

Contents

Chapter 1 Specification	8
1-1. 75MRN / 75MRN-R / 75MRN-L / 75MRN-RL Layout	9
1-2. Mainboard Specifications	10
1-2.1 CPU Socket	10
1-2.2 System Chipsets	10
1-2.3 Memory	10
1-2.4 BIOS	10
1-2.5 Integrated AGP interface and additional AGP Slot	11
1-2.6 Advanced System Power Management	11
1-2.7 Multi-I/O Functions	11
1-2.8 Expansion Slots	12
1-2.9 AC'97 Audio Codec on board	12
1-2.10 Hardware Monitor on board	12
1-2.11 Serial ATA RAID Controller (75MRN-R / RL only).....	12
1-2.12 LAN on board (75MRN-L/ 75MRN-RL only)	12
1-2.13 Form Factor	12
1-3. Mainboard Specification Table	13
1-4. Chipset System Block Diagram	14
Chapter 2 Hardware Setup	16
2-1 CPU Identification and Installation	17
2-1.1 CPU Identification Legends	17
2-1.2 CPU Installation with Socket 462	18
2-2 Memory Installation	19
2-2.1 To Install DDR SDRAM Module	19
2-2.2 Dual-channel DDR DIMM configuration	20
2-2.3 To remove a DDR DIMM	20
2-3 VGA / AGP Slot Installation	21

2-4 IDE Connector Installation	22
2-5 Floppy Drive Connector Installation	23
2-6 Serial ATA Connectors (75MRN-R / 75MRN-RL Only) .	24
2-7 ATX Power Supply Installation	25
2-8 Jumper Settings	26
2-8.1 How to tackle the Jumpers:	27
2-8.2 Jp2: CPU Clock Select	27
2-8.3 JBAT1: nVIDIA Clear CMOS	28
2-8.4 Jp5: Anti-burn Shield (ABSII)	29
2-8.5 Jp1&Jp7: PS/2 KB/Mouse Power On	30
2-8.6 Jp4: SATA RAID Controller Select(75MRN2-R/RL Only) ..	30
2-9 Other Connectors Configuration	31
2-9.1 Onboard FAN Connectors	31
2-9.2 USB Ports and USB Pin-headers	32
2-9.3 Chassis Panel Connectors	33
2-9.4 PS/2 Mouse And PS/2 Keyboard	33
2-9.5 CD-ROM Audio Connectors	34
2-9.6 Thermal Resistors	34
2-9.7 Wake On LAN Connector:	35
2-9.8 COM 2 Header for one Serial Port	36
2-9.9 Complex Pin-header (Front Panel Connectors)	37
2-9.10 6-channel Sound Output Connector (Optional)	39
2-9.11 LAN Connector (75MRN-L / 75MRN-RL Only)	39
Chapter 3 Software Setup	40
3-1 To Open up the Support CD	41
3-2 To Install “nVIDIA nForce2 All in 1 Driver”	42
3-3 To Install AC’97 Audio Driver	44
3-4 To Verify 6-channel Audio	45
3-5 DirectX Installation	48
3-6 Graphics Driver Installation	49

3-7 To Install Hardware Monitor Utility	50
3-7.1 Installation	50
3-7.2 Verification	51
3-8 To Install USB 2.0 Driver for Win2000 or WinXP	52
3-9 RAID Controller Drivers (75MRN-R / RL Only)	53
Chapter 4 BIOS Setup	54
4-1 About BIOS Setup	55
4-2 To Run BIOS Setup	55
4-3 About CMOS	55
4-4 The POST (Power On Self Test)	55
4-5 To Upgrade BIOS	56
4-5.1 Before Upgrading BIOS	56
4-5.2 Upgrade Process.....	56
4-6 BIOS SETUP --- CMOS Setup Utility	60
4-6.1 CMOS Setup Utility	60
4-6.2 Standard CMOS Setup	61
4-6.3 Advanced BIOS Features	64
4-6.4 Advanced Chipset Features	68
4-6.5 Integrated Peripherals	71
4-6.6 Power Management Setup	76
4-6.7 PnP / PCI Configuration	79
4-6.8 SmartDoc Anti-Burn Shield	81
4-6.9 CPU Ratio/Voltage Control.....	83
4-6.10 Load Optimized Defaults	85
4-6.11 SET SUPERVISOR / USER PASSWORD.....	85
4-6.12 SAVE & EXIT SETUP	86
4-6.13 EXIT WITHOUT SAVING	86
Chapter 5 RAID Controller	87
5-0 Before Creating Disk Array:	88

5-1 Creating Your Disk Array	89
5-1.1 Creating An Array For Performance/Security	89
5-1.2 Creating Security Array With Existing Data Drive	91
5-2 Installing Drivers	93
5-2.1 For Windows 2000/XP	93
5-2.2 Windows 95/98	95
5-2.3 DOS/Windows 3.1x	98
5-2.4 Windows NT4.0	99
APPENDICES	101
Appendix-1 Identify BIOS Version & BIOS Part Number .	102
Appendix-2 Identify Mainboard Model Number	103
Appendix-3 Technical Terms	104

Item Checkup

- Mainboard
- User Manual (Mainboard)
- Multi-lingual Quick Installation Guide
- Support CD
- Bundled Bonus Pack CD
- Bundled Bonus Pack Manual
- Promise SATA RAID Driver Diskette (Optional)
- Cables :
 - ATA66/100/133 IDE Cable
 - FDD Cable
 - USB Cable (Optional)
 - 2 x Serial ATA Cable (for 75MRN-R/75MRN-RL)
 - 1x Serial ATA Power Cable (for 75MRN-R/75MRN-RL)

Chapter 2 Hardware Setup

To Get Things Ready for Hardware Setup !

1. We recommend to install your CPU before any other components. For detailed installation instructions of processor, you can also refer to the pamphlet enclosed in your CPU package.
2. Installing a cooling fan with a good heatsink is a must for proper heat dissipation for your CPU. Get ready an appropriate fan with heatsink for proper installation. Improper fan and installation will damage your CPU.
3. In case CPU Vcore, CPU clock or Frequency Ratio is adjustable on board, please follow the instructions described in the User Manual for proper setup. Incorrect setting will cause damage to your CPU.

The following topics are included in this chapter:

2-1 CPU Identification and Installation

2-2 Memory Installation

2-3 AGP Slot Installation

2-4 IDE Connector Installation

2-5 Floppy Drive Connector (FDC) Installation

2-6 Serial ATA Connector Installation (75MRN-R / 75MRN-RL only)

2-7 ATX Power Supply Installation

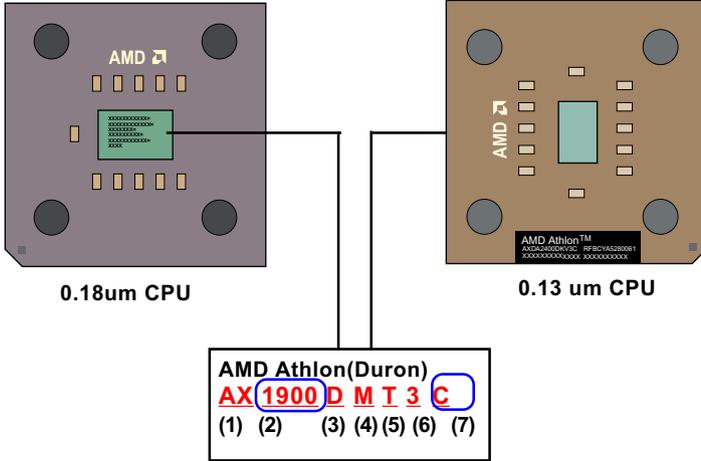
2-8 Jumper Settings

2-9 Other Connectors Configuration

2-10 IRQ Description

2-1 CPU Identification and Installation

2-1.1 CPU Identification Legends



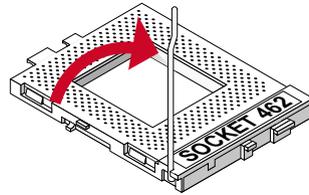
- | | |
|-----|---|
| (1) | Family / Architecture:
A, AX, AXDA=AMD Athlon Processor
D, DHD, DHM, DHL=AMD Duron Processor |
| (2) | Speed: 1000=1000MHz, 1600=1400MHz, 1700=1467MHz,
1800=1533Mhz, 1900=1600MHz, 2000=1667MHz,
2100=1733MHz, 2200=1800MHz, 2400=2000MHz,
2600=2133MHz, 2700=2167MHz, 2500=1833MHz(Barton),
2800=2083MHz(Barton), 3000=2250MHz(Barton),
3200=2332MHz(Barton) |
| (3) | Package Type: A=CPGA, D=OPGA |
| (4) | Voltage: L=1.5V, U=1.6V, K=1.65V, P=1.7V, M=1.75V, N=1.8V |
| (5) | Maximum Temperature: R=70°C, Y=75°C, V=85°C
T=90°C, S=95°C, Q=100°C |
| (6) | Size of L2 Cache: 1=64Kb, 2=128Kb, 3=256Kb, 4=512Kb |
| (7) | Max FSB: A=B=200MHz, C=266MHz, D=333MHz, E=400MHz
Note: Get the Host CPU Clock by dividing FSB by 2. |

2-1.2 CPU Installation with Socket 462

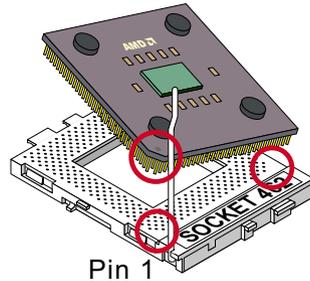
This mainboard is built with CPU Socket 462 supporting the AMD CPUs Athlon, Athlon XP and Duron:

- Follow the steps described in this section to install CPU into the on-board Socket 462.
- After installation of CPU, you must also install a proper cooling fan on top of the CPU and connect the Fan cable to the CPU fan connector.

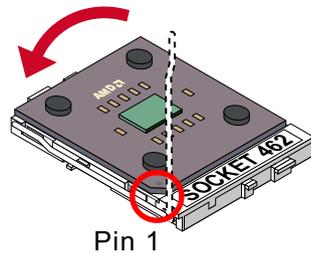
1. First pull sideways the lever of Socket 462, and then turn it up 90° so as to raise the upper layer of the socket from the lower platform.



2. Configure Pin 1 of CPU to Pin 1 of the Socket, just as the way shown in the diagram on the right. Adjust the position of CPU until you can feel all CPU pins get into the pin holes of the socket.



3. Make sure that all CPU pins have completely entered the socket and then lower down the lever to lock up CPU to socket.



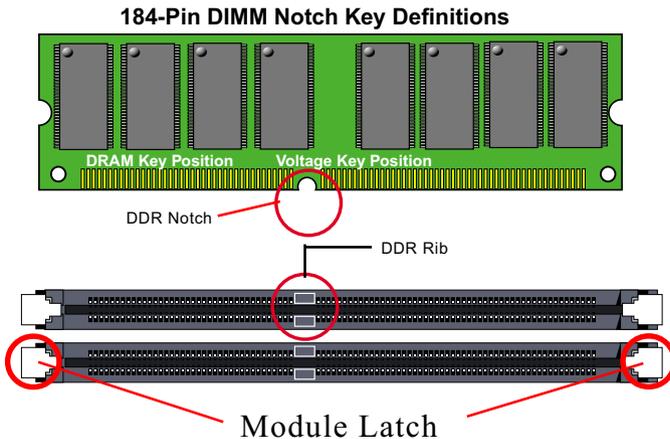
2-2 Memory Installation

How to tackle the memory Modules:

- Make sure to unplug your power supply before adding or removing memory module. Failure to do so may cause severe damage to both your mainboard and the memory module.
- Pay attention to the orientation of the DIMM slots. Forcing a DIMM into a slot improperly will damage the memory module and slot itself.
- Make sure you have the right type of memory module for your mainboard.

2-2.1 To Install DDR SDRAM Module

- This series supports up to 3GB unbuffered DDR333/266 SDRAM, with 3 DDR DIMM slots on board. Do not insert other type of modules into these slots.
- The nFORCE2 dual memory controller can double the DDR memory bandwidth up to 6.4GB/s with DDR400, 5.4GB/s with DDR333 and 4.2GB/s with DDR266.
- To enable Dual-channel memory function, please see “Dual-channel Configuration” on next page.
- DDR DIMM slot has 184-pins and one notch. Insert a DDR SDRAM vertically into the 184-pin slot with the notch-to-rib matching.

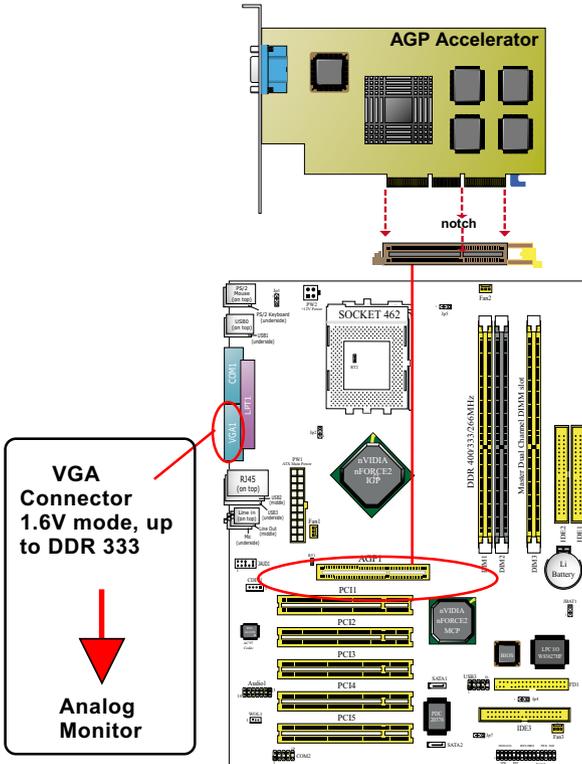


2-3 VGA / AGP Slot Installation

The AGP slot on board supports 1.5V AGP 8X/4X card only. A Rib is specifically added to the 8X/4X slot so as to match the AGP 8X/4X card. To insert a 3.3V AGP 2X card into the AGP 4X slot will damage the system chip and burn the 1.5V circuitry.

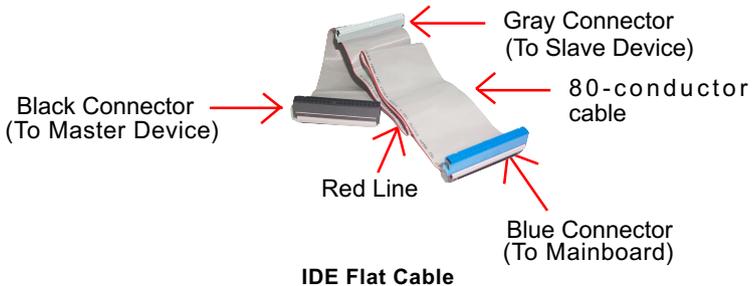
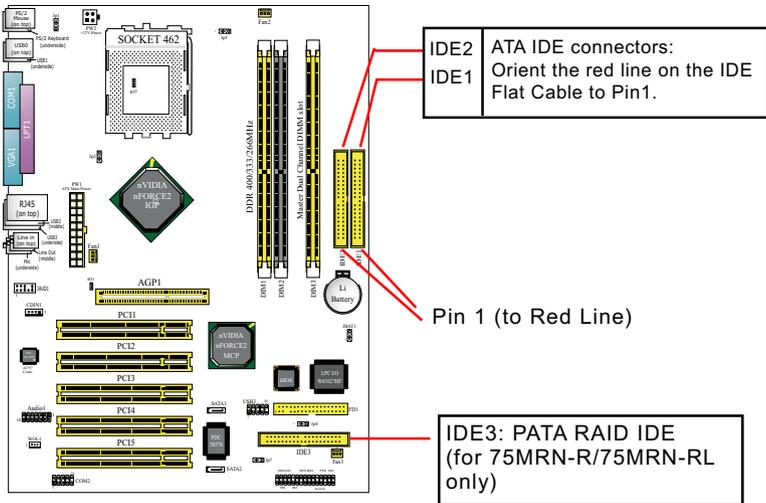
An AGP 8X card will support a data transfer rate up to 2GB/sec, while an AGP 4X card will provide 1GB/sec transfer rate.

1. To install on-board VGA, please connect your monitor directly to VGA connector on board. VGA on board is supported by 1.6V mode, with up to DDR 333 memory module support.
2. To install additional AGP card into AGP 8X slot on board, users can install either a 8X or 4X AGP card with its only card driver. AGP slot on board is supported by 1.5V mode, with up to DDR 400 memory module support.



2-4 IDE Connector Installation

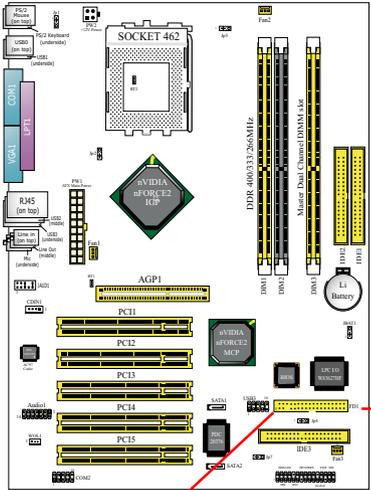
1. To install IDE Connector, you may connect the blue connector of IDE cable to the primary (IDE1) or secondary (IDE2) connector on board, and then connect the gray connector to your slave device and the black connector to your master device. If you install two hard disks, you must configure the second drive to Slave mode by setting its jumpers correctly. Please refer to your hard disk documentation for the jumper settings.
2. An additional Parallel ATA connector IDE3 is supported by the optional SATA RAID Controller PDC20376. IDE3 is enabled as a RAID IDE connector if and only if the Controller is enabled by Jp4 (See Jumper Setting in this chapter).



IDE Flat Cable

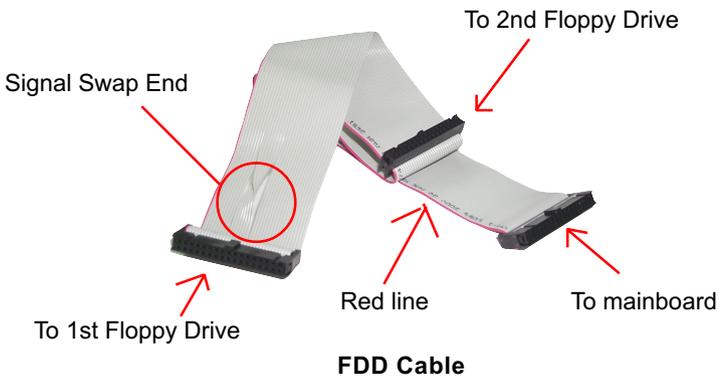
2-5 Floppy Drive Connector Installation

To install FDC, you should connect the end of FDC cable with single connector to the board, and connect the other end with two connectors to the floppy drives.



Floppy Drive Connector:
Orient the red line of the Floppy Flat Cable to Pin 1.

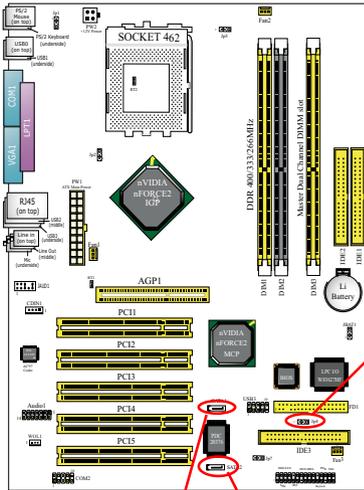
Pin 1 (to Red Line)



FDD Cable

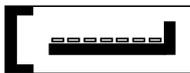
2-6 Serial ATA Connectors (75MRN-R / 75MRN-RL Only)

2 Serial ATA connectors are built on board, supported by the SATA RAID Controller PDC20376. Before we install SATA RAID disk drive to the Serial ATA Connector, we must first enable the controller PDC20376 by Jumper Jp4 1-2 closed and then install the RAID Controller Driver (see Chapter 5 Disk Array Installation).



Jp4: (75MRN-R/RL only) SATA RAID ControllerSelect	
1	
1-2 closed (default) SATA RAID Controller enabled	
1	
2-3 closed SATA RAID Controller disabled	

SATA RAID Connectors SATA1 and SATA2



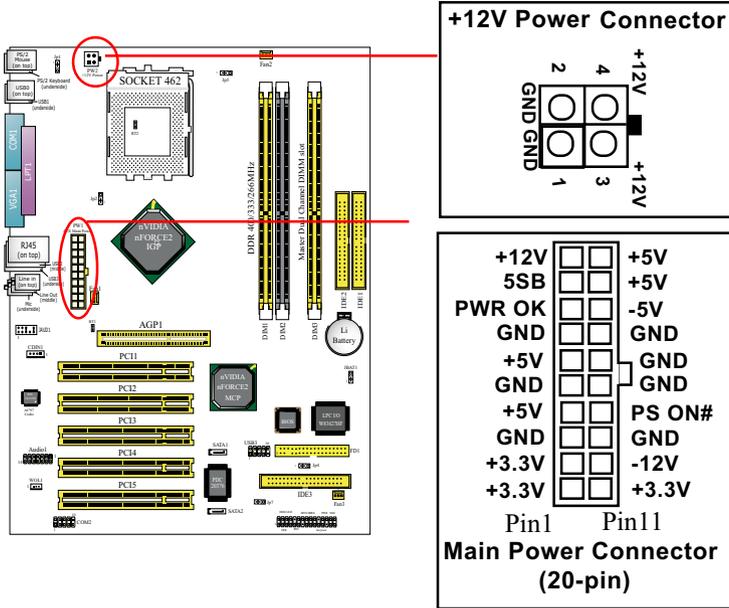
Serial ATA Hard Disk

SATA Power Connector

To Power Supply



2-7 ATX Power Supply Installation

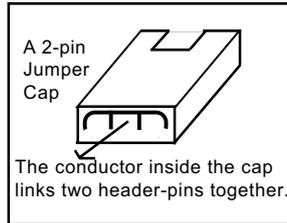
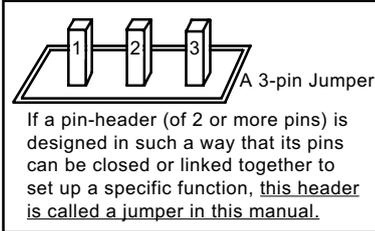


ATX V2.03 Power Supply is strongly recommended running with the nFORCE2-chipset mainboard.

To set up Power Supply on this mainboard:

1. Get ready a V2.03 ATX Power Supply which provides a square-shaped +12V Power Connector in addition to the 20-pin Main Power Connector and other peripheral power connectors.
2. Connect the on-board square-shaped +12V Power Connector to the square Connector of the Power Supply.
3. Connect the on-board 20-pin Main Power Connector to the 20-pin Main Power Connector of the Power Supply. Please note that both the +12V Power Connector and the 20-pin Main Power Connector should be connected to Power Supply to power on the system.

2-8.1 How to tackle the Jumpers:



- A Jumper is usually but not necessarily given a “JpX” legend.
- In the Jumper setting diagram, all jumper pins covered with black marks stand for closed pins with jumper cap.



- Do not remove any jumper cap when power is on. Always make sure the power is off before changing any jumper settings. Otherwise, mainboard could be damaged.

2-8.2 Jp2: CPU Clock Select

1. Before setting the CPU clock by Jp2, read the Identification Legend on the CPU, find the Max FSB and divide it by two. The result is the default CPU clock on the CPU you are using.
2. Setting Jp2 1-2 closed is for 100/133MHz CPU.
3. Setting Jp2 2-3 closed is for 166/200MHz CPU. If you want to overclocking with your onboard CPU, you should start system first and then enter “Advanced Chipset Features” of the BIOS Setup to try CPU overclocking. If an overclock fails to reboot system, you should execute the nVIDIA-Boot-Failure-Restart Procedure to reboot system.

Jp2 : CPU Clock Select	
1	(default) 1-2 closed for 100 / 133MHz CPU
1	2-3 closed for 166 / 200MHz CPU

nVIDIA Boot-Failure-Reboot Procedures:

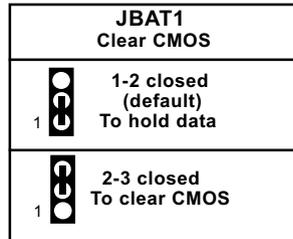
Whenever nVIDIA system fails to boot (including overclock and non-overclock cases), it requires a more guaranteed Reboot Procedure to restart system.

- (1) To reboot nVIDIA system, users should first power off the system.
- (2) If a “CPU Clock Select” Jumper is on board, restore this jumper setting to default setting.
- (3) Execute the “Clear CMOS” procedures with “Clear CMOS” Jumper.
- (4) Then press down “Insert” key of the keyboard before pressing down Power Button to start system. Do not release Insert Key until you can see the initial bootup screen appear.
- (5) In some “overclocking cases by BIOS Setup”, if system still cannot boot up with the above 4 steps, please remove the on-board battery from the battery-socket and unplug the power cord as well. Keep the battery and power cord away from system in 10 to 20 seconds so as to make sure all power residue has faded away.
- (6) After restoring the power cord and battery to system, make sure the “CPU Clock Select” Jumper is at “Default Setting” and then press the Power Button to restart system again. Please note that Step (5) will take the place of Step (3) and (4).
- (7) After starting system, users should also enter “Advanced Chipset Features” of BIOS Setup and set the “FSB Frequency” to “CPU Default” value for a guaranteed bootup. However, user can also select a higher CPU clock to try overclocking again.

2-8.3 JBAT1: nVIDIA Clear CMOS

When you have problem with rebooting your system, you can clear CMOS data and restore it to default value. To clear CMOS with Jumper JBAT1, please follow the steps below:

1. Power off system.
2. Set JBAT1 to Pin 2-3 closed.
3. After 3 or 5 seconds(allowing residue power to fade away), return the JBAT1 setting to Pin1-2 closed.
4. To reboot the system, press down “Insert” key before pressing down Power Button. Do not release Insert key until you see the initial bootup screen.



2-8.4 Jp5: Anti-burn Shield (ABSII)

Jp5: Anti-burn Shield (ABSII) (Overheated CPU Shutdown) (only for Athlon XP/ Duron Morgan)	
	1-2 closed (default) 1 To enable overheated CPU (85°C) shutdown function
	2-3 closed 1 To disable overheated CPU shutdown function

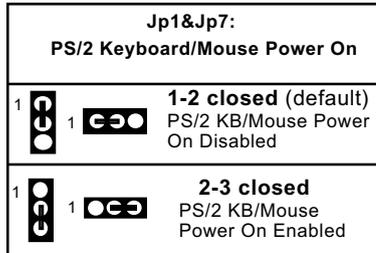
Jp5 is designed to enable the overheat safeguard for some CPUs which are incorporated with a protective thermal diode. The latest AMD Athlon XP and Duron Morgan CPUs are incorporated with such thermal diode and can be protected by this function. Setting Jp5 1-2 closed (default setting) will get system shutdown when the above-mentioned CPUs get to 85°C (the default protection temperature.) Only when the CPU returns to a cooler state can you restart your system.

For other CPUs that are not incorporated with a protective thermal diode, please set Jp5 2-3 closed to disable the function because it is a vain design now.

Reminder: If a sudden shutdown happens to your system which has been running well for a while with an AMD Athlon XP/ Duron Morgan CPU, this might be caused by the “Overheated CPU Shutdown” design. Please use a better CPU cooling fan and restart your system.

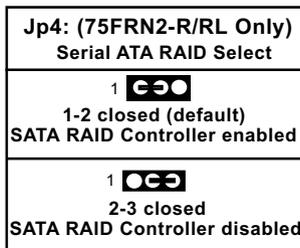
2-8.5 Jp1&Jp7: PS/2 KB/Mouse Power On

Jp1 and Jp7 is designed to enable / disable PS/2 Keyboard/Mouse Power on function. Setting Jp1 and Jp7 to 1-2 closed will disable this function. Setting Jp1 and Jp7 to 2-3 closed will enable this function. Yet user still has to enter BIOS Setup for choosing the KB/ Mouse Power-on mode. (See Integrated Peripherals” in BIOS Setup.)



2-8.6 Jp4: SATA RAID Controller Select(75MRN2-R/RL Only)

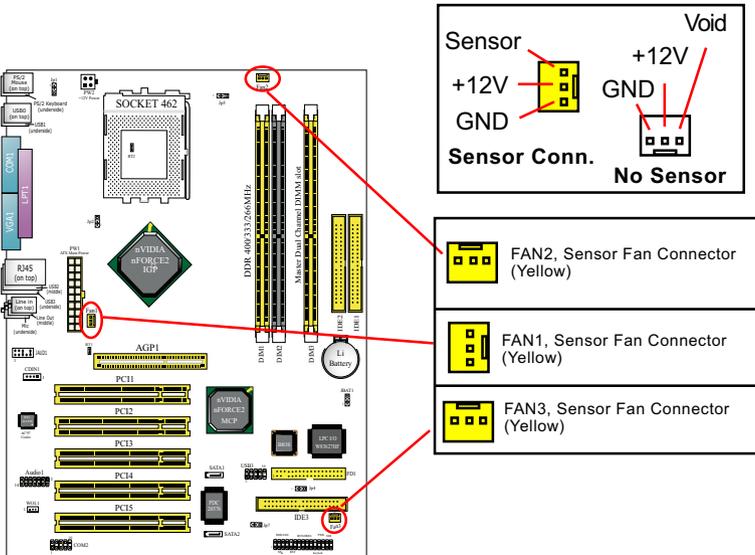
Jp4 is a 3-pin jumper for enabling or disabling the on-board Serial ATA RAID Controller PDC20376. Setting Jp4 1-2 CLOSED will allow user to enable on-board RAID Controller so as to allow user to set up the Disk Array.



2-9 Other Connectors Configuration

This section lists out all connectors configurations for users' reference.

2-9.1 Onboard FAN Connectors



Both Sensor and No-sensor Fan Connectors support CPU/AGP/System/Case cooling fan with +12V mode. When connecting the wire to any Fan Connector, user should make sure that the red wire is for the positive current and should be connected to pin +12V, and the black wire is Ground and should be connected to pin GND. A Hardware Monitor chipset is on board, with which user can install a Hardware Monitor Utility and read the fan speed transmitted from the sensor fan connector. Otherwise, user can read the fan speed from the "Smart Doc Anti-burn Shield" CMOS BIOS.

A running fan will send out 2 electric pulses per rotation of its fan blade to a Sensor Fan Connector which in turn will count the electric pulses and send the information to the System Hardware Monitor. The hardware Monitor Program will work out the fan rotation speed and display it on screen.

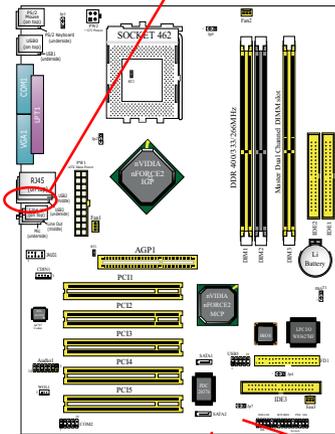
2-9.2 USB Ports and USB Pin-headers

This series provides two USB ports USB0 and USB1 on board supporting various USB devices. In addition, two USB pin-headers are added on board to provide expansion of four more optional USB ports by using two additional USB Cables. User can order the optional USB cables from your mainboard dealer or vender.

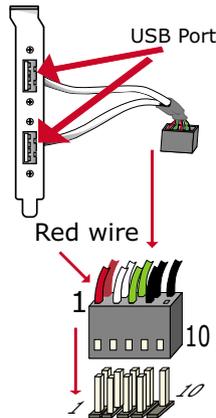
When plugging the USB cable to USB Header, user must make sure the red wire is connected to Pin 1.

All 6 USB ports are compliant with 1.0 / 2.0 USB Bus. USB 2.0 supports Win 2000 and above. USB 1.0 / 2.0 drivers are provided in Support CD for user's installation.

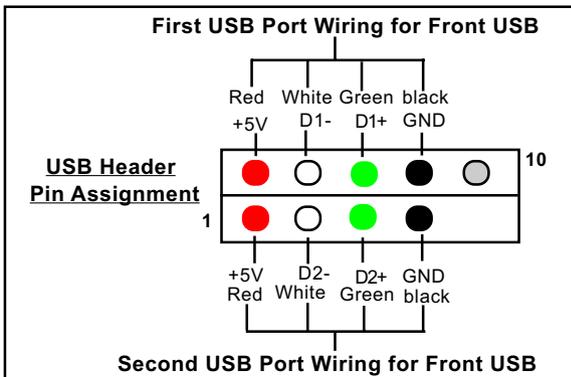
USB connectors USB0, USB1(underside)



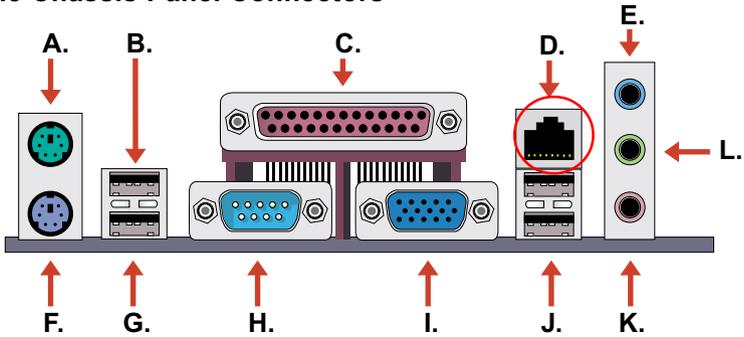
USB Cable (Optional)



USB Pin-headers USB1 and USB2



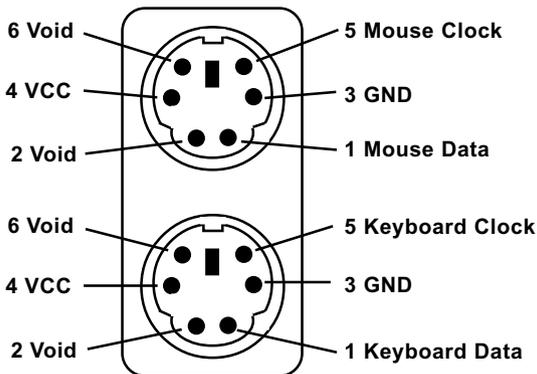
2-9.3 Chassis Panel Connectors



- | | |
|----------------------------------|--|
| A : PS/2 Mouse | H : COM1 Connector |
| B : USB 0 (top) | I : VGA Connector |
| C : LPT1 Port | J : USB 2 (middle) |
| D : RJ45 (75MRN-L/RL only) | USB 3 (underside) |
| E : Line in/
Rear Speaker Out | K : Microphone Input /
Center Subwoofer Out |
| F : PS/2 Keyboard | L : Line Out /
Front Speaker Out |
| G : USB 1 (underside) | |

2-9.4 PS/2 Mouse And PS/2 Keyboard

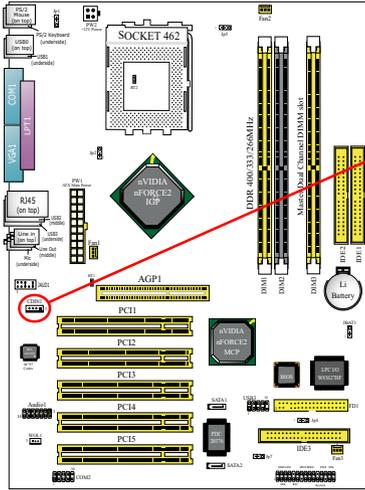
PS/2 Mouse Connector (green, on top)



PS/2 Keyboard Connector (purple, underside)

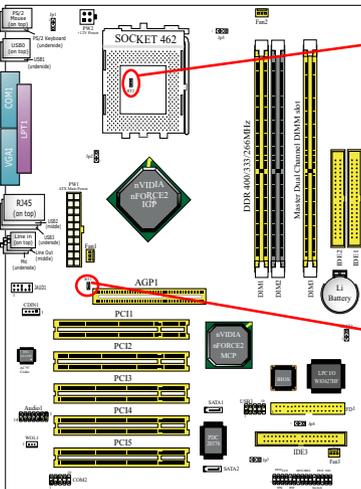
2-9.5 CD-ROM Audio Connectors

CDIN1 is an audio connector connecting CD-ROM audio to mainboard.



CD-ROM Audio Connector	
CDIN1  1	Pin Signal
Pin 1	Left Channel
Pin 2	GND
Pin 3	GND
Pin 4	Right Channel

2-9.6 Thermal Resistors



Thermal Resistor RT2

 RT2

RT2 is mounted with Thermal Resistor by default for detecting external CPU temperature.

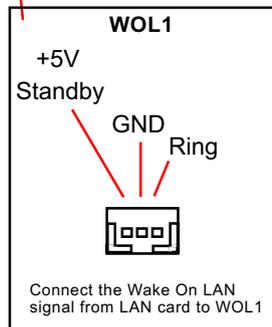
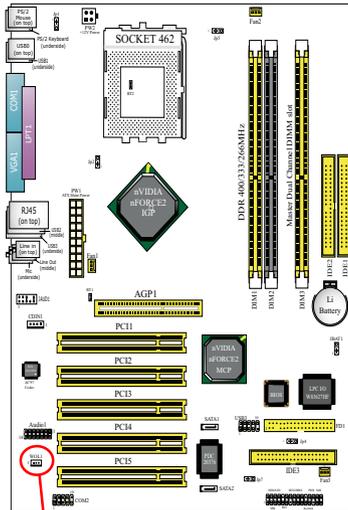
Thermal Resistor RT1

 RT1

RT1 is mounted with Thermal Resistor by default for detecting system temperature.

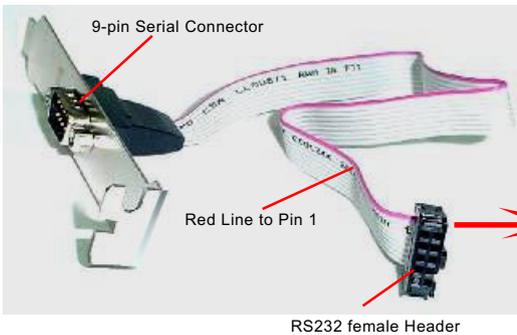
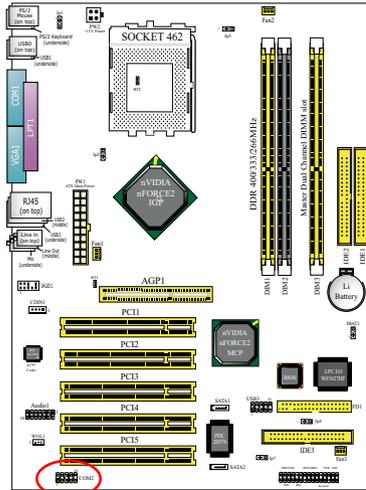
2-9.7 Wake On LAN Connector:

1. This connector connects to a PCI LAN card with a Ring signal output. The connector powers up the system when it receives a wake-up packet or signal through the LAN card.
2. This feature requires that Resume On Ring feature is enabled in the BIOS setting "Power Management Setup" and that your system must be on ATX power supply with at least 720mA / +5V standby power.



2-9.8 COM 2 Header for one Serial Port

COM 2 Header is built on board, which require 1 RS232 cables to provide 1 more 9-pin serial connector for serial device. When you insert RS232 cable to COM2 header, take notice that the red line of the cable must connect to Pin 1 of COM2 header.



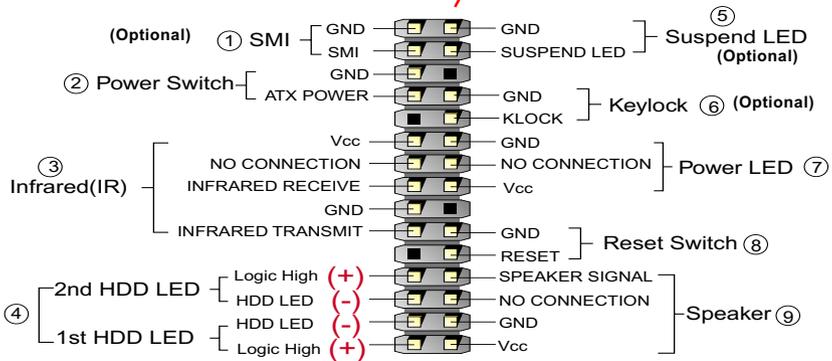
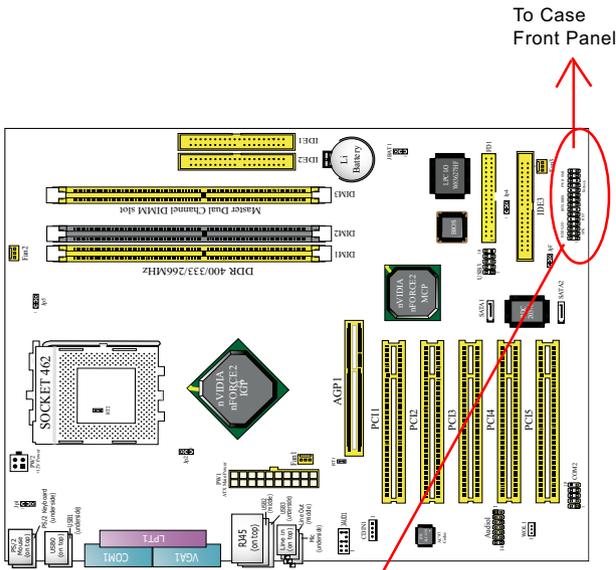
COM2 Header



RS232 Cable (Optional)

2-9.9 Complex Pin-header (Front Panel Connectors)

This complex Pin-header consists of the following connectors for various front panel supports. When you have fixed the mainboard to the case, join the connectors of this Complex Pin-header to the case Front Panel.



(1) SMI Connector (Optional):

Connection: Connected to the Suspend Switch.

Function: Manually selecting DOS system into the Suspend Mode or "Green Mode" by System Mangement Interupt.

(2) Power Switch Connector:

Connection: Connected to a momentary button or switch.

Function: Manually switching the system between "On" and "Soft Off". Pressing the momentary button for more than 4 seconds will also turn the system off.

(3) IR Connector (Infrared Connector):

Connection: Connected to Connector IR on board.

Function: To support wireless transmitting and receiving module on board.

(4) 1st HDD LED Connector/2nd HDD LED Connector:

Connection: Connected to HDD LED.

Function: To supply power to HDD LED.

(5) Suspend LED Connector (Optional):

Connection: Connected to Suspend Indicator.

Function: To supply power to "Suspend Indicator".

(6) Keylock Connector (Optional):

Connection: Connected to keyboard.

Function: To lock keyboard and disable keyboard function.

(7) Power LED Connector:

Connection: Connected to System Power LED.

Function: To supply power to "System Power LED".

(8) Reset Switch Connector:

Connection: Connected to "Reset Switch".

Function: To supply power to "Reset Switch" and support system reboot function.

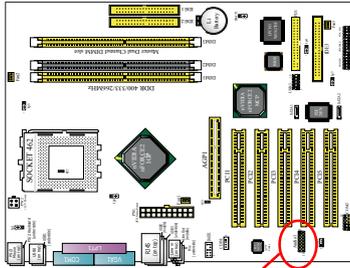
(9) Speaker Connector:

Connection: Connected to the case-mounted Speaker.

Function: To supply power to the case-mounted Speaker.

2-9.10 6-channel Sound Output Connector (Optional)

This series is designed with a 6-channel Audio-out connector “Audio1”. If this option is chosen, it will provide 3 additional audio-out ports for the 6-channel sound.



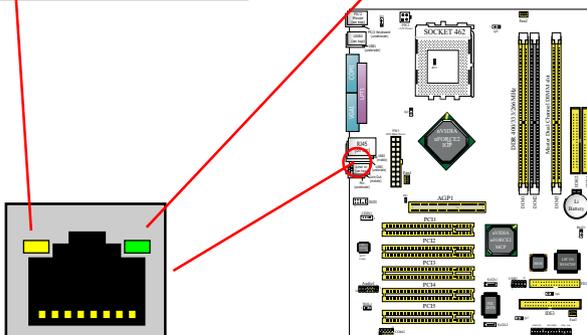
6-channel Audio-out Pin Assignment				
Pin 1	LFE-out	1	Pin 2	Gnd
Pin 3	Center-out	2	Pin 4	Gnd
Pin 5	Surround-out-R		Pin 6	Gnd
Pin 7	Surround-out-L		Pin 8	Gnd
Pin 9	Jack-detect		Pin10	(Void)
Pin11	SPDIFI		Pin12	Gnd
Pin13	SPDIFO		Pin14	Gnd

2-9.11 LAN Connector (75MRN-L / 75MRN-RL Only)

One RJ45 connector is on board for network connection.

Yellow LED “On” to indicate Network hub is in connection with the system.

Green LED blinks to indicate that data transmission is undergoing in 10/100 Base T mode.



Chapter 1 Specification

Introduction

This series features an integration of the powerful AMD processors Athlon/Athlon XP/Duron and the North Bridge nVIDIA nFORCE2 IGP plus South Bridge nFORCE2 MCP, with which 400/333/266/200MHz system bus is supported.

nVIDIA nFORCE2 IGP plus nFORCE2 MCP supports on-board AMD processors to implement the 400/333/266/200 MHz Front Side Bus, the AGP 8X/4X interface, the integrated GeForce4 MX Graphics port, the LPC Super I/O, the Dual-channel DDR333/266MHz SDRAM, the 6-channel AC'97 Audio interface, the USB 2.0 interface and ATA 133/100/66 data transfer rate. This chapter is to introduce to users every advanced function of this high performance integration.

Model Notation for this series of mainboards:

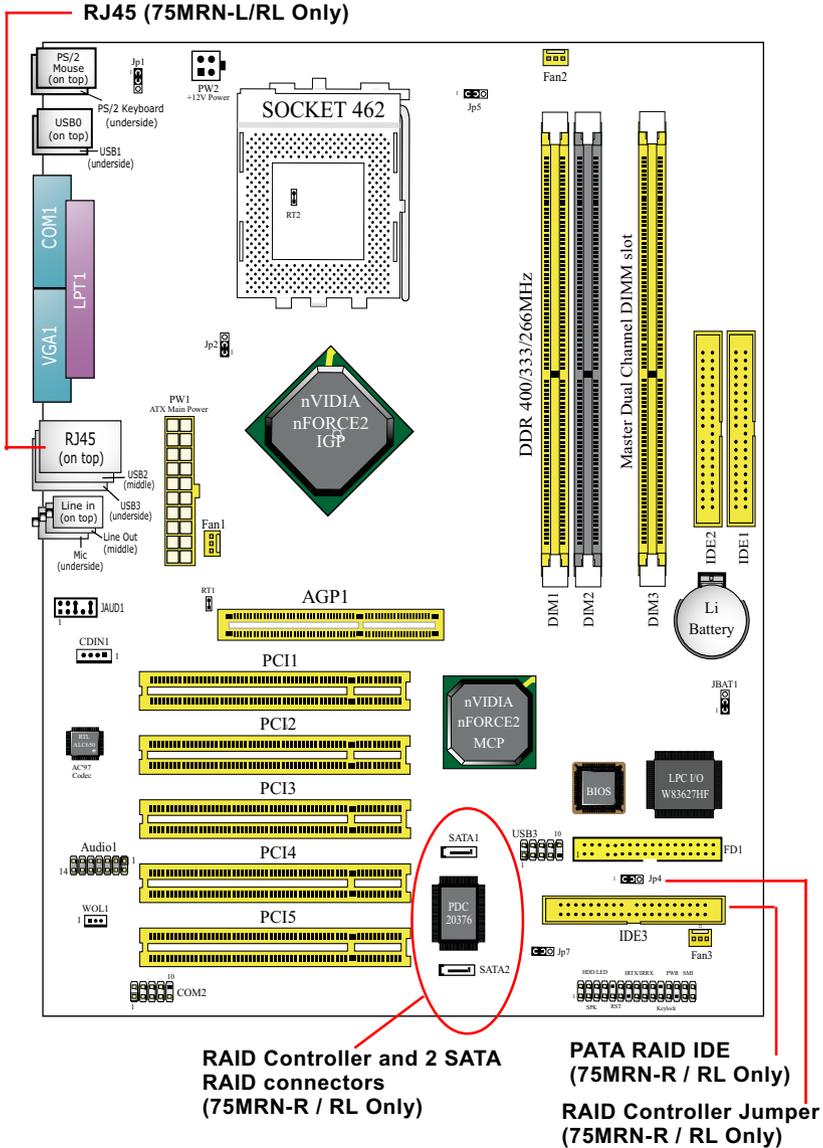
- SL = Soltek**
- MR= VGA integrated**
- N = nVidia system chip**
- R = RAID integrated**
- L = LAN integrated**

Topics included in this chapter are:

- 1-1 Mainboard Layout**
- 1-2 Mainboard Specifications****
- 1-3 Mainboard Specification Table**
- 1-4 Chipset System Block Diagram**

**** If any difference is found between this manual and the Mainboard you are using, please look up the Update/Errata Slip enclosed inside manual for the correction or updated information, or else contact the Mainboard Dealer or visit our Web Site for the latest manual update.**

1-1. 75MRN / 75MRN-R / 75MRN-L / 75MRN-RL Layout



1-2. Mainboard Specifications

1-2.1 CPU Socket

CPU Socket 462 (Socket A) on board, supporting AMD Athlon, Athlon XP and Duron processors and implementing 400/333/266/200MHz system bus

1-2.2 System Chipsets

- North Bridge nVIDIA nFORCE2 IGP for managing and supporting 400/333/266/200MHz system Bus, AGP 8X/4X interface, integrated GeForce4 MX graphics accelerator and DDR333/266MHz Memory Interface
- South Bridge nVIDIA nFORCE2 MCP working with North Bridge nFORCE2 IGP supporting the HyperTransport, LPC Super I/O, PCI interface, ATA133 interface, LAN interface, USB V2.0 interface, as well as AC'97 Audio 6-channel interface

1-2.3 Memory

3 DDR DIMM 184-pin slots on board :

- Supporting unregistered, non-ECC Dual-channel DDR333/266/200 SDRAM up to 2 GBs, and 1 GB single-channel DDR SDRAM in 1 DDR DIMM slot
- DDR 400 only supporting AGP Slot with single-channel DIMM mode
- Supporting installation of same type of DDR SDRAM modules only

1-2.4 BIOS

Flash Memory for easy upgrade, supporting BIOS Writing Protection, Year 2000 compliant, and supporting various hardware configuration during booting system (See Chapter 4 BIOS Setup):

- Standard CMOS Features (Times, Date, Hard Disk Type etc.)
- Advanced BIOS Features (Virus Protection, Boot Sequence etc.)
- Advanced Chipset Features (AT Clock, DRAM Timing etc.)
- Power Management Features (Sleep timer, Suspend Timer etc.)
- PNP/PCI Configurations (IRQ Settings, Latency Timers etc.)
- Integrated Peripherals (Onboard I/O, IRQ, DMA Assign. etc.)
- SmartDoc Anti-Burn Shield (CPU/System Temp., Fan speed etc.)
- CPU Ratio/Voltage Control (Voltage of CPU, DIMM, AGP etc.)

1-2.5 Integrated AGP interface and additional AGP Slot

GeForce4 MX GPU is embedded on board, supporting:

- 8X66MHz AD and SBA signaling; AGP pipelined split-transaction long burst transfers up to 2GB/sec.
- AGP 8X/4X supported, AGP V3.0 compliant
- 1x VGA connector on board for analog display, supported by DDR SDRAM up to 333MHz
- VGA Driver enclosed in Support CD for user's installation
- Additional AGP Slot on board, 1.5V(8X/4X) power mode only, supported by DDR SDRAM up to 400MHz (single channel)

1-2.6 Advanced System Power Management

Advanced Configuration and Power Interface incorporated in BIOS for reducing power consumption :

- ACPI 1.0B compliant (Advanced Configuration and Power Interface), including ACPI Suspend mode support (See Power management of BIOS Setup)
- APM V1.2 compliant (Legacy Power Management)
- PS/2 Keyboard/ Mouse Wake up
- Real Time Clock (RTC) with date alarm, month alarm, and century field

1-2.7 Multi-I/O Functions

- PCI EIDE Controller, supporting:
 - 2 ATA 133 / 100 / 66 IDE connectors supporting up to 4 IDE devices
- Dedicated IR Functions:
 - 1x5 IR connector dedicated to IR function with Infrared-IrDA (HPSIR) and ASK (Amplitude Shift Keyed) IR
- Multi-mode parallel data transfer:
 - Standard mode, high speed mode ECP and enhanced mode EPP
- Floppy Drive Connector:
 - 1 FDD connector supporting 2 floppy drives with drive swap support
- Universal Serial Bus Transfer Mode:
 - USB V2.0 compliant, 480 MB/s USB Bus, supporting Win2000 / XP.
 - 4 built-in USB connectors and 1 more USB pin-header which requires 1 additional USB cable to provide 2 more USB ports
- PS/2 Keyboard and PS/2 Mouse
- UARTs (Universal Asynchronous Receiver / Transmitter):
 - 2 complete serial ports (COM1 & COM2) on board

1-2.8 Expansion Slots

- 5 PCI Bus Master slots
- 1 AGP 8X/4X slot
- 3 DDR DIMM slots

1-2.9 AC'97 Audio Codec on board

AC'97 Audio Codec on board, 6-channel interface compliant

- Supporting up to 6 channels of PCM audio output
- 6 channel audio consisting of Front Left, Front Right, Back Left, Back Right, Center and Sub-woofer for complete surround sound effect
- AC'97 Audio Codec Driver enclosed in Support CD for user's installation

1-2.10 Hardware Monitor on board

- Hardware Monitor supported by LPC I/O W83627HF, providing monitoring functions on hardware voltage, temperatures and fan speeds.
- Utility Software Soltek Hardware Monitor for displaying monitor status is enclosed in Support CD for user's installation.

1-2.11 Serial ATA RAID Controller (75MRN-R / RL only)

- Promise PDC20376 integrated on board
- Supporting 2 serial RAID connectors for 2 serial RAID hard disks with up to 150MB/s transfer rate
- Supporting an additional RAID IDE connector for one more RAID IDE hard disk with up to 133MB/s transfer rate
- RAID Drivers enclosed in Support CD and a Floppy Disk for user's installation

1-2.12 LAN on board (75MRN-L/ 75MRN-RL only)

Fast Ethernet Controller integrated in nFORCE2 MCP and nFORCE2 Media Access Controller:

- Supporting 10/100Mb Fast Ethernet Base T LAN
- LAN Driver enclosed in Support CD for user's installation

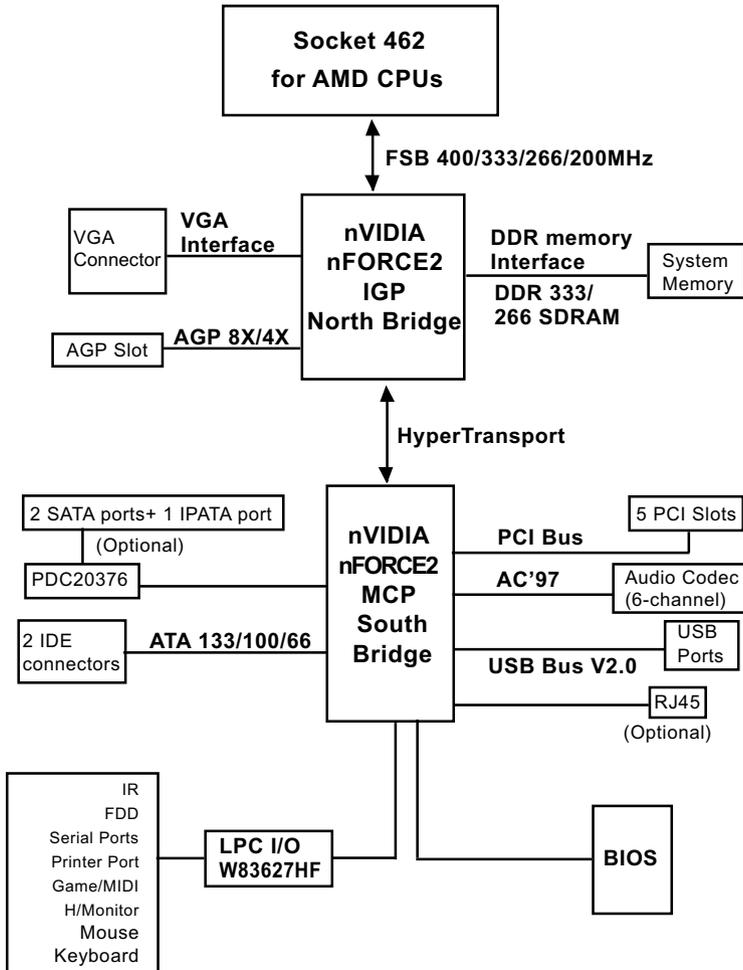
1-2.13 Form Factor

- ATX Form Factor, ATX Power Supply
- Mainboard size: 305mm x 245mm

1-3. Mainboard Specification Table

Series 75MRN Specifications and Features				
CPU	Socket 462 for AMD Athlon, Athlon XP, Duron CPU			
North Bridge	nFORCE2 IGP, supporting up to 400 MHz FSB			
South Bridge	nFORCE2 MCP			
BIOS	Award BIOS			
Memory	DDR 333/266 SDRAM, Dual-channel up to 2GB in 2 DDR DIMM slots, and 1GB single-channel in 1 DDR DIMM slot			
I/O Chip	Winbond W83627HF with Soltek HM			
AGP interface	AGP 8X/4X mode only; 1 AGP Slot on board			
Audio	AC'97 Audio Codec, 6-channel compliant			
IDE Interface	2 ATA 133/100/66 IDE Connector			
VGA	1 x VGA connector on board for analog display			
PCI Slots	5 PCI Master slots on board			
I/O Connectors	6 USB V2.0, 1 FDD port, 2 COM ports, 1 LPT, 1 IrDA, 1 PS/2 K/B, 1 PS/2 Mouse			
SATA Interface	2 SATA RAID Connectors and 1 RAID IDE Connector (Optional)			
Other Common Features	BIOS Writing Protection; PS/2 Keyboard/ Mouse Wake up/Power On; ATX Power Supply; ATX Form Factor			
Optional Features	75MRN	75MRN-R	75MRN-L	75MRN-RL
SATA RAID + PATA RAID	NO	YES	NO	YES
LAN On Board	NO	NO	YES	YES

1-4. Chipset System Block Diagram



Socket 462 + nVIDIA nFORCE2 IGP + nVIDIA nFORCE2 MCP Diagram

Memo

Chapter 3 Software Setup

Drivers, Utilities and Software Installation

- **Support CD:**

This series of mainboards will be shipped with a Support CD which contains those necessary driver files, Application Softwares and some helpful utilities. It is a user-friendly, auto-run CD which will open itself up in a CD-ROM automatically.

This chapter is devoted to describing the installations of all these essential drivers and utilities on Windows 9X, Windows ME, Windows 2000 and Windows XP. And installation on Windows 98 as the general illustration example hereby.

The priority of drivers to be installed should also be noted. Users are recommended to take the following installation orders :

3-1 To Open up the Support CD

3-2 To Install “nVIDIA nForce2 All in 1 Driver”

3-3 To Verify 6-channel Audio

3-4 To Install DirectX

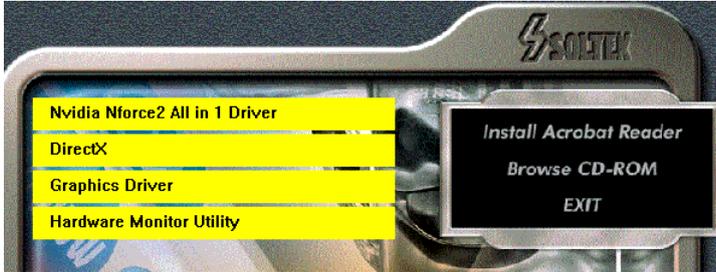
3-5 To Install Graphics Driver

3-4 To Install Hardware Monitor Utility

3-5 To Install RAID Controller PDC20376 Drivers (75MRN-R/RL Only)

3-1 To Open up the Support CD

1. Please put the Support CD enclosed in your mainboard package into the CD-ROM drive. In a few seconds, the Main Menu will automatically appear, displaying the contents to be installed for this series:



2. In case your system does not open the Support CD automatically, please click to the following path to enter the Main Installation Menu:

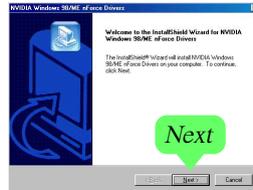
D:\Autorun.exe (assuming that your CD-ROM Drive is Drive D)

3. We should take “Nvidia Nforce2 All in 1 Driver” as first installation priority to optimize the Intel system.
From next section, we provide detailed descriptions of all these installations with graphical illustrations.

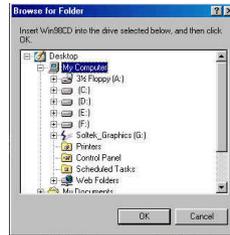
3-2 To Install “nVIDIA nForce2 All in 1 Driver”

1. Before opening the Support CD, please update Win 2K or Win XP with the latest Service Pack. Otherwise, the installation of USB2.0 driver will not take effect.

2. Following the procedures of opening the Support CD, click to “ Install nVIDIA nForce2 All in 1 Driver” to proceed.

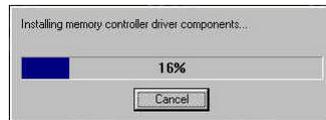


3. The nVIDIA InstallShield Wizard will ask you to insert Windows 98 CD into the CDROM, you should specify the drive where Windows 98 is and click “OK” after inserting the CD.



3.The nVIDIA InstallShield Wizard will pop up to guide you to set up nForce2 Drivers.(Note: This All in 1 Driver will first install memory controller Driver, system management bus Driver, LAN Driver.)

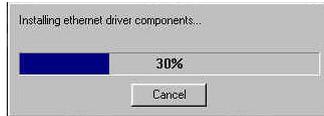
4.The nVIDIA InstallShield Wizard will get on installing memory controller Driver.



5.The nVIDIA InstallShield Wizard will get on installing system management bus Driver.



6. The nVIDIA InstallShield Wizard will get on installing LAN Driver.



7. After all the setup process is finished, please restart your computer by clicking on "Finish" so as to take the Utility into effect.



Note on DMA Activation:

After nVIDIA nForce2 All in 1 Driver installation, DMA (Direct Memory Access) function should be activated manually.

1. For DMA on HDD, take the following path to enter the "Setting" screen:
\\My Computer\\Properties\\Hardware\\Device Manager\\Disk drives\\Generic IDE Disk Type 47\\Setting\\
And then on the "Setting" screen, click "DMA" option to activate HDD DMA function.
2. For DMA on CDROM, take the following path to enter the "Setting" screen:
\\My Computer\\Properties\\Hardware\\Device Manager\\CDROM\\(Your CDROM name)\\Setting\\
And then on the "Setting" screen, click "DMA" option to activate CDROM DMA function.

3-3 To Install AC'97 Audio Driver

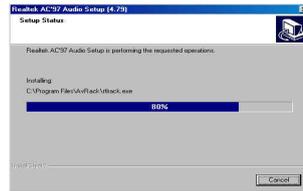
Avance AC97 Audio Codec on board, AC'97 2.2 compatible, supporting 6/2-channel audio code for PC multimedia systems. Avance AC'97 Audio Codec Driver is provided in Support CD for user's installation.

1. Following the procedures of opening the Support CD, click to "AC'97 Audio Driver" to proceed.

2. Instantly, the "InstallShield Wizard" screen appears to guide you through the "Realtek AC'97 Audio" Setup, please press "Next" button to continue.



3. Instantly, the Setup program proceeds to install the softwares which include AC'97 driver and AVRack. (If you want to stop setup, click the "Cancel" button.)



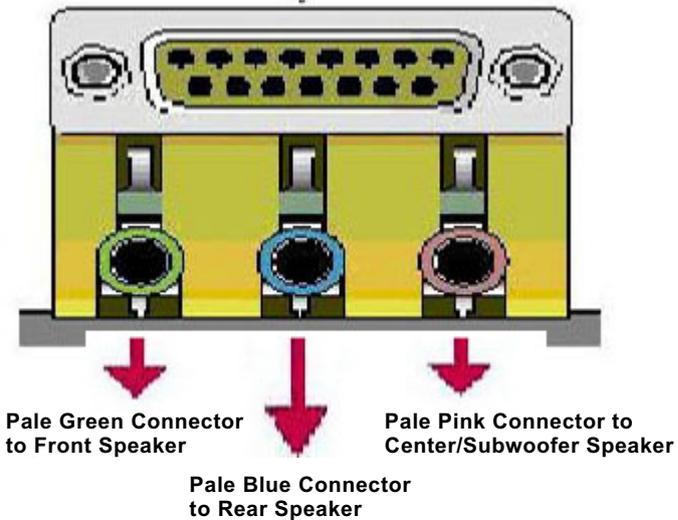
4. After the setup process is finished, please check the radial button "Yes, I want to restart my computer now." And click "Finish" to restart your system.



3-4 To Verify 6-channel Audio

After installation of AC'97 6-channel Codec, you must configure the 5.1 Speaker connection to enable the 6-channel audio.

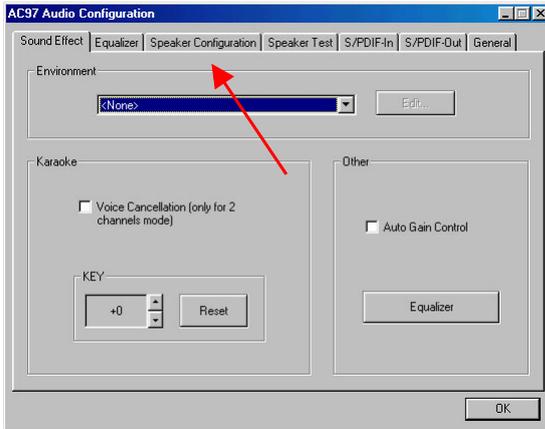
1. Connect your on-board Audio Connector to your 6-channel speakers as depicted in the figure below:



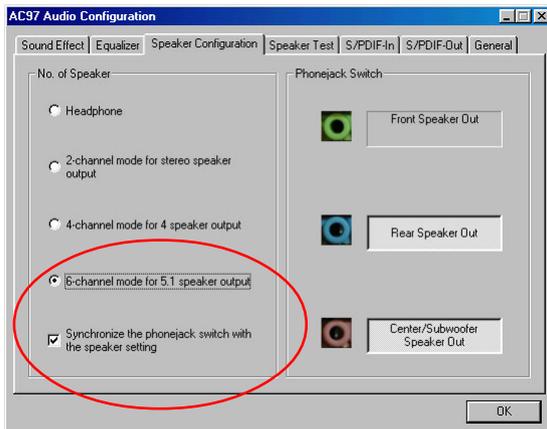
2. After Connection is done, start your Windows system and double click the Avance Sound Effect Manager icon to enter 6-channel configuration:



3. The AC'97 Audio Configuration" screen will pop out. Click the "Speaker Configuration" bar with your mouse.



4. Instantly, the "Speaker Configuration" screen will pop out. Pick the items "6-channel mode for 5.1 speakers output" and " Synchronize the phonejack switch with the speaker settings" and then click "OK" to finish configuration.



5. At finishing the Speaker Configuration, you can also click the “Speaker Test” bar on the screen to test the 6-channel performance. The figure below is the “Speaker Test” screen with testing instructions enclosed on it. Follow the instructions to perform the Speakers Test.

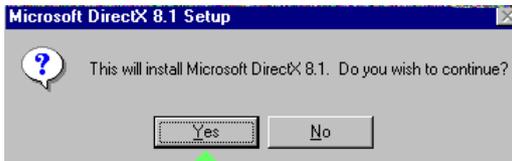


3-5 DirectX Installation

Please open the Support CD with your CD-ROM to enter the Main Installation Menu.

Then click to “Install DirectX”. This utility will support a better graphic display of the built-in VGA interface.

-
1. When the screen of “Microsoft DirectX 8.X Setup” appears, please press “Yes” button to continue.



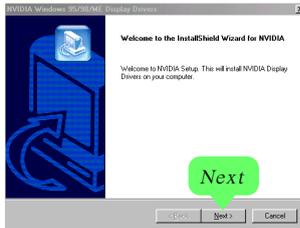
-
2. After all the setup procedures have completed, click to “OK” button to exit the Installation program and re-start your system.



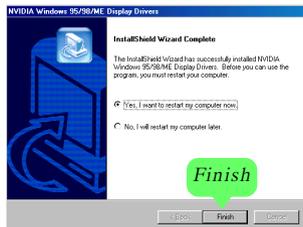
3-6 Graphics Driver Installation

Following the installation of DirectX, you have to restart system so that your system can be reconfigured with the utility. When restarting procedures finish, please open the Support CD with your CD-ROM to enter the Main Installation Menu.

1. For installation of on-board VGA driver, you must first connect the monitor to the on-board VGA connector. Then click to “Graphics Driver” on the Main Menu. The Graphics Driver is specifically for on-board VGA.
2. When the following screen appears, please press “Next” button to continue.



3. After all the setup procedures have completed, click to “Finish” button to exit the Installation program and re-start your system.



3-7 To Install Hardware Monitor Utility

3-7.1 Installation

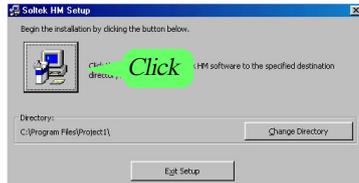
Hardware Monitor is built on this mainboard. Its installation is programmed to a fully automated mode on Windows 9X/Me/NT4/2000/XP. Users can follow the model installation below for its installation on various Windows System.

1. Following the procedures of opening the Support CD, click to “Hardware Monitor Utility” to proceed.

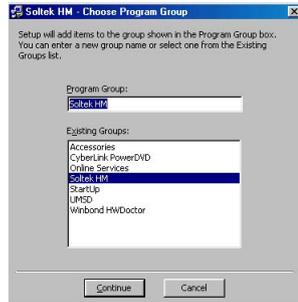
2. Then the installation program automatically opens the “Soltek HM Setup” screen. Click “OK” to continue.



3. Select the Program folder and click the large button to continue.



4. Select the Program group and click “Continue” button to continue.

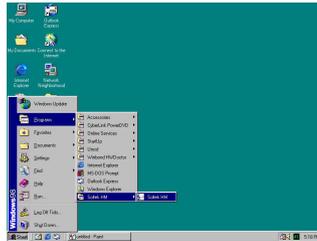


- On the “Soltek HM Setup” screen, click “OK” to restart your computer so that the Utility can be put into effect.



3-7.2 Verification

- After restarting your computer, click “Start” and choose the following path: \Soltek HM \Soltek HM to open the main window of the Soltek Hardware Doctor.



- Then the pop-up screen will show all information about CPU Temperature, Fan Speed and various Voltages.

Showing the Fan Speed(s) that is supported by the mainboard.

Showing the temperature(s), the function of which is supported by the mainboard.

Click on “Soltek” button to display the function menu.

TEMPERATURE		FAN TACHMETER	
CPU Dtg	27	Fan 1	2700
AMB	55	Fan 2	0
RT 1	26	Fan 3	0
RT 2	24		

VOLTAGE			
CPU Voltage	1.728	12V	11.960
A/GP Voltage	1.408	-12V	12.032
DIMM Voltage	2.50	-5V	-4.76
3.3V	3.376	5VSB	4.704
5V	5.00	Battery	3.240

Showing the Voltage(s) that is supported by the mainboard.

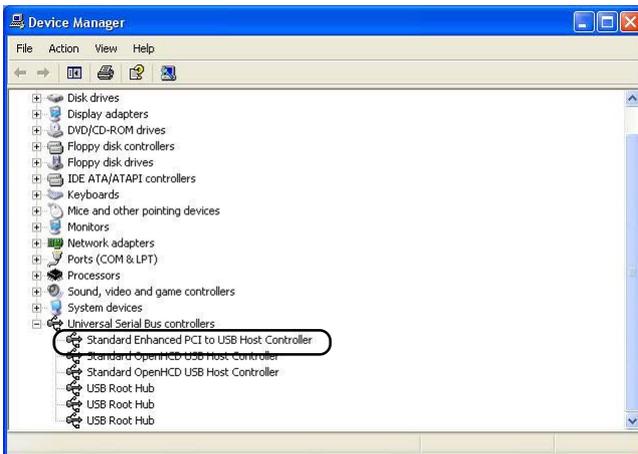
Status Warning LED

*Note: Not all items or functions showing in the above picture will show up. Only those items or functions that are supported by the mainboard will reveal themselves in the above screen.

3-8 To Install USB 2.0 Driver for Win2000 or WinXP

USB V2.0 with its 480Mb/s transfer rate supports operating system Win2000 and WinXP via the Win 2K and Win XP Service Pack. Users should install the latest Service Pack for Win 2K or Win XP.

1. After installation of nVIDIA nFORCE2 All in 1 Driver in Win2000 or WinXP, start to install the latest Service Pack version into the operating system. The installation of the latest Service Pack will support USB2.0 in Win2000 or WinXP now.(The latest Service Pack can be found in Microsoft Web Site.)
2. To verify USB2.0 installation, please enter “Device Manager” of “My Computer”. On the “Device Manager” screen, you should be able to see the item “Standard Enhanced PCI to USB Host Controller” and “USB2.0 Root Hub”, verifying USB2.0 Driver is installed successfully.



Chapter 4 BIOS Setup

THE BIOS

BIOS stands for Basic Input and Output System. It was once called ROM BIOS when it was stored in a Read-Only Memory(ROM) chip. Now manufacturers would like to store BIOS in EEPROM which means Electrically Erasable Programmable Memory. BIOS used in this series of mainboard is stored in EEPROM, and is the first program to run when you turn on your computer.

BIOS performs the following functions:

1. Initializing and testing hardware in your computer (a process called "POST", for Power On Self Test).
2. Loading and running your operating system.
3. Helping your operating system and application programs manage your PC hardware by means of a set of routines called BIOS Run-Time Service.

This Chapter includes the following topics :

4-1 About BIOS Setup

4-2 To run BIOS Setup

4-3 About CMOS

4-4 The POST (Power On Self Test)

4-5 To upgrade BIOS

4-6 BIOS Setup

4-1 About BIOS Setup

BIOS setup is an interactive BIOS program that you need to run when:

1. Changing the hardware of your system. (For example: installing a new Hard Disk etc.)
2. Modifying the behavior of your computer. (For example: changing the system time or date, or turning special features on or off etc.)
3. Enhancing your computer's behavior. (For example: speeding up performance by turning on shadowing or cache)

4-2 To Run BIOS Setup

First access BIOS setup menu by pressing < DEL > key after "POST" is complete (before OS is loaded). BIOS will then display the following message:

```
Press "DEL" to enter "SETUP"
```

4-3 About CMOS

CMOS is the memory maintained by a battery. CMOS is used to store the BIOS settings you have selected in BIOS Setup. CMOS also maintains the internal clock. Every time you turn on your computer, the BIOS Looks into CMOS for the settings you have selected and configures your computer accordingly. If the battery runs out of power, the CMOS data will be lost and POST will issue a "CMOS invalid" or "CMOS checksum invalid" message. If this happens, you have to replace the battery and do some proper settings in BIOS Setup.

4-4 The POST (Power On Self Test)

POST is an acronym for Power On Self Test. This program will test all things the BIOS does before the operating system is started. Each of POST routines is assigned a POST code, a unique number which is sent to I/O port 080h before the routine is executed.

4-5 To Upgrade BIOS

- System BIOS is incorporated into a Flash memory component. Flash BIOS allows user to upgrade BIOS without the need to replace an EPROM component.
- The Upgrade Utility can be loaded on a floppy diskette to execute saving, verifying, and updating the system BIOS. The Upgrade Utility can also be run from a hard disk drive or a network drive.

4-5.1 Before Upgrading BIOS

- It is highly recommended that you save a copy of the original mainboard BIOS along with a Flash EPROM Programming utility (AWDFLASH.EXE) to a bootable floppy disk so that you can reinstall the BIOS when needed.

4-5.2 Upgrade Process

- Normally, to upgrade BIOS is unnecessary if the system is working fine. Users should only upgrade the BIOS when you experience incompatible problems or need to create new features.
- “AWDFLASH.EXE” is a Flash EPROM Programming utility that updates the BIOS by uploading a new BIOS file to the programmable flash ROM on the mainboard. This program only works in ***DOS environment, the utility can not be executed in Win95/98, ME, NT, WINDOWS 2000 or Windows XP environment.***
- Please follow the steps below for upgrading the system BIOS:

Step 1. Please visit the board maker’s website, download the zip file which contains the latest BIOS file and Award Flash Utility “AWDFLASH.EXE”. After unzipping, the BIOS file format will be *.bin, of which “*” stands for the specific BIOS file name.

Step 2. Create a bootable diskette. Then copy the BIOS file and Award Flash Utility “AWDFLASH.EXE” into the diskette.

Step 3. Insert the diskette into drive A, reboot your system and boot from the diskette.

Step 4. Type **awdf flash *.bin /sn/py/cc** and then press <Enter> to run BIOS upgrade program. (*.bin depends on your mainboard model and version code. Instead of typing “*”, you should type specific file name for your specific mainboard).

Step 5. Please press <F1> or <F10> to exit or reset your system.

Warning! If the message “**Write Fail**” appears while AWARD “FLASH MEMORY WRITER” is verifying Flash memory, please retry the process. Please DO NOT turn off the system before updating the BIOS successfully.

Step 6. At rebooting system, press to run CMOS setup utility, then reload “LOAD SETUP DEFAULTS” or “**Load Optimized Defaults**” and save this change.

The parameters of AWDFLASH.EXE

/sn: No original BIOS backup

/py: Program flash memory

/cc: Clear CMOS data (and update data automatically) after programming

NOTE: Users can type AWDFLASH /? to get further details about the parameters. Incorrect usage of the parameter will damage the BIOS information, so we strongly recommend users to leave parameters alone unless you fully understand their function.

BIOS Update Illustration:

- (1) Executing the “awdflash.exe k8AV2008.bin” in DOS system, Award Flash Memory Writer Start Screen appears: To input BIOS file name.

AwardBIOS Flash Utility V8.24F (C)Phoenix Technologies Ltd. All Rights Reserved
For K8T800-8237-6A7L0SAAC-00 Date: 09/18/2003
File Name to Program : K8AV2008.BIN
Message: Input the (BIOS) file name

- (2) Press Y if you want to back up your old BIOS,. Otherwise, press N to go on without saving.

AwardBIOS Flash Utility V8.24F (C)Phoenix Technologies Ltd. All Rights Reserved
For K8T800-8237-6A7L0SAAC-00 Date: 09/18/2003
File Name to Program : K8AV2008.BIN
Message: Do You Want To Save BIOS (Y/N)

- (3) Press Y to write the latest BIOS into system.

AwardBIOS Flash Utility V8.24F (C)Phoenix Technologies Ltd. All Rights Reserved
For K8T800-8237-6A7L0SAAC-00 Date: 09/18/2003
File Name to Program : K8AV2008.BIN
Message: Press “Y” to Program or “N” to Exit

(4) Updating is in progress. Do not turn off power at this moment.

AwardBIOS Flash Utility V8.24F (C)Phoenix Technologies Ltd. All Rights Reserved
For K8T800-8237-6A7L0SAAC-00 Date: 09/18/2003 Flash Type - SST 39SF020 /5V File Name to Program : k8av2008.bin Writing Flash Memory - 0FE00 OK 
 Write OK  No Update  Write Fail
Warning: Don't Turn Off Power Or Reset System !

(5) When the process is complete, remove the Floppy Diskette and press F1 to restart the system to put the new BIOS into effect.

AwardBIOS Flash Utility V8.24F (C)Phoenix Technologies Ltd. All Rights Reserved
For K8T800-8237-6A7L0SAAC-00 Date: 09/18/2003 Flash Type - SST 39SF020 /5V File Name to Program : k8av2008.bin Flashing Complete Remove Floppy Diskette & Hit <F1> to Continue 
 Write OK  No Update  Write Fail
F1 Reset

4-6 BIOS SETUP --- CMOS Setup Utility

Warning and Tips: If changing CMOS Configuration causes difficulty in rebooting system, you can take the following measures:

1. At pressing the power button to reboot, press the “Insert” key at the same time. As soon as the screen displays the booting message, release the “Insert” key and press “Delete” key to enter CMOS Setup Utility . Then choose the “Load Optimized (Optimal) Defaults” menu to restore the default values for a new start. Or,
2. Open your machine cabinet and clear CMOS with jumper setting. Please refer to the Jumper Setting Section of this User manual.

4-6.1 CMOS Setup Utility

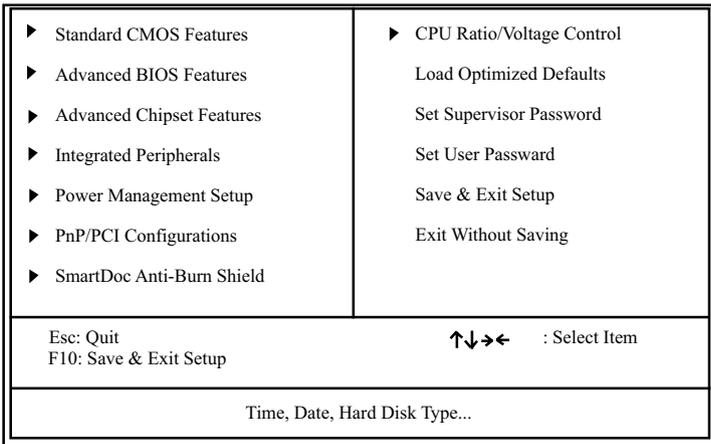
This mainboard comes with the AWARD BIOS from AWARD Software Inc. Enter the CMOS Setup Utility Main Menu by:

1. Turn on or reboot your system. After a series of diagnostic checks, the following message will appear:

PRESS TO ENTER SETUP

2. Press key and the main program screen will appear as follows.

Phoenix - AwardBIOS CMOS Setup Utility



3. Use the arrow keys on your keyboard to select an option, and press <Enter>. Modify the system parameters to reflect the options installed in your system.
4. You may return to the Main Menu anytime by pressing <ESC>.
5. In the Main Menu, “SAVE AND EXIT SETUP” saves your changes and reboots the system, and “EXIT WITHOUT SAVING” ignores your changes and exits the program.

4-6.2 Standard CMOS Setup

Standard CMOS Setup records some basic system hardware configuration and sets the system clock and error handling. You only need to modify the configuration values of this option if you want to change your system hardware configuration or when the data stored in the CMOS memory gets lost or damaged.

Run the Standard CMOS Setup as follows:

1. Choose "Standard CMOS Setup" from the Main Menu and a screen with a list of options will appear:

Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features

Date (mm:dd:yy)	Fri, February 14 2003	Item Help
Time (hh:mm:ss)	9 : 41 : 11	Menu Level ▶
IDE Primary Master	WDC WD400BB-00DEA0	Change the day, month, year and century
IDE Primary Slave	None	
IDE Secondary Master	None	
IDE Secondary Slave	None	
Drive A	1.44M, 3.5 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All, But Keyboard	
Base Memory	640K	
Extended Memory	252928K	
Total Memory	253952K	

↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys.
3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

Date (mm:dd:yy) The BIOS determines the day of the week from the other date information. This field is for information only.
 Press the left or right arrow key to move to the desired field (date, month, year). Press the PgUp or PgDn key to increment the setting, or type the desired value into the field.

Time (hh:mm:ss) The time format is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Press the left or right arrow key to move to desired field. Press the PgUp or PgDn key to increment the setting, or type the desired value into the field.

Primary / Secondary Master / Slave This field records the specifications for all non-SCSI hard disk drives installed in your system. Refer to the respective documentation on how to install the drives.

**Phoenix - AwardBIOS CMOS Setup Utility
 IDE Primary Master**

IDE HDD Auto-Detection	Press Enter	Item Help
IDE Primary Master Access Mode	Auto Auto	Menu Level ►
Capacity	40022MB	To auto-detect the HDD's size, head... on this channel
Cylinder	19158	
Head	16	
Precomp	0	
Landing Zone	19157	
Sector	255	

↑ ↓ ← → :Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Drive A / Drive B Select this field to the type(s) of floppy disk drive(s) installed in your system. The choices are:
360KB, 5.25 in.
1.2MB, 5.25 in.
720KB, 3.5 in.
1.44MB, 3.5 in.
2.88MB, 3.5 in.
None

Video Select the type of primary video subsystem in your computer. The BIOS usually detects the correct video type automatically. The BIOS supports a secondary video subsystem, but you do not select it in setup.

Halt On During the power-on self-test (POST), the computer stops if the BIOS detects a hardware error. You can tell the BIOS to ignore certain errors during POST and continue the boot-up process.

Base Memory Typically 640KB. Also called conventional memory. The DOS operating system and conventional applications use this area.

Extended Memory Above the 1MB boundary. Early IBM personal computers could not use memory above 1MB, but current PCs and their software can use extended memory.

Total Memory This option shows system memory capacity.

4-6.3 Advanced BIOS Features

Advanced BIOS Features improves your system performance or sets up system features according to your preference.

Run the Advanced BIOS Features as follows:

1. Choose “Advanced BIOS Features” from the Main Menu and a screen with a list of options will appear:

**Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features**

		Item Help
Virus Warning	Disabled	Menu Level ► Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this functions is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep
CPU Internal Cache	Enabled	
External Cache	Enabled	
Quick Power On Self Test	Enabled	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	CDROM	
Boot Other Device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Disabled	
Boot Up NumLock Status	On	
Gate A20 Option	Fast	
Typematic Rate Setting	Disabled	
x Typematic Rate (Chars/Sec)	6	
x Typematic Delay (Msec)	250	
Security Option	Setup	
APIC Mode	Enabled	
OS Select For DRAM > 64MB	Non-OS2	

↑↓ : Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F5>: Get the previous values. These values are the values with which the user starts the current session.

<F6>: Load all options with the BIOS default values.

<F7>: Load all options with the Setup default values.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.
-

Virus Warning When enabled, you receive a warning message if a program (specifically, a virus) attempts to write to the boot sector or the partition table of the hard disk drive.

You should then run an antivirus program. Keep in mind that this feature protects only the boot sector, not the entire hard drive.

NOTE: Many disk diagnostic programs that access the boot sector table can trigger the virus warning message. If you plan to run such a program, we recommend that you disable the virus warning.

CPU Internal / External Cache Cache memory is additional memory that is much faster than conventional DRAM (system memory). CPUs from 486-type up contain internal cache memory (L1), and most, but not all, modern PCs have additional (external) cache memory (L2). When the CPU requests data, the system transfers the requested data from the main DRAM into cache memory, for faster access by the CPU.

Quick Power On Self Test Select Enabled to reduce the amount of time required to run the power-on self-test (POST). A quick POST skips certain steps. We recommend that you normally enable quick POST.

First/Second/Third/Other Boot Device The BIOS attempts to load the operating system from the devices in the sequence selected in these items. The choices: Floppy; LS/ZIP; HDD; SCSI; CDROM; Disabled

Swap Floppy Drive When enabled, floppy drives A and B will be exchanging without any physical connection and modification on the cables.

Boot Up Floppy Seek When enabled, the BIOS tests (seeks) floppy drives to determine whether they have 40 or 80 tracks. Only 360-KB floppy drives have 40 tracks; drives with 270KB, 1.2MB, and 1.44MB capacity all have 80 tracks. Because very few modern PCs have 40-track floppy drives, we recommend that you set this field to disabled to save time.

Boot Up NumLock Status Toggle between On or Off to control the state of the NumLock key when the system boots. If On, the numeric keypad is in numeric mode. If off, the numeric keypad is in cursor control mode.

Gate A20 Option Gate A20 refers to the way the system addresses memory above 1MB (extended memory). When set to *Fast*, the system chipset controls Gate A20. When set to *Normal*, a pin in the keyboard controller controls Gate A20. Setting Gate A20 to *Fast* improves system speed, particularly with OS/2 and Windows.

Typematic Rate Setting When *Disabled*, the following two items (Typematic Rate and Typematic Delay) are irrelevant. Keystroke repeats at a rate determined by the keyboard controller in your system.

When *Enabled*, you can select a typematic rate and typematic delay.

Typematic Rate (Chars / Sec) When the typematic rate setting is enabled, you can select a typematic rate (the rate at which character repeats when you hold down a key) of 6, 8, 10, 12, 15, 20, 24, or 30 characters per second.

Typematic Delay (Msec) Choices: 250; 500; 750; 1000. This option sets the time interval for displaying the first and the second characters. If enabled, the time interval is optional.

Security Option If you have set a password, select whether the password is required every time the System boots, or only when you enter setup.
The choices: System(default); Setup

APIC Mode Allows you to enable (default) / disable the APIC function for selecting the APIC interrupt Mode.

OS Select For DRAM > 64MB Select OS2 only if you are running OS/2 operating system with greater than 64MB of RAM on your system.

4-6.4 Advanced Chipset Features

Advanced Chipset Features is used to modify the values of chipset buffers. These buffers control the system options.

Run the Advanced Chipset Features as follows:

1. Choose “Advanced Chipset Features” from the Main Menu and a list of option will appear:

Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features

		Item Help
System Performance	Optimal	
FSB Frequency	100MHz	
CPU Interface	Optimal	Menu Level ►
Memory Frequency	By SPD	[Optimal] - Use the most stable settings.
Resulting Frequency	133MHz	
x Memory Timings	Optimal	
x T(RAS)	6	[Aggressive/Turbo] - Use over clocked settings for higher performance but with higher risk of instability.
x T(RCD)	3	
x T(RP)	3	
x Cas Latency	2.0	
FSB Spread Spectrum	Disabled	
x AGP Spread Spectrum	Disabled	[Expert] - Allows full customization of performance options. Advanced users only.
Frame Buffer Size	32M	
AGP Aperture Size (MB)	64M	
AGP Frequency	66MHz	
AGP 8X Support	Enabled	
AGP Fast Write Capability	Enabled	
CPU Thermal-Throttling	50.0%	
System BIOS Cacheable	Disabled	
Video RAM Cacheable	Disabled	
USB20 HDD	Disabled	

↑↓↔← : Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

- <F1>: “Help” gives options available for each item.
- <F5>: Get the previous values. These values are the values with which the user starts the current session.
- <F6>: Load all options with the BIOS default values.
- <F7>: Load all options with the Setup default values.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

System Performance	Allows you to select different system performance modes. Choices: Optimal; Aggressive; Turbo; Expert
FSB Frequency	To select an FSB for the CPU on board in accordance with the System Performance setting. Choices: 100MHz; 133MHz; 166MHz (for 166MHz CPU only); 200MHz (for 200MHz CPU) 100~250MHz in 1MHz stepping (for “Expert” setting in System Performance only)
CPU Interface	This option appears when “System Performance” is set at “Expert”. Choices: Optimal; Aggressive
Memory Frequency	This item allows you to set the Memory Frequency mode. SPD (Serial Presence Detect) is located on the memory modules, BIOS reads information coded in SPD during system boot up. Choices: By SPD; Auto;
Resulting Frequency	This item is to show the current DRAM Frequency.
Memory Timing	This value will change in accordance of the setting of “System Performance”.
T(RAS)	This value appears when “Memory Timing” is set at “Expert”. Choices: 1~15
T(RCD)	This value appears when “Memory Timing” is set at “Expert”. Choices: 1~7
T(RP)	This value appears when “Memory Timing” is set at “Expert”. Choices: 1~7
Cas Latency	This value appears when “Memory Timing” is set at “Expert”. Choices: 2.0; 2.5; 3.0
FSB Spread Spectrum	Allows you to enable / disable (Default) FSB Spread Spectrum.
AGP Spread Spectrum	Allows you to enable / disable (Default) AGP Spread Spectrum.

- Frame Buffer Size** Allows you to select the AGP buffer size.
Choices: 8M; 16M; 32M; 64M; 128M; Disabled
- AGP Aperture Size** Series of options are available: 32, 64, 128, 256 or 512 MB. Memory mapped and graphics data structures can reside in a Graphics Aperture. This area is like a linear buffer. BIOS will automatically report the starting address of this buffer to the O.S. The default setting is 64MB.
- AGP Frequency** Allows you to adjust the working frequency of an AGP card.
Choices: Auto, 50MHz ~ 100Mhz
- AGP 8X Support** Allows you to enable(default) / disable AGP 8X mode.
- AGP Fast Write Capability** This item will enable the AGP model into fast write mode. If your graphics card does not support this function, please do not enable this function.
- CPU Thermal- Throttling** If your CPU is up to certain temperature that may damage itself, this option can be set to lower down current CPU speed to decrease temperature to protect CPU itself. The percentage in the option is to set how fast the running speed of the CPU is.
- System BIOS Cacheable** Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance.
- Video RAM Cacheable** Selecting Enabled allows caching of the video memory (RAM) at A0000h-AFFFFh, resulting in better video performance. However, check your AGP manual to find out if any compatibility problem exists.
- USB20 HDD** To enable/disable the support of USB2.0 HDD interface.

4-6.5 Integrated Peripherals

Integrated Peripherals option allows you to get some information inside your system when it is working.

Run the Integrated Peripherals as follows:

1. Choose "Integrated peripherals" from the Main Menu and a list of options will appear:

**Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals**

		Item Help
OnChip IDE Channel0	Enabled	
Primary Master PIO	Auto	
Primary Slave PIO	Auto	
Primary Master UDMA	Auto	
Primary Slave UDMA	Auto	
OnChip IDE Channel1	Enabled	
Secondary Master PIO	Auto	
Secondary Slave PIO	Auto	
Secondary Master UDMA	Auto	
Secondary Slave UDMA	Auto	
IDE Prefetch Mode	Enabled	
Init Display First	Onboard/AGP	
OnChip USB	V1.1+V2.0	
USB Keyboard Support	Enabled	
AC97 Audio	Auto	
MAC Lan(nVIDIA)	Auto	
IDE HDD Block Mode	Enabled	
POWER ON Function	BUTTON ONLY	
KB Power ON Password	Enter	
Hot Key Power ON	Ctrl-F1	
Onboard FDC Controller	Enabled	
Onboard Serial Port 1	Auto	
Onboard Serial Port 2	Auto	
UART Mode Select	Normal	
x Rx/D , Tx/D Active	Hi, Lo	
x IR Transmission Delay	Enabled	
x UR2 Duplex Mode	Half	
x Use IR Pins	IR-Rx2Tx2	
Onboard parallel Port	378/IRQ7	
Parallel Port Mode	SPP	
EPP Mode Select	EPP1.9	
ECP mode Use DMA	3	
PWRON After PWR-Fail	Off	
Game Port Address	201	
Midi Port Address	330	
Midi Port IRQ	10	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F5>: Get the previous values. These values are the values with which the user starts the current session.

<F6>: Load all options with the BIOS default values.

<F7>: Load all options with the Setup default values.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

On-Chip IDE Channel The chipset contains a PCI IDE interface with support from two IDE channels. Select Enabled to activate the first and/or the second IDE interface. Select Disabled to inactivate an interface if you install a primary and/or second add-on IDE interface.

The choices: Enabled(default); Disabled

Primary Choose Auto or Mode 0~4. The BIOS will detect the HDD mode type automatically when you choose
Master / Slave PIO Auto. You need to set to a lower mode than Auto when your hard disk becomes unstable.

Secondary
Master / Slave PIO

The choices: Auto(default); Mode 0; Mode 1; Mode 2; Mode 3; Mode 4

Primary Ultra DMA33/66/100/133 implementation is possible only if your IDE hard drive supports it, if the operating environment includes a DMA drive, and if your system software supports Ultra DMA33/66/100/133.
Master / Slave UDMA Select "Auto" to enable BIOS support.

Secondary
Master / Slave UDMA

The choices: Auto(default); Disabled

IDE Prefetch Mode The on-board IDE drive supports IDE perfecting for faster drive accesses. If the IDE device doesn't support perfecting, set this field to Disabled.

The choices: Enabled(default); Disabled

Init Display First Initialize the onboard AGP video display before initializing any other display device on the system. Thus the Onboard AGP display becomes the primary display.

Choices: Onboard/AGP; PCI Slot

OnChip USB Allows you to select the USB transfer rate mode. Usually USB2.0 is up to 480Mb/s, while USB1.1 is up to 12Mb/s.

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

USB Keyboard Support Select Enabled(default) if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

AC97 Audio Select "Disabled" to use the on-chip audio capability of your system. Most of the field do not appear when this field is "Disabled", for user who wants to use add-on sound card, this item must be disabled.

MAC LAN(nVIDIA) This option allows you to enable/disable the Onboard LAN Controller.

The choices: Auto(default); Disabled

IDE HDD Block Mode Block mode is also called block transfer, multiple commands, or multiple sector 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 read/write per sector the drive can support.

The choices: Enabled(default); Disabled

POWER ON Function Allows you to set the way to boot up the system.
Choices: Password; Hot KEY; Mouse Left; Mouse Right; Any KEY; BUTTON ONLY(default); Keyboard 98

KB Power On Password If Keyboard Power-on function is set at "Password", this item shows up to allow you to type a password for the power-On function.

Choices: N/A; Password

Hot Key Power ON Allows you to set the hot key to boot up the system.

Onboard FDC Controller Select Enabled if your system has a floppy drive controller (FDC) installing in the system board and you want to use it. If you install add-in FDC or the system has no floppy drive, select Disabled in this field.
The choices: Enabled; Disabled

Onboard Serial Port 1 / Port 2 Select a logical COM port name and matching address for the first and second serial ports. Select an address and corresponding interrupt for the first and second serial ports.
Choices: Disabled; Auto(default);
3F8/IRQ4; 2F8/IRQ3;
3E8/IRQ4; 2E8/IRQ3

UART Mode Select The second serial port on your system may offer a variety of infrared port modes. Click here for a description of various modes. (Click your browser's Back button, or your right mouse button, to return to this page.)
The choices: Normal(default); IrDA; ASKIR

RxD , TxD Active When UART Mode is selected in IrDA or ASKIR mode, it allows you to adjust the value of RxD and TxD active priority.

IR Transmission Delay When UART Mode is selected in IrDA or ASKIR mode, it allows you to enable / disable IR Transmission Delay.

UR2 Duplex Mode When UART Mode is selected in IrDA or ASKIR mode, this item allows you to select the IR half / full duplex function.
The choices: Half; Full

Use IR Pins When UART Mode is selected in IrDA or ASKIR mode, this item allows you to select the IR Pins signal selection.
The choices: IR-Rx2Tx2; RxD2, TxD2

- Onboard Parallel Port** This item allows you to determine onboard parallel port controller I/O address setting.
The choices: 378H/IRQ7(default); 278H/IRQ5; 3BC/IRQ7; Disabled
- Parallel Port Mode** Select an operating mode for the on-board parallel (printer) port. Select Normal, Compatible, or SPP unless you are certain your hardware and software both support one of the other available modes.
Choices: SPP(default); EPP; ECP; ECP+EPP; Normal
- EPP Mode Select** Select EPP Mode when you choose EPP or ECP+EPP mode in the Parallel Port Mode.
Choices: EPP1.7; EPP1.9
- ECP mode Use DMA** Select a DMA channel for the port when you choose ECP or ECP+EPP mode for the Parallel Port Mode.
Choices: 1; 3
- PWRON After PWR-Fail** This item is to set the mode to power on when power resumes after power fails.
Choices: Off(default) ; On; Former-Sts
- Game Port Address** This item allows you to select the Game Port Address.
The choices: Disabled, 201(default), 209
- Midi Port Address** Allows you to configure the onboard Midi port address.
The choices: Disabled, 290; 330(default), 300
- Midi Port IRQ** This item allows you to select the Midi Port IRQ.
The choices: 5, 10(default)

4-6.6 Power Management Setup

Power Management Setup allows you to set the system’s power saving functions.

Run the Power Management Setup as follows:

1. Choose “Power Management Setup” from the Main Menu and a list of options will appear:

Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup

		Item Help
ACPI function	Enabled	
ACPI Suspend Type	S1(POS)	
Power Management	User Define	
Video Off Method	DPMS Support	
HDD Power Down	Disabled	
HDD Down In Suspend	Disabled	
Soft-off by PBTN	Instant-off	
WOL(PME#) From Soft-off	Disabled	
WOR(RI#) From Soft-off	Disabled	
Power-On by Alarm	Disabled	
x Day of Month Alarm	1	
x Time(hh:mm:ss) of Alarm	0 : 0 : 0	

↑↓↔←: Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: “Help” gives options available for each item.

<F5>: Get the previous values. These values are the values with which the user starts the current session.

<F6>: Load all options with the BIOS default values.

<F7>: Load all options with the Setup default values.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

ACPI Function Select Enabled(default) only if your computer's operating system supports the Advanced Configuration and Power Interface (ACPI) specification. Currently, Windows NT 5.0 (Windows 2000) supports ACPI.

ACPI Suspend Type S1(POS) is for Power On Suspend under ACPI mode. S3(STR) is for Suspend to RAM. S3 is recommended for Win2K/XP system.
Choices: S1(POS)(default); S3(STR); S1&S3

Power Management This option allows you to select the type (or degree) of power saving for Doze, Standby, and Suspend modes.
This table describes each power management mode:

Max Saving	Maximum power savings. Inactivity period is 1 minute in each mode.
User Define	Set each mode in dividually. Select time-out period in the section for each mode stated below.
Min Saving	Minimum power savings. Inactivity period is 1 hour in each mode (except the hard drive).

Video Off Method This determines the manner by which the monitor is blanked.

V/H SYNC+Blank	This selection will cause the system to turn off the vertical and horizontal snchronization ports and write blanks to the video buffer.
Blank Screen	This option only writes blanks to the video buffer.
DPMS Support	Select this option if your monitor supports the Display Power Management Singaling (DPMS) standard of the Video Electronics Standards to select video power management values.

HDD Power Down When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

HDD Down In Suspend Allows you to enable / disable(default) to power down HDD when suspend.

Soft-Off by PBTN When Enabled, turning the system off by pressing the on/off button places the system in a very low-power-usage state.

WOL(PME#) From Soft-Off Allows you to enable / disable(default) the Wake on Lan(PME#) function.

WOR(RI#) From Soft-Off Allows you to enable / disable(default) the Wake on Ring Signal function.
An input signal on the serial Ring Indicator (RI) Line (in other words, an incoming call on the modem) awakens the system from a soft off state.

Power-On by Alarm Allows you to enable / disable(default) the Power-On by Alarm function.

Day of Month Alarm If Resume On Power-On by Alarm is enabled, this field allows you to set the day of alarm.

Time of Alarm (Hour / Minute / Second) If Resume On Power-On by Alarm is enabled, this field allows you to set the Alarm Hour, Minute and Second.
Hour Choices: 00 ~ 23
Minute Choices: 00 ~ 59
Second Choices: 00 ~ 59

4-6.7 PnP / PCI Configuration

PnP/PCI Configuration allows you to modify the system's power saving functions.

Run the PnP/PCI Configuration as follows:

1. Choose "PnP/PCI Configuration" from the Main Menu and a screen with a list of options will appear:

Phoenix - AwardBIOS CMOS Setup Utility
PnP PCI Configurations

Reset Configuration Data	Disabled	Item Help
Resources Controlled by	Auto(ESCD)	
x IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	Disabled	
PCI SLOT1/5 IRQ Assigned	Auto	
PCI SLOT2 IRQ Assigned	Auto	
PCI SLOT3 IRQ Assigned	Auto	
PCI SLOT4 IRQ Assigned	Auto	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F5>: Get the previous values. These values are the values with which the user starts the current session.

<F6>: Load all options with the BIOS default values.

<F7>: Load all options with the Setup default values.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

Reset Configuration Data Normally, you leave this Disabled(default). Select Enabled to reset Extended System Configuration Data (ESCD), when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system cannot boot.

Resource Controlled By The Plug and Play Award BIOS can automatically configure all the boot and Plug and Play-compatible devices. If you select *Auto*(default), all the interrupt request (IRQ) and DMA assignment fields will not appear, as the BIOS automatically assigns them. If you select *Manual*, the IRQ Resources item will appear for your configuration (see below).

IRQ Resources Press Enter. Please refer to the list below:

Phoenix - AwardBIOS CMOS Setup Utility
IRQ Resources

		Item Help
IRQ-3 assigned to	PCI Device	
IRQ-4 assigned to	PCI Device	
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-12 assigned to	PCI Device	
IRQ-14 assigned to	PCI Device	
IRQ-15 assigned to	PCI Device	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

PCI/VGA Palette Snoop This option allows the BIOS to preview VGA status, and to modify the information delivered from the feature Connector of the VGA card to MPEG card. This option can solve the display inversion to black after you have used a MPEG card.

PCI Slot 1/2/3/4/5 IRQ Assigned Allows you to specify the IRQ for the PCI slots. Choices: Auto; 3; 4; 5; 7; 9; 10; 11; 12; 14; 15

4-6.8 SmartDoc Anti-Burn Shield

This section helps you to get more information about your system including CPU temperature, FAN speed and voltage. It is recommended that you contact your mainboard supplier to get proper values about the setting of the CPU temperature.

Run the “SmartDoc Anti-Burn Shield” as follows:

1. Choose “SmartDoc Anti-Burn Shield” from the Main Menu and a screen with a list of options will appear:

Phoenix - AwardBIOS CMOS Setup Utility
SmartDoc Anti-Burn Shield

		Item Help
Shutdown By ABS II	85°C / 185°F	
ABS II Temp.	72°C / 161°F	
System Temp.	33°C / 93°F	
CPU External Temp.	42°C / 107°F	
Current CPUFAN1 Speed	5232 RPM	
Current CPUFAN2 Speed	0 RPM	
Current CPUFAN3 Speed	0 RPM	
CPU Vcore	1.79 V	
3.3V	3.26 V	
+5V	5.02V	
+12V	11.75V	
-12V	-11.74V	
-5V	-5.25V	
VBAT(V)	1.53V	
5VSB(V)	5.05V	

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys.

<F1>: “Help” gives options available for each item.

<F5>: Get the previous values. These values are the values with which the user starts the current session.

<F6>: Load all options with the BIOS default values.

<F7>: Load all options with the Setup default values.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

Shutdown By ABS II (for AMD XP/Duron Morgan) This item will appear if AMD XP or Duron Morgan CPU is running on board. ABS II (Anti-burn Shield II) allows user to set up the safeguard temperature for the CPU designed with a protective thermal diode inside the CPU itself. Default Safeguard temperature is 85°C, at which the XP or Duron Morgan CPU will shutdown. Usually, a jumper is also designed on board for enabling/disabling ABS II function.
Choices: 75°C / 167°F; 80°C / 176°F
85°C / 185°F(default); 90°C / 194°F
95°C / 203°F; 100°C / 212°F

ABS II Temp. (for AMD XP/Duron Morgan) This item will appear if AMD XP or Duron Morgan CPU is running on board. This item is to show the current temperature inside the running CPU.

System Temp. Shows current system temperature.

CPU External Temp. Shows current CPU external temperature.

Current CPUFAN 1/2/3 Speed These fields display the current speed of the CPU / System fan.

CPU Vcore Shows CPU core actual voltage value.

3.3V, +5V, +12V, -12V, -5V, 5VSB Shows actual voltage value of all these default voltage value on board.

VBAT Shows voltage value of the battery on board. (Default Battery Voltage is 1.5V, not 3V)

4-6.9 CPU Ratio/Voltage Control

Run the “CPU Ratio/Voltage Control” as following:

1. Choose “CPU Ratio/Voltage Control” from the Main Menu and a screen with a list of options will appear:

Phoenix - AwardBIOS CMOS Setup Utility
CPU Ratio/Voltage Control

		Item Help
CPU Ratio	Default	
CPU Vcore Select	Default	
AGP Voltage Select	1.5V	
DIMM Voltage Select	2.5V	
VDD Voltage Select	1.6V	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys.

<F1>: “Help” gives options available for each item.

<F5>: Get the previous values. These values are the values with which the user starts the current session.

<F6>: Load all options with the BIOS default values.

<F7>: Load all options with the Setup default values.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

CPU Ratio If CPU onboard is one with an adjustable or unlocked CPU ratio, this item allows you user to adjust the CPU Ratio. If your CPU is one with the CPU Ratio locked, this item will be invalid.

CPU Vcore Select Allows you to configure the CPU Voltage. Usually, to raise CPU voltage will raise the chance of CPU overclocking and yet risk damage of CPU.
Choices: Default; 1.100V ~1.850V in 0.025V stepping

AGP Voltage Select Allows you to configure the AGP Voltage.
Choices: 1.5V; 1.6V; 1.7V; 1.8V

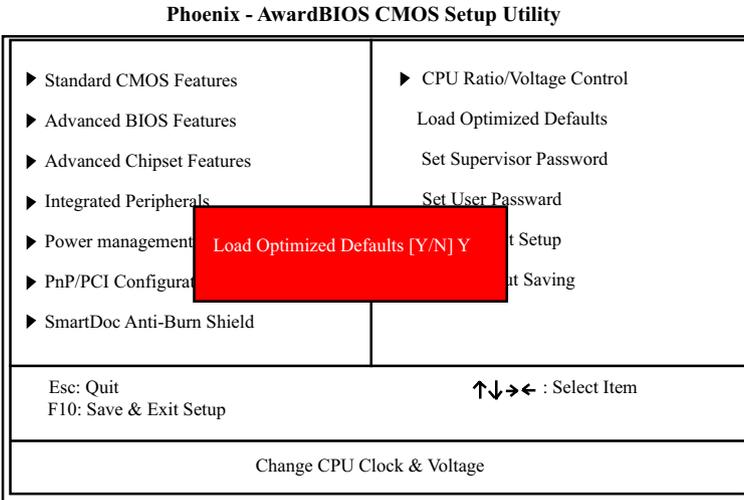
DIMM Voltage Select Allows you to configure the DIMM Voltage.
Choices: 2.5V; 2.6V; 2.7V; 2.8V

VDD Voltage Select Allows you to configure the VDD Voltage.
Choices: 1.6V; 1.7V; 1.8V

4-6.10 Load Optimized Defaults

When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:

" Load Optimized Defaults (Y / N) ? N "



"Y" is for "Yes", and "N" is for "No".

Pressing "Y" loads the BIOS Optimized default values to restore the BIOS to its original status.

4-6.11 SET SUPERVISOR / USER PASSWORD

These two options allow you to set your system passwords. Normally, the supervisor has a higher priority to change the CMOS setup option than the users. The way to set up the passwords for both Supervisor and Users are as follows:

1. Choose "Change Password" in the Main Menu and press <Enter>. Then following message appears:

"Enter Password : "

2. The first time you run this option, enter your password up to 8 characters and press <Enter>. (The screen does not display the entered characters.)

3. After you enter the password, the following message appears prompting you to confirm the password:

“Confirm Password : ”

4. Enter the same password “exactly” the same as you have just typed to confirm the password and press <Enter>.
5. Move the cursor to Save & Exit Setup to save the password.
6. If you need to delete the password entered before, choose the Supervisor Password and press <Enter>. It will delete the password that you have entered before.
7. Move the cursor to Save & Exit Setup to save the option you have just configured; otherwise the old password will still be there the next time you turn your system on.
8. Press <Enter> to exit to the Main Menu.

NOTE: If you forget or lose the password, the only way to access the system is to clear the CMOS RAM. All setup information will be lost and you need to run the BIOS setup program again.

4-6.12 SAVE & EXIT SETUP

SAVE & EXIT SETUP allows you to save all modifications you have specified into the CMOS memory. Highlight this option on the Main Menu and the following message appears:

“SAVE to CMOS and EXIT (Y/N) ? Y ”

“Y” is for “Yes”, and “N” is for “No”.

Press <Enter> key to save the configuration changes.

4-6.13 EXIT WITHOUT SAVING

EXIT WITHOUT SAVING option allows you to exit the Setup Utility without saving the modifications that you have specified. Highlight this option on the Main Menu and the following message appears:

“Quit Without Saving (Y/N) ? N ”

“Y” is for “Yes”, and “N” is for “No”.

You may change the prompt to “Y” and press <Enter> key to leave this option .