Contents

ITEM CHECKUP

- Mainboard
- User Manual (Mainboard)
- Multi-lingual Quick Installation Guide
- Support CD
- Bundled Bonus Pack CD
- Bundled Bonus Pack Manual
- Cables :
    ATA66/100/133 IDE Cable
    FDD Cable
    USB Cable (Optional)

Chapter 1 Specification

Introduction

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

nVIDIA nFORCE2 400 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 LPC Super I/O, the DDR 400/333/266 MHz 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.

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 <u>ERRATA/UPDATE Slip</u> enclosed inside for the correction or updated information, or else contact the Mainboard Dealer or visit our Web Site for the latest manual update.

1-1 NV400-64 / NV400-L64 Layout

RJ45 (NV400-L64 Only)
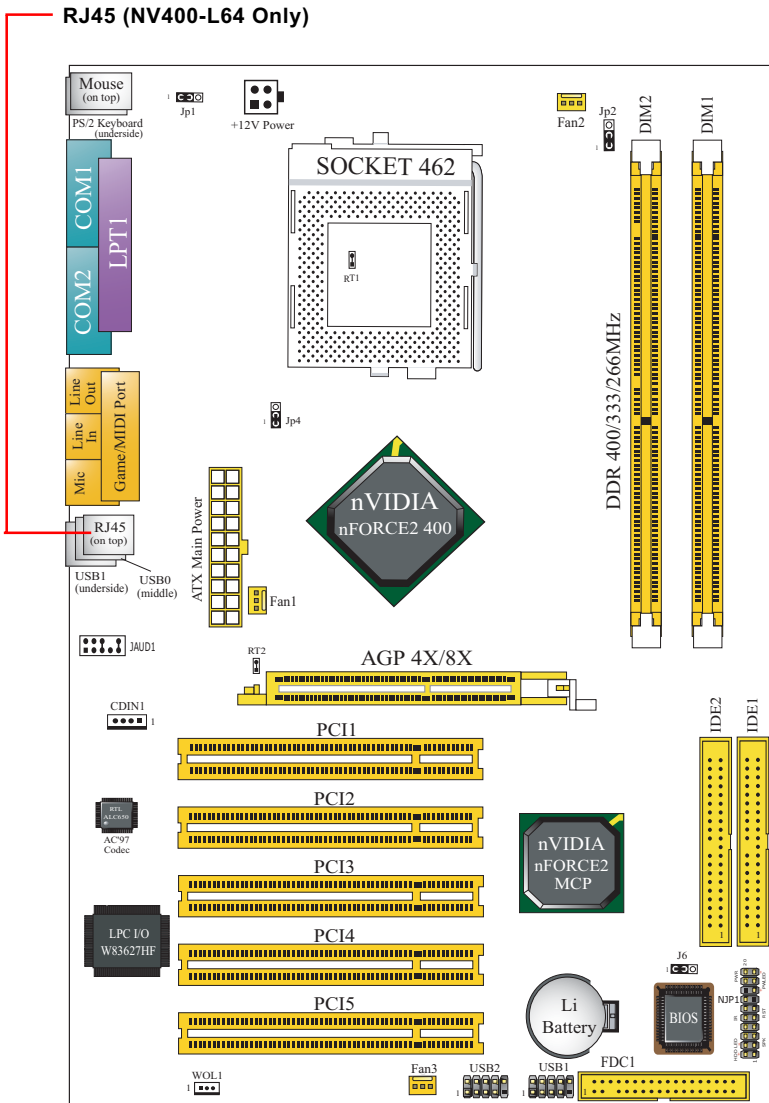
1-2 Mainboard Specifications

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 400 for managing and supporting 400/333/266/200MHz system Bus, AGP 8X/4X interface and DDR 400/333/266MHz Memory Interface.
- South Bridge nVIDIA nFORCE2 MCP working with North Bridge nFORCE2 400 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

2 DDR DIMM 184-pin slots on board :
- Supporting unregistered, non-ECC DDR 400/333/266/200 SDRAM up to 2GB
- Supporting installation of mixed volumes yet same type of DDR SDRAM modules

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 Accelerated Graphics Port (AGP) Interface

AGP Controller embedded on board, supporting:
• 1.5V(8X/4X) power mode only, 1 AGP Slot supported
• 8X 66MHz AD and SBA signaling; AGP pipelined split-transaction long burst transfers up to 2GB/sec.
• AGP 8X/4X supported, AGP V3.0 compliant

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)
• Keyboard & Mouse Power On/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 Windows 2000 / XP.
    -- 2 built-in USB connectors and 2 more USB pin-headers which require 2 additional USB cables to provide 4 more USB ports
• PS/2 Keyboard and PS/2 Mouse
• UARTs (Universal Asynchronous Receiver / Transmitter):
    -- 2 serial ports (COM1 & COM2) on board

1-2.8 Expansion Slots

• 5 PCI Bus Master slots
• 1 AGP 8X/4X slot
• 2 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 LAN on board (NV400-L64 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

1-2.12 Form Factor

- ATX Form Factor, ATX Power Supply
- Mainboard size: 305mm x 210mm

1-3 Mainboard Specification Table

NV400-64 / NV400-L64 Specifications and Features	
CPU	Socket 462 for AMD Athlon, Athlon XP, Duron CPU
North Bridge	nFORCE2 400, supporting 400/333/266/200 MHz FSB
South Bridge	nFORCE2 MCP
BIOS	Award BIOS
Memory	DDR 400/333/266 SDRAM, up to 2GB in 2 DDR DIMM slots
I/O Chip	Winbond W83627HF with Soltek HM
AGP interface	AGP 8X/4X mode only
Audio	AC'97 Audio Codec, 6-channel compliant
IDE Interface	2 ATA 133/100/66 IDE Connector
VGA	Not integrated on board
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
Networking	LAN Controller nForce2 MCP and Connector RJ45 (NV400-L64 Only)
Other Common Feature	Keyboard/Mouse Power On/Wake Up

1-4 Chipset System Block Diagram

```
                    ┌─────────────────────┐
                    │     Socket 462      │
                    │   for AMD CPUs      │
                    └─────────────────────┘
                             ↕ System Bus 400/333/266/200MHz

                    ┌─────────────────────┐   DDR memory
                    │    North Bridge     │   Interface        ┌──────────┐
  ┌──────────┐ AGP  │                     │                    │ System   │
  │ AGP Slot │ 8X/4X│      nVIDIA         │   DDR 400/         │ Memory   │
  └──────────┘      │      nFORCE2        │   333/266          └──────────┘
                    │        400          │   SDRAM
                    └─────────────────────┘
                             ↕ HyperTransport

                    ┌─────────────────────┐                    ┌────────────┐
                    │       South         │   PCI Bus          │ 5 PCI Slots│
                    │      Bridge         │                    └────────────┘
  ┌──────────┐ ATA  │                     │   AC'97            ┌────────────┐
  │ 2 IDE    │133/  │      nVIDIA         │                    │ Audio Codec│
  │connectors│100/66│      nFORCE2        │                    │ (6-channel)│
  └──────────┘      │        MCP          │                    └────────────┘
                    │                     │                    ┌──────┐
                    │                     │   USB Bus V2.0     │ USB  │
                    │                     │                    │ Ports│
                    └─────────────────────┘   ┌──────┐         └──────┘
                                               │ RJ45 │ (Optional)
                                               └──────┘
  ┌──────────────┐                                              ┌──────────┐
  │ IR           │  ┌──────────┐                                │          │
  │ FDD          │  │ LPC I/O  │                                │  BIOS    │
  │ Serial Ports │  │ W83627HF │                                │          │
  │ Printer Port │  └──────────┘                                └──────────┘
  │ Game/MIDI    │
  │ H/Monitor    │
  │ Mouse        │
  │ Keyboard     │
  └──────────────┘
```

