosing "Manual", the user will need to assign IRQ & DMA for add-on cards. Be sure that there are no IRQ/DMA and I/O port conflicts.

**The Choices:** Auto (ESCD) (default), Manual.

## IRQ Resources

This submenu will allow you to assign each system interrupt a type, depending on the type of device using the interrupt. When you press the "Press Enter" tag, you will be directed to a submenu that will allow you to configure the system interrupts. This is only configurable when "Resources Controlled By" is set to "Manual".

|        |                        |
|--------|------------------------|
| IRQ-5  | assigned to PCI Device |
| IRQ-7  | assigned to PCI Device |
| IRQ-9  | assigned to PCI Device |
| IRQ-10 | assigned to PCI Device |
| IRQ-11 | assigned to PCI Device |
| IRQ-14 | assigned to PCI Device |

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### **PCI / VGA Palette Snoop**

Some old graphic controllers need to “snoop” on the VGA palette and then map it to their display as a way to provide boot information and VGA compatibility. This item allows such snooping to take place.

**The Choices:** **Disabled** (default), Enabled

### **Maximum Payload Size**

Set the maximum payload size for Transaction packets (TLP).

**The Choice:** **4096** (default.), 128, 256, 512, 1024, 2048.

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## 8 PC Health Status

■ Figure 8: PC Health Status

| Phoenix - AwardBIOS CMOS Setup Utility |               | Item Help    |
|--|---------------|--------------|
| PC Health Status                       |               | Menu Level ▶ |
| ▶ FAN Control Setup                    | [Press Enter] |              |
| Shutdown Temperature                   | [80°C/176°F]  |              |
| Show H/W Monitor in POST               | [Enabled]     |              |
| CPU Vcore                              |               |              |
| Chipset Voltage                        |               |              |
| + 3.3 V                                |               |              |
| + 5.0 V                                |               |              |
| +12.0 V                                |               |              |
| DDR Voltage                            |               |              |
| HT Voltage                             |               |              |
| 5V(SB)                                 |               |              |
| Voltage Battery                        |               |              |
| CPU Temperature                        |               |              |
| CPU FAN Speed                          |               |              |
| SYS FAN Speed                          |               |              |

F5: Previous Values      F7: Optimized Defaults

## Fan Control Setup

| Phoenix - AwardBIOS CMOS Setup Utility |             | Item Help    |
|--|-------------|--------------|
| FAN Control Setup                      |             | Menu Level ▶ |
| CPU FAN Control by                     | [Always ON] |              |
| CPU Fan Off(°C)                        | 20          |              |
| CPU Fan Start(°C)                      | 25          |              |
| CPU Fan Full speed(°C)                 | 55          |              |
| Start PWM Value                        | 32          |              |

F5: Previous Values      F7: Optimized Defaults

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### **CPU FAN Control By**

The Choice “smart” can make your CPU FAN to reduce noise.

**The Choices:** Always ON (default), Smart.

### **CPU Fan Off<°C >**

If the CPU Temperature is lower than the set value, FAN will turn off.

**The Choices:** Min=0,.Max=20, Key in a DEC number.

### **CPU Fan Start<°C >**

CPU fan starts to work under smart fan function when arrive this set value.

**The Choices:** Min=0,.Max=50, Key in a DEC number.

### **CPU Fan Full speed <°C >**

When CPU temperature is reach the set value, the CPU fan will work under Full Speed.

**The Choices:** Min=0,.Max=80, Key in a DEC number.

### **Start PWM Value**

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

**The Choices:** Min=0,.Max=127, Key in a DEC number.

### **Shutdown Temperature**

This item allows you to set up the CPU shutdown Temperature. This item is only effective under Windows 98 ACPI mode.

**The Choices:** Disabled , 60°C / 140°F , 65°C / 149°F , 70°C / 158°F , 75°C / 167°F , 80°C / 176°F (default), 85°C / 185°F , 90°C / 194°F .

### **Show H/W Monitor in POST**

If you computer contains a monitoring system, it will show PC health status during POST stage. The item offers several different delay times.

**The Choices:** Enabled (default), Disabled.

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### **CPU Vcore, Chipset Voltage, +3.3V, +5.0V, +12.0V, DDR Voltage, HT Voltage, 5V<SB>, Voltage Battery**

Detect the system's voltage status automatically.

### **CPU Temperature**

This field displays the current temperature of CPU.

### **CPU FAN Speed**

This field displays the current speed of CPU fan.

### **SYS FAN Speed**

This field displays the current speed SYSTEM fan.

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## 9 Performance Booster Zone

Phoenix - AwardBIOS CMOS Setup Utility  
Performance Booster Zone

|                      |               | Item Help               |
|----------------------|---------------|-------------------------|
| ▶ DRAM Configuration | [Press Enter] |                         |
| CPU Frequency        | [200]         |                         |
| KB<->NB HT Speed     | [Auto]        | Menu Level ▶            |
| KB<->NB HT Width     | [Auto]        |                         |
| PCIE Spread Spectrum | [Disabled]    |                         |
| HT Spread Spectrum   | [Disabled]    | DRAM timing and control |
| PCIE Clock           | [100Mhz]      |                         |
| NPT Fid control      | [Auto]        |                         |
| NPT Vid control      | [Auto]        |                         |
| Memory Voltage       | [Auto]        |                         |

F5: Previous Values      F7: Optimized Defaults

### DRAM Configuration

Phoenix - AwardBIOS CMOS Setup Utility  
DRAM Configuration

|                              |               | Item Help           |
|------------------------------|---------------|---------------------|
| Timing Mode                  | [Auto]        |                     |
| x Memclock value or Limit    | DDR 400       |                     |
| DQS Training Control         | [Skip DQS]    | Menu Level ▶        |
| CKE base power down mode     | [Disabled]    |                     |
| CKE based powerdown          | [Per Channel] |                     |
| Memclock tri-stating         | [Disabled]    | Auto, no user limit |
| Memory Hole Remapping        | [Enabled]     | MaxMemClk, limit by |
| Auto Optimize Bottom IO      | [Enabled]     | Memory Clock value  |
| x Bottom of [31:24] IO space | C0            |                     |
| CAS Latency                  | [Auto]        |                     |
| DRAM Command Mode            | [Auto]        |                     |
| DDR II Timing Item           | [Disabled]    |                     |
| x TwTr Command Delay         | 3 bus clocks  |                     |
| x Trfc0 for DIMM0            | 75ns          |                     |
| x Trfc1 for DIMM1            | 75ns          |                     |
| x Trfc2 for DIMM2            | 75ns          |                     |
| x Trfc3 for DIMM3            | 75ns          |                     |
| x (Tur) Write Recovery Time  | 6 bus clocks  |                     |
| x (Trtp) Precharge Time      | 3 Clocks      |                     |

F5: Previous Values      F7: Optimized Defaults



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## Timing Mode

This item allows you to choose to manually or automatically regulate the DDR Timing.

**The Choices:** Auto (default), MaxMemClk.

## Memory Clock Value OR Limi

**The Choices:** DDR 400 (default), DDR 533, DDR 667, DDR 800.

## DQS Training Control

**The Choices:** Perform DQS, Skip DQS (default).

## CKE base power down mode

**The Choices:** Disabled (default), Enabled.

## CKE based power down

**The Choices:** Per Channel (default), Per CS.

## Memclock tri-stating

**The Choices:** Disabled (default), Enabled.

## Memory Hole Remapping

**The Choices:** Enabled (default), Disabled.

## Auto Optimize Bottom IO

**The Choices:** Enabled (default), Disabled.

## Bottom of [31:24] IO space

**The Choices:** C0 (default); Min=0000, Max=00FF, key in a HEX number.

## CAS Latency

The CAS Latency (tCL) is the time (in number of clock cycles) that elapses after the memory controller sends a request to read a memory location and before the data is sent to the module's output pins.

**The Choices:** Auto (default), 2.0, 3.0, 4.0, 5.0, 6.0.

## DRAM Command Mode

This item allows you to choose the DRAM command mode.

**The Choices:** Auto (default), 1T, 2T.

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## **DDRII Timing Item**

The Choices: **Disabled** (default), Enabled.

## **TwTr Command Delay**

The Choices: **3 bus clocks** (default), 1 bus clocks, 2 bus clocks.

## **Trfc0 for DIMM0**

The Choices: **75ns** (default), 105ns, 127.5ns, 195ns, 327.5ns.

## **Trfc1 for DIMM1**

The Choices: **75ns** (default) , 105ns, 127.5ns, 195ns, 327.5ns.

## **Trfc2 for DIMM2**

The Choices: **75ns** (default) , 105ns, 127.5ns, 195ns, 327.5ns.

## **Trfc3 for DIMM3**

The Choices: **75ns** (default) , 105ns, 127.5ns, 195ns, 327.5ns.

## **<Twr> Write Recovery Time**

The Choices: **6 bus clocks** (default), 3 bus clocks, 4 bus clocks, 5 bus clocks.

## **<Trtp> Precharge Time**

The Choices: **3 clocks** (default), 2 clocks.

## **<Trc> Row Cycle Time**

The Choices: **26 bus clocks** (default), 11-25 bus clocks.

## **<Trcd> RAS to CAS R/W Delay**

The Choices: **6 clocks** (default), 3 clocks, 4 clocks, 5 clocks.

## **<Trrd> RAS to RAS Delay**

The Choices: **5 clocks** (default), 2 clocks, 3 clocks, 4 clocks.

## **<Trp> Row Precharge Time**

The Choices: **6 clocks** (default), 3 clocks, 4 clocks, 5 clocks.

## **<Tras> Minimum RAS Active Time**

The Choices: **18 bus clocks** (default), 5-17 bus clocks.

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## **CPU Frequency**

This item allows you to select the CPU Frequency.  
**The Choices:** 200 (default), 201~450.

## **K8<->NB HT Speed**

**The Choices:** AUTO (default), 1x, 2x, 3x, 4x, 5x.

## **K8<->NB HT Width**

**The Choices:** AUTO (default), ↓8↑8, ↓16↑16.

## **PCIE Spread Spectrum**

This item allows you to select the PCIE Spread Spectrum function.  
**The Choices:** Disabled (default), Enabled.

## **HT Spread Spectrum**

This item allows you to select HT Spread Spectrum function.  
**The Choices:** Disabled (default), Center, Down.

## **PCIE Clock**

This item allows you to select the PCIE clock.  
**The Choices:** 100Mhz (default), 101Mhz~150Mhz.

## **NPT Fid control**

This function allows you to adjust the frequency ratio of CPU.  
**The Choices:** Auto (default), x4: 800Mhz ~ x25: 5000Mhz  
(differs from CPU)

## **NPT Vid Control**

This function allows you to adjust the CPU voltage.  
**The Choices:** Auto (default), 0.4625v ~ 1.7000v.

## **Memory Voltage**

This function allows you to adjust the DDR voltage.  
**The Choices:** Auto (default), 1.95V, 2.00V, 2.05V, 2.10V.