Socket 462 + nVIDIA nFORCE2 400 + nVIDIA
nFORCE2 MCP Diagram

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 a 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 ATX Power Supply Installation
2-7 Jumper Settings
2-8 Other Connectors Configuration

2-1 CPU Identification and Installation

2-1.1 CPU Identification Legends

0.18um CPU

0.13 um CPU

AMD Athlon(Duron)
AX 1900 D U T 3 C
(1) (2)   (3) (4)(5) (6)(7)
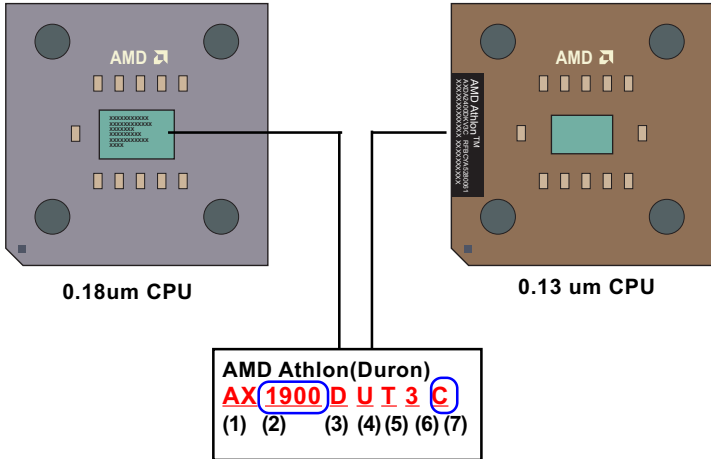
(1)	**Family / Architecture:** 　　**A, AX, AXDA=AMD Athlon Processor** 　　**D, DHD, DHM, DHL=AMD Duron Processor**
(2)	**Speed: 1000=1000MHz, 1600=1400MHz, 1700=1467MHz,** **1800=1533Mhz, 1900=1600MHz, 2000=1667MHz,** **2100=1733MHz, 2200=1800MHz, 2400=2000MHz,** **2600=2133MHz, 2700=2167MHz, 2500=1833MHz(Barton),** **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 90^0 so as to raise the upper layer of the socket from the lower platform.
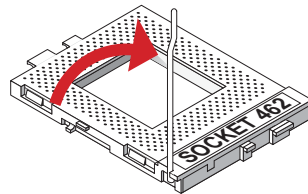
2. Configure Pin 1 of CPU to Pin 1 of the Socket, just as the way shown in the diagram on the right. Adjust the position of CPU until you can feel all CPU pins get into the pin holes of the socket.

Pin 1
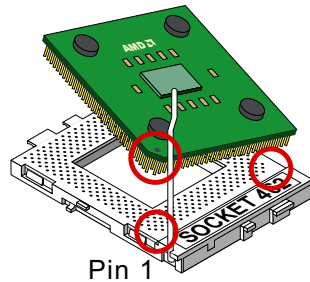
3. Make sure that all CPU pins have completely entered the socket and then lower down the lever to lock up CPU to socket.

Pin 1
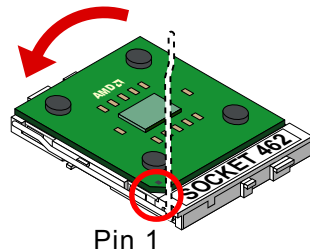
2-2 Memory Installation

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 2GB unbuffered DDR 400/333/266 SDRAM, with 2 DDR DIMM slots on board. <u>Do not insert other type of modules into these slots.</u>

• DDR DIMM slot has 184-pins and one notch. Insert a DDR SDRAM vertically into the 184-pin slot with the notch-to-rib matchingPress the module down in a gradual way until it surely reaches the bottom and clicks straight up the two latches on the left and right of the slot. If any one of the latches has not turned up completely, you should unplug the module and press it down the slot a bit more firmly.

184-Pin DIMM Notch Key Definitions

DRAM Key Position   Voltage Key Position

(2.5V Voltage Key)DDR Notch

DDR Rib
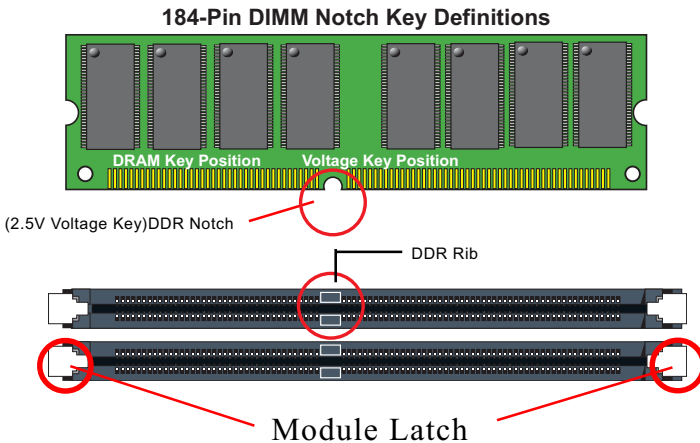
Module Latch

2-2.2 To Remove a DIMM

Press down the holding latches on both sides of slot to release the module from the DIMM slot.

2-3 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.
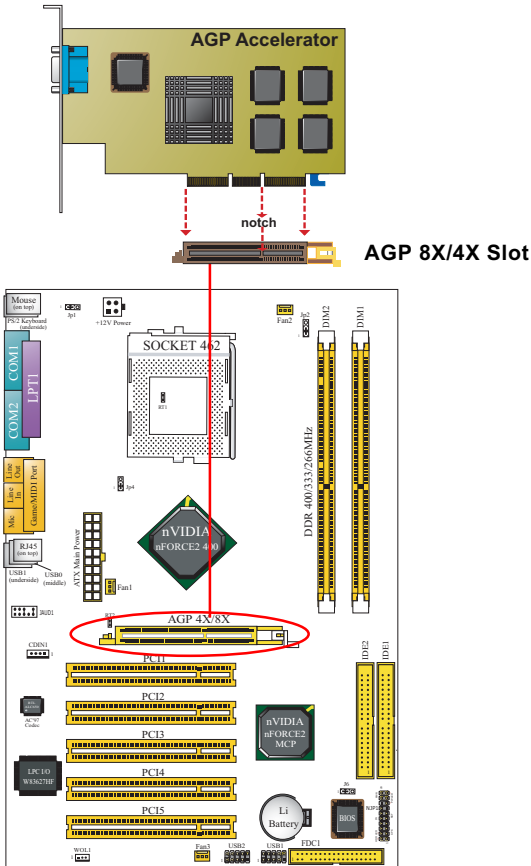
2-4 IDE Connector Installation

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.

IDE2
IDE1
ATA IDE connectors:
Orient the red line on the IDE Flat Cable to Pin1.

Pin 1 (to Red Line)

Gray connector
(To Slave device)

80-conductor cable

Black connector
(To Master Device)

Red line

Blue connector
(To Mainboard)
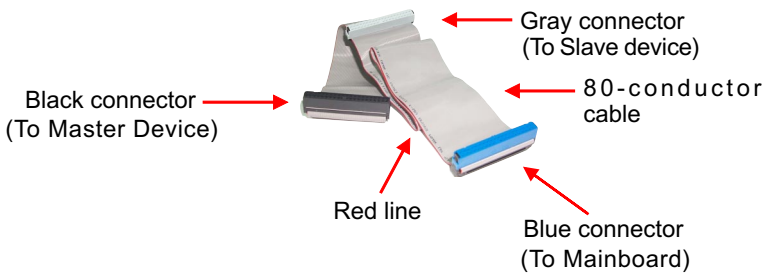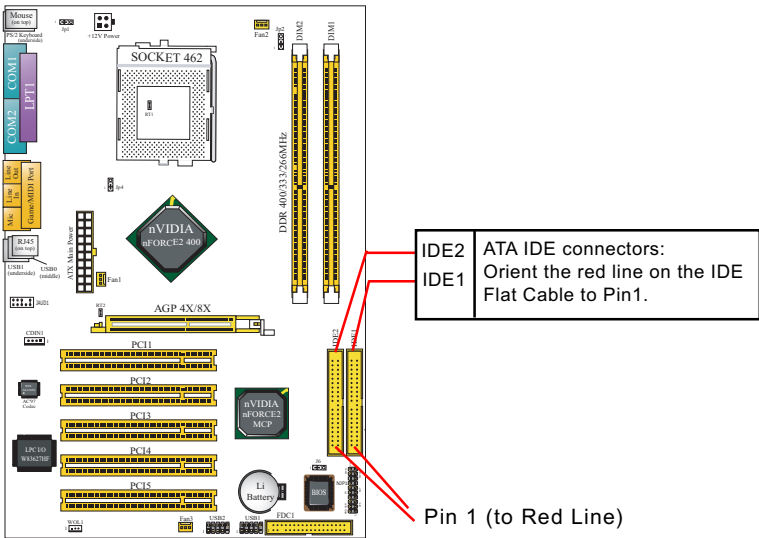
IDE Flat Cable

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.
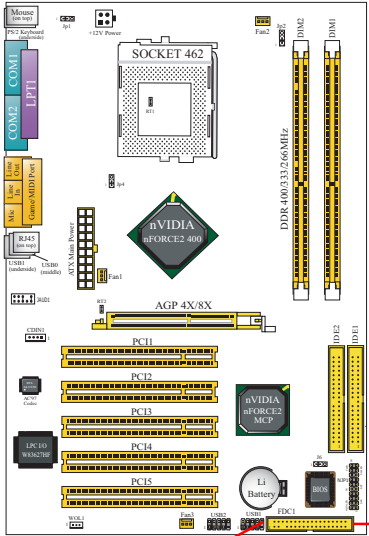
Floppy Drive Connector:

Orient the red line of the Floppy Flat Cable to Pin1.

Pin 1 (to Red Line)

Signal Swap End

To 2nd Floppy Drive

Red line

To Mainboard

To 1st Floppy Drive
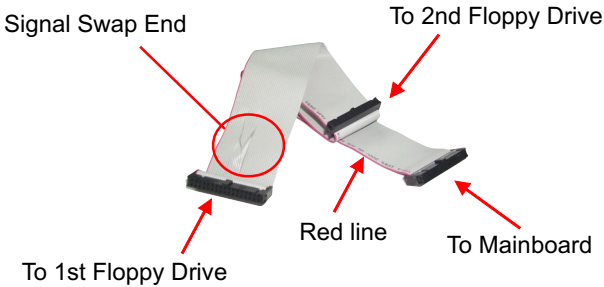
FDD Cable

2-6 ATX Power Supply Installation

+12V Power Connector

	2	4	
GND	○	○	+12V
GND	○	○	+12V
	1	3	

Main Power Connector (20-pin)

+12V	+5V
5SB	+5V
PWR OK	-5V
GND	GND
+5V	GND
GND	GND
+5V	PS ON#
GND	GND
+3.3V	-12V
+3.3V	+3.3V

Pin1   Pin11
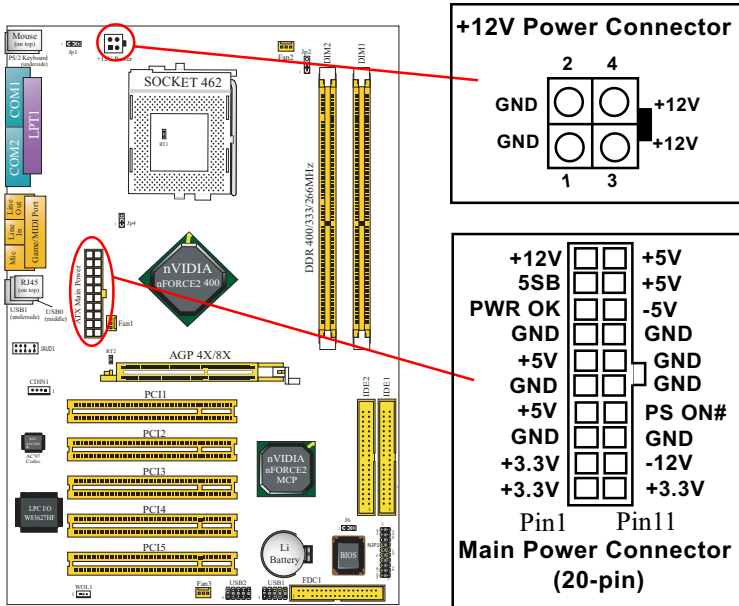
ATX V2.03 Power Supply is strongly recommended running with the nFORCE2-chipset mainboard.

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-shaped +12V Power 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.

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2-7 Jumper Settings

The following diagrams show the locations and settings of jumper blocks on the mainboard.

Jp1: Keyboard/Mouse Power On / Wake Up
1-2 closed (default) Keyboard/Mouse Power On / Wake Up Disabled
2-3 closed Keyboard/Mouse Power On / Wake Up Enabled

Jp2: Anti-burn Shield (ABSII) (Overheated CPU Shutdown) (only for Athlon XP/ Duron Morgan)
1-2 closed (default) To enable overheated CPU (85ºC) shutdown function
2-3 closed To disable overheated CPU shutdown function

Jp4 : CPU Clock Select
(default) **1-2 closed** For 100MHz or 133MHz CPU
2-3 closed For 166MHz or 200MHz CPU

J6: Clear CMOS
1-2 closed (default) To hold data
2-3 closed To clear CMOS

2-7.1 How to tackle the Jumpers:

1 2 3

A 3-pin Jumper

If a pin-header (of 2 or more pins) is designed in such a way that its pins can be closed or linked together to set up a specific function, this header is called a jumper in this manual.

A 2-pin Jumper Cap

The conductor inside the cap links two header-pins together.
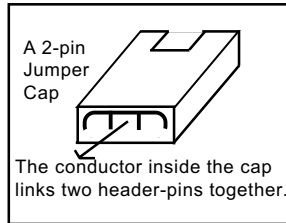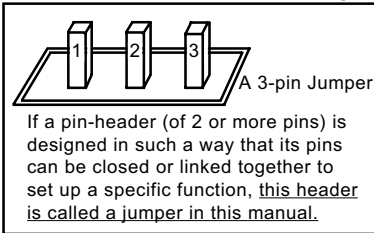
• A Jumper is usually but not necessarily given a "JpX" legend.
• In the Jumper setting diagram, all jumper pins covered with black marks stand for closed pins with jumper cap.

Jp X

1 ◖◗◖◗ 3

Jumper with Pin 2-3 closed

1 ◗◗◗ 3

Jumper with all pins open

1 ◖◗◖◗ 3

Jumper with Pin 1-2 closed

• 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.

2-7.2 Jp4: CPU Clock Select

1. Before setting the CPU clock by Jp4, read the Identification Legend on the CPU, find the Max FSB and divide it by two. The result is the default CPU clock.
2. Setting Jp4 1-2 closed is for 100MHz or 133MHz CPU.
3. Setting Jp4 2-3 closed is for 166MHz or 200MHz CPU, 100MHz or 133MHz CPU will fail to boot herewith.
4. If 100MHz or 133MHz CPU fails to boot system, you should excute the nVIDIA-Boot-Failure-Restart Procedure to reboot system.

Jp4 : CPU Clock Select

(default)

1-2 closed
For 100MHz or 133MHz CPU

2-3 closed
For 166MHz or 200MHz CPU
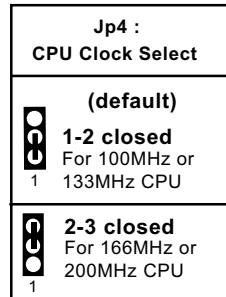
nVIDIA Boot-Failure-Reboot Procedures:

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.

2-7.3 J6: 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 J6, please follow the steps below:

1. Power off system.
2. Set J6 to Pin 2-3 closed.
3. After 3 or 5 seconds(allowing residue power to fade away), return the J6 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.

J6: Clear CMOS
1-2 closed (default) To hold data
2-3 closed To clear CMOS
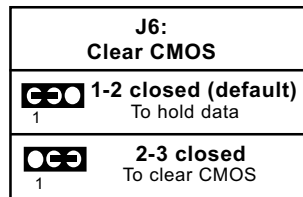
2-7.4 Jp2: Anti-burn Shield (ABSII)

Jp2: Anti-burn Shield (ABSII) (Overheated CPU Shutdown) (only for Athlon XP/ Duron Morgan)
1-2 closed (default) To enable overheated CPU (85°C) shutdown function
2-3 closed To disable overheated CPU shutdown function

Jp2 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 Jp2 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 re-turns to a cooler state can you restart your system.
For other CPUs that are not incorporated with a protective thermal diode, please set Jp2 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.

2-7.5 Jp1: KB/Mouse Power On/Wake Up

Jp1 is designed on board as a jumper to enable/disable the PS/2 keyboard/mouse Power On/Wake Up from system off or suspend mode. Yet users should still enter BIOS setup to choose the Wake Up/ Power On mode.

USB keyboard/mouse Wake Up function is not supported in this series.

Jp1: Keyboard/Mouse Power On / Wake Up
1-2 closed (default) Keyboard/Mouse Power On / Wake Up Disabled
2-3 closed Keyboard/Mouse Power On / Wake Up Enabled

2-8 Other Connectors Configuration

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

2-8.1 Onboard FAN Connectors
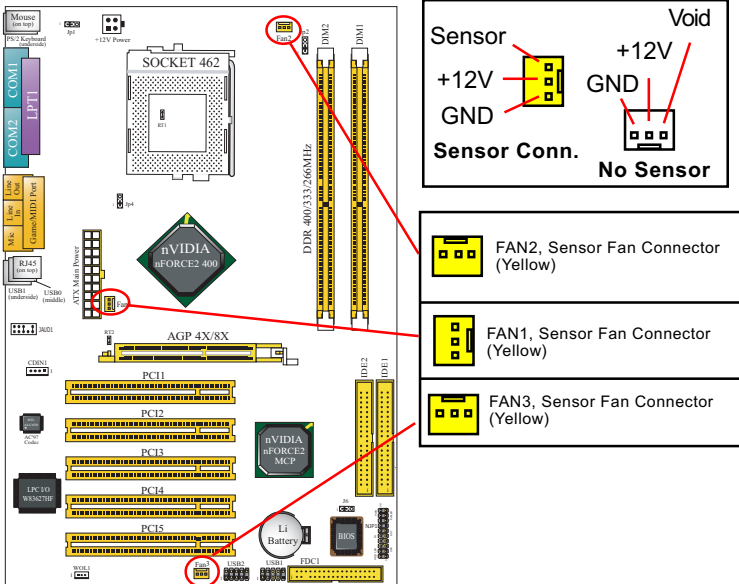
Both Sensor and No-sensor Fan Connectors support CPU/AGP/System/Case cooling fan with +12V mode. When connecting the wire to any Fan Connector, user should make sure that the red wire is for the positive current and should be connected to pin +12V, and the black wire is Ground and should be connected 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 "SmartDoc Anti-Burn shield" in 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.

2-8.2 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 Windows 2000 and above. Please see Chapter 3 for USB 2.0 installation.

USB connectors USB0, USB1(underside)
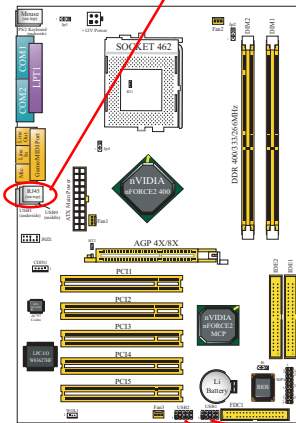
USB Cable (Optional)

USB Port

Red wire

1
10
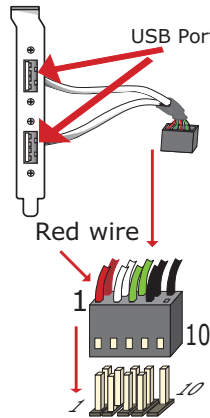
USB Pin-headers USB2 and USB1

First USB Port Wiring for Front USB

Red	White	Green	black
+5V	D1-	D1+	GND

USB Header Pin Assignment

10

1

+5V	D2-	D2+	GND
Red	White	Green	black

Second USB Port Wiring for Front USB
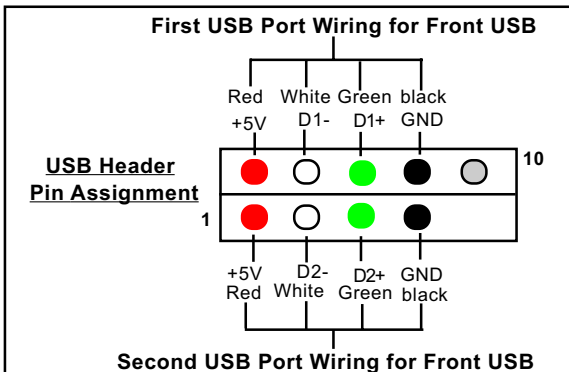
2-8.3 Chassis Panel Connectors

A.   **B.**   **C.**   **D.**

E.   **F.**   **G.**   **H. I. J.**   **K.**

A   : PS/2 Mouse
B   : LPT1 Port
C   : Game/MIDI
D   : Lan Port RJ45 (Top)
     (NV400-L64 Only)
E   : PS/2 Keyboard
F,G: COM 1, COM 2
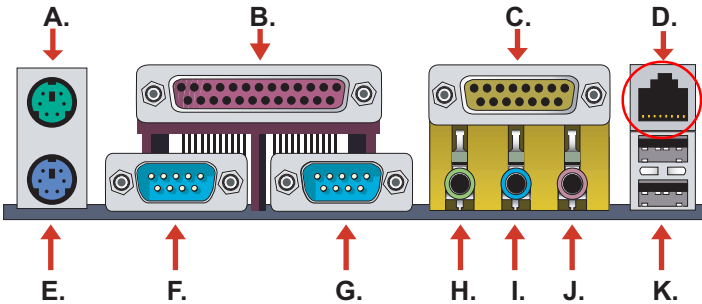
H   : Line Out /
     Front Speaker OUT
I   : Line In /
     Rear Speaker Out
J   : Microphone Input /
     Center Subwoofer Out
K   : USB 1 (underside)
     USB 0 (middle)

2-8.4 PS/2 Mouse And PS/2 Keyboard

PS/2 Mouse Connector (green, on top)

6 Void   **5 Mouse Clock**

4 VCC   **3 GND**

2 Void   **1 Mouse Data**

6 Void   **5 Keyboard Clock**

4 VCC   **3 GND**

2 Void   **1 Keyboard Data**
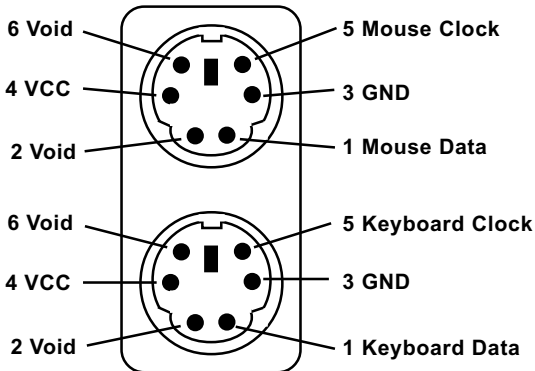
PS/2 Keyboard Connector   (purple, underside)

31

2-8.5 CD-ROM Audio Connectors

CDIN1 is an audio connector connecting CD-ROM audio to mainboard.
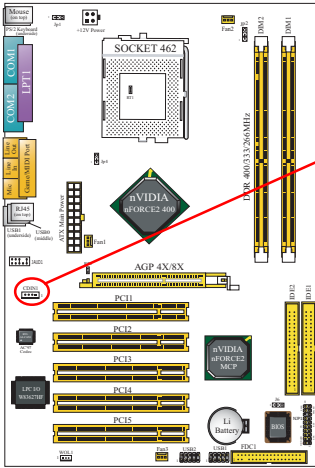
CD-ROM Audio Connector	
CDIN1	**Pin Signal**
Pin 1	**Left Channel**
Pin 2	**GND**
Pin 3	**GND**
Pin 4	**Right Channel**

2-8.6 Thermal Resistors
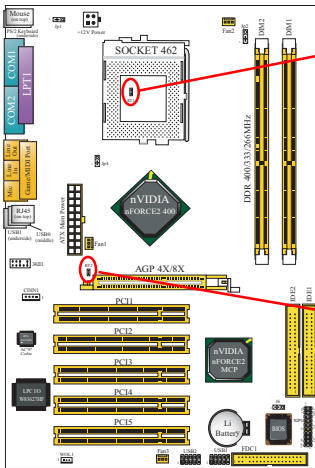
Thermal Resistor RT1

RT1

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

Thermal Resistor RT2

RT2

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

2-8.7 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.

WOL1

+5V
Standby
GND
Ring

Connect the Wake On LAN
signal from LAN card to WOL1
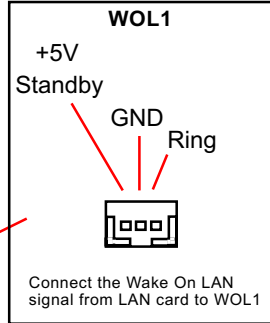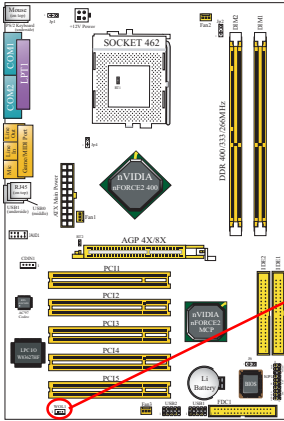
2-8.8 LAN Connector (NV400-L64 Only)

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.
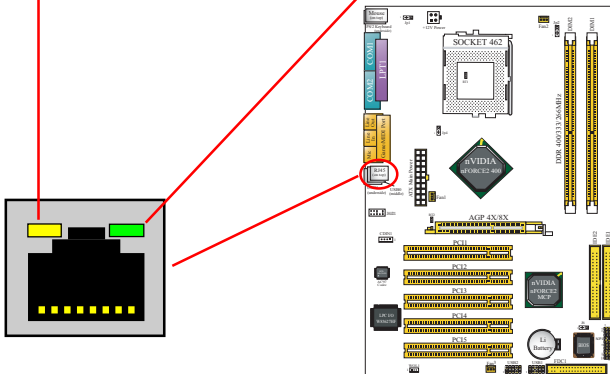
2-8.9 Complex Pin-header (Front Panel Connectors)

This complex Pin-header consists of the following connectors for vari-
ous 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.

Case
Front Panel

(1)Power Switch — PWRBT# / PWRBT

PLED- / NC / PLED+ — Power LED (4)

(2)Infrared(IR) — IR_VCC / NC / IRRX / IRGND / IRTX

RSTGND / RST1 — Reset Switch (5)

SP1 / NC / SP3 / SPVCC — Speaker (6)

(3)HDD LED — HDLED- / HDLED+
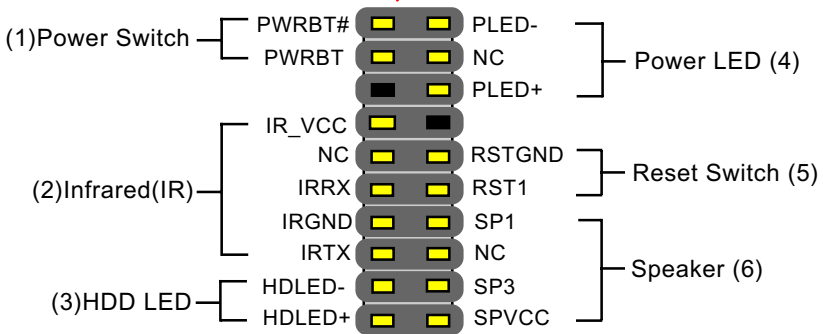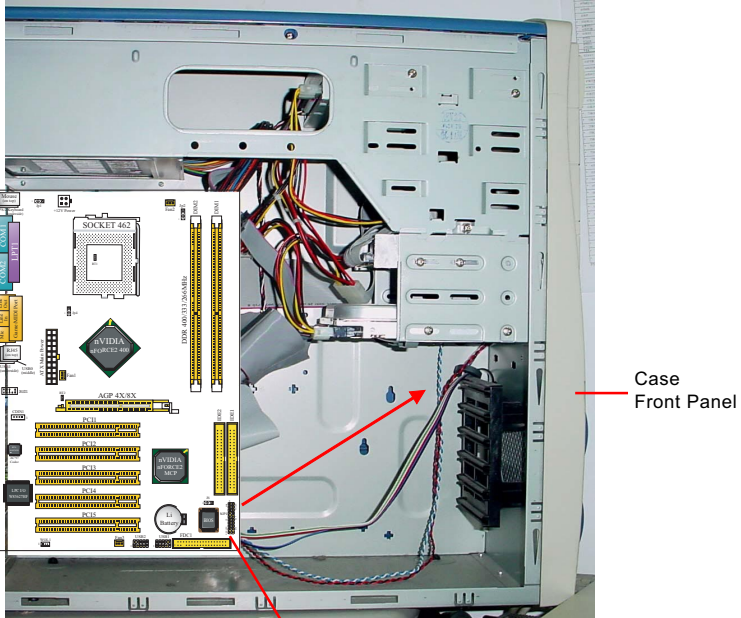
(1) Power Switch Connector:

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.

(2) IR Connector (Infrared Connector):

Connection: Connected to Connector IR on board.
Function: Supporting wireless transmitting and receiving module on board.

(3) HDD LED Connector:

Connection: Connected to HDD LED.
Function: To supply power to HDD LED.

(4) Power LED Connector:

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

(5) Reset Switch Connector:

Connection: Connected to case-mounted "Reset Switch".
Function: To supply power to "Reset Switch" and support system reboot function.

(6) Speaker Connector:

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

2-8.10 Front Panel Audio Connector

This Mainboard is designed with a Front Panel Audio connector "JAUD1" which provides connection to your chassis.

1. When JAUD1 is set to 5-6 closed and 9-10 closed, this default setting disables this connector and leaves the Back Panel Audio enabled.
2. To use this Front Panel Audio Connector, please open all pins of JAUD1 and connect it to your chassis.

JAUD1: Front Audio Panel Connector

Pin 4
Aud Vcc

Pin 10
RET L

Pin 2
Aud GND

Pin 6
RET R

Pin 1
Mic In

Pin 5
FPOUT R

Pin 9
FPOUT L

Pin
3 Mic VREF

Pin 7
(Key)
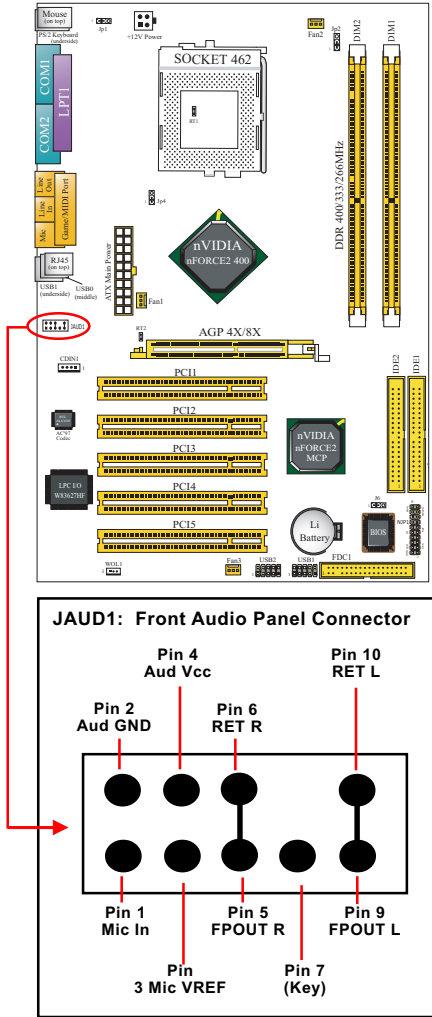
Chapter 3 Software Setup

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 98SE, Windows ME, Windows 2000 and Windows XP. And installation on Windows XP 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 Install AC'97 Audio Driver
3-4 To Verify 6-channel Audio
3-5 To Install Hardware Monitor Utility
3-6 To Install USB 2.0 Driver for Windows 2000 or XP

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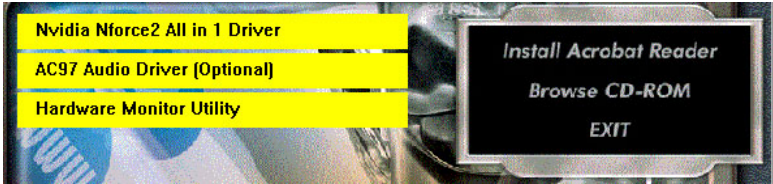
2. In case your system does not open the Support CD automatically, please click to the following path to enter the Main Installation Menu:

    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 Windows 2000 or Windows 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.
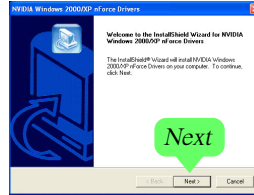
3. The nVIDIA InstallShield Wizard will pop up to guide you to set up nForce2 Drivers. This All-in-1 Driver will first start to install GART Driver.

4. The nVIDIA InstallShield Wizard will get on installing GART Driver.
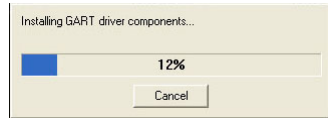
5. The nVIDIA InstallShield Wizard will get on installing memory controller Driver.
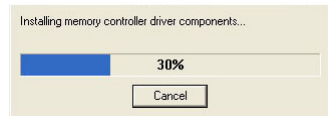
6. The nVIDIA InstallShield Wizard will get on installing system management bus Driver.
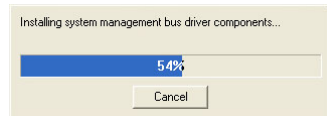
7.The nVIDIA InstallShield Wizard will get on installing LAN Driver.

Installing ethernet driver components...

66%

Cancel
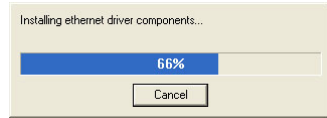
8. After all the setup processes are finished, please restart your computer by clicking on "Finish" so as to take the Utility into effect.

NVIDIA Windows 2000/XP nForce Drivers

InstallShield Wizard Complete

The InstallShield Wizard has successfully installed NVIDIA Windows 2000/XP nForce Drivers. Before you can use the program, you must restart your computer.

○ Yes, I want to restart my computer now.

○ No, I will restart my computer later.

Finish

< Back   Finish   Cancel

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3-3 AC'97 Audio Driver Installation

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.

3-3.1 Install AC'97 6-channel Audio Driver

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 "Avance AC'97 Audio Setup"".
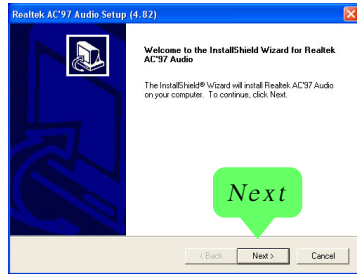
3. instantly, the Setup program proceeds to install the softwares which include AC'97 driver and AVRack. (If you want to stop setup, click the "Cancel" button.)
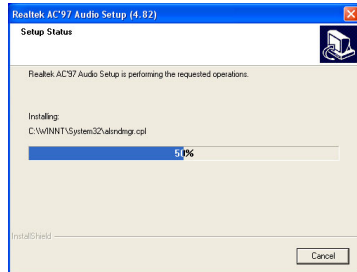
4. After the setup process is finished, please check the radial button "Yes, I want to restart my computer now." And click "Finish" to restart your system.
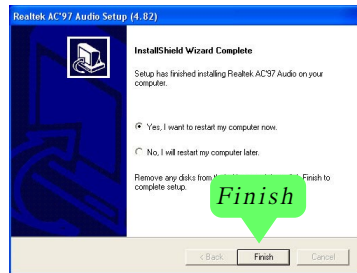
3-3.2 Verify 6-channel Audio

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:

Pale Green Connector to Front Speaker

Pale Blue Connector to Rear Speaker

Pale Pink Connector to Center/Subwoofer Speaker
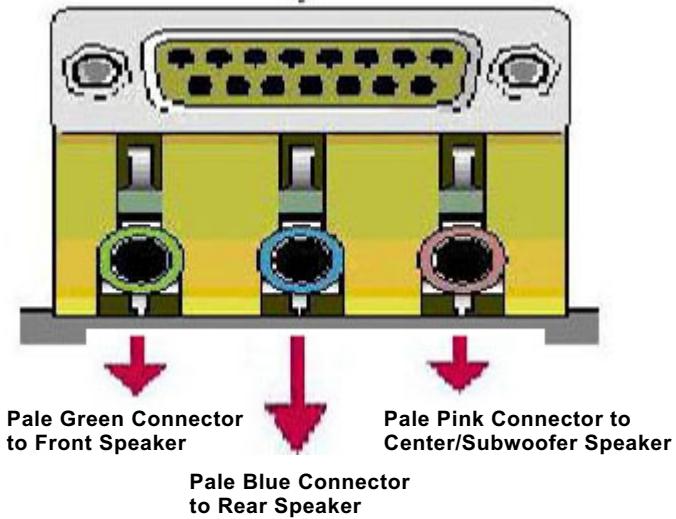
2. After Connection is done, start your Windows system and double click the Avance Sound Effect manager icon to enter 6-channel configuration:

Sound Effect Manager icon on Windows XP

3. The AC'97 Audio Configuration" screen will pop out. Clikc the "Speaker Configuration" bar with your mouse.
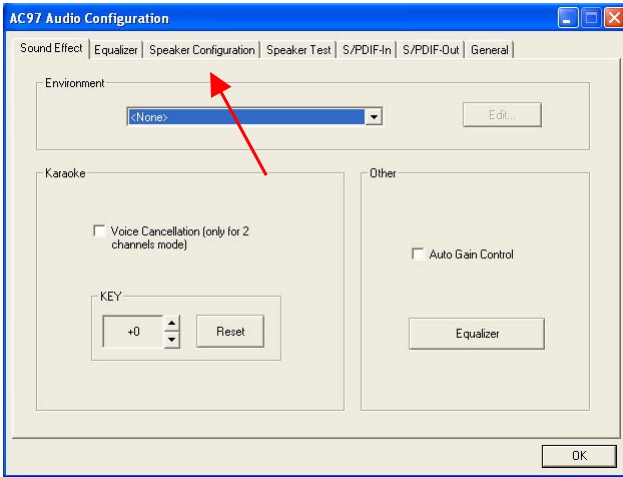
4. Instantly, the "Speaker Configuration" screen will pop out. Pick the items "6-channel mode for 5.1 speakers output" and " Synchronize the phonejack switch with the speakers settings" and then click "OK" to finish configuration.
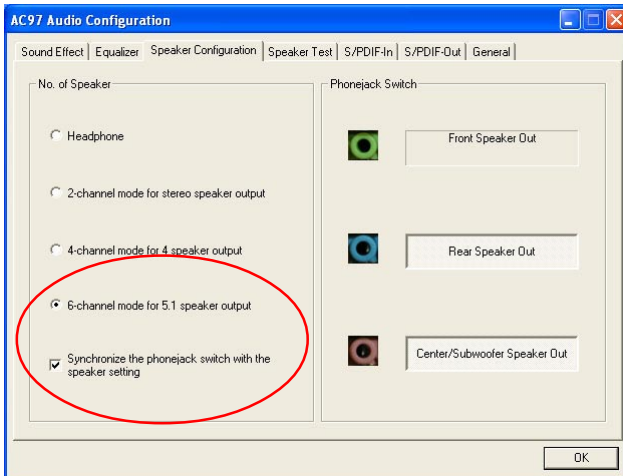
5. At finishing the Speakers Configuration, you can also click the "Speaker Test" bar on the screen to test the 6-channel performance. The figure below is the "Speaker Test" screen with testing instructions enclosed on it. Follow the instructions to perform the Speakers Test.
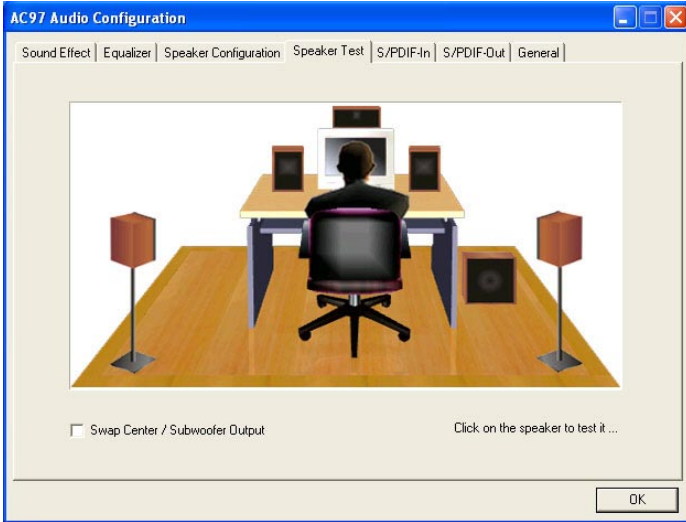
3-4 To Install Hardware Monitor Utility

3-4.1 Installation

Hardware Monitor is built on this mainboard. Its installation is pro-
gramed 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.

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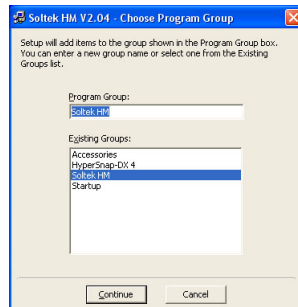
5. On the "Soltek HM Setup" screen, click "OK" to restart your computer so that the Utility can be put into effect.

Soltek HM V2.04 Setup

Soltek HM V2.04 Setup was completed successfully.
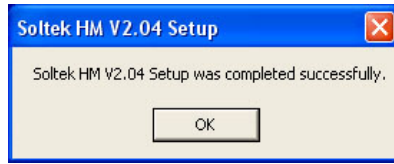
OK

3-4.2 Verification

OK

1. 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.

2. 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.

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.

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3-5 To Install USB 2.0 Driver for Windows 2000 or XP

USB V2.0 with its 480Mb/s transfer rate supports operating system Windows 2000 and Windows XP via the Windows 2000 and Windows XP Service Pack. Users should install the latest Service Pack for Windows 2K or Windows XP.

1. After installation of nVIDIA nFORCE2 All in 1 Driver in Windows 2000 or Windows XP, start to install the latest Service Pack version into the operating system. The installation of the latest Service Pack will support USB2.0 in Windows 2000 or Windows XP 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", verifying USB2.0 Driver is installed successfully.
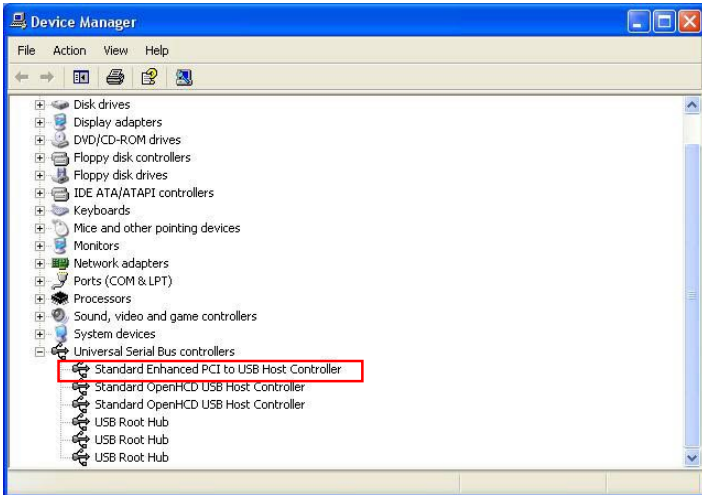
Chapter 4 BIOS Setup

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 up dates 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 **awdflash *.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, just repeat the process. Please DO NOT reset or turn off the system. If the award memory flash utility is not able to update the BIOS successfully, your system may not be able to boot up.

Step 6. You will need a message "CMOS checksum error-Default loaded" during booting the system. Press <Del> 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 pro-
     gramming

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

```
AwardBIOS Flash Utility V8.23F
(C)Phoenix Technologies Ltd. All Rights Reserved

Flash Type -

File Name to Program :




Message: Please input File Name !
```

Award Flash Memory Writer Start Screen

```
AwardBIOS Flash Utility V8.23F
(C)Phoenix Technologies Ltd. All Rights Reserved

Flash Type - PMC Pm49FL002T LPC/FWH

File Name to Program : 75FRN2.bin

   Writing Flash Memory - 0FE00 OK

████████░░░░░░░░

☐ Write OK    ▌ No Update    ▌ Write Fail
Warning: Don't Turn Off Power Or Reset System !
```

BIOS Image File is for nForce Chipset Only !

Award Flash Memory Writer Process Screen

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:

<div align="center"><code>PRESS <DEL> TO ENTER SETUP</code></div>

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

<div align="center">Phoenix - AwardBIOS CMOS Setup Utility</div>

▶ Standard CMOS Features	▶ CPU Ratio/Voltage Control
▶ Advanced BIOS Features	Load Optimized Defaults
▶ Advanced Chipset Features	Set Supervisor Password
▶ Integrated Peripherals	Set User Password
▶ Power Management Setup	Save & Exit Setup
▶ PnP/PCI Configurations	Exit Without Saving
▶ SmartDoc Anti-Burn Shield	

Esc: Quit	↑↓→← : Select Item
F10: Save & Exit Setup	

Time, Date, Hard Disk Type...
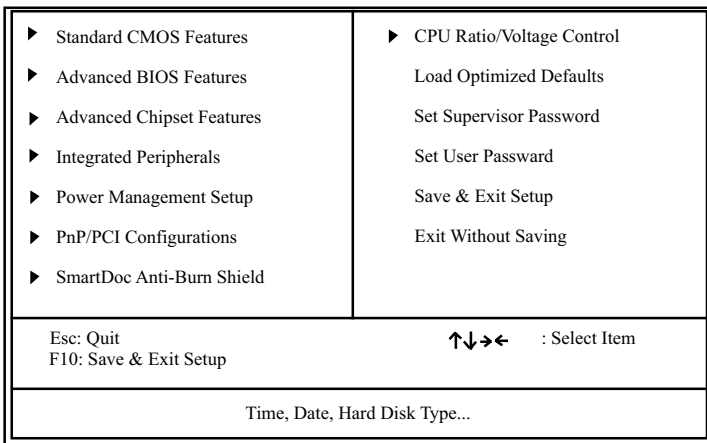
3. Use the arrow keys on your keyboard to select an option, and press <Enter>. Modify the system parameters to reflect the options installed in your system.
4. You may return to the Main Menu anytime by pressing <ESC>.
5. In the Main Menu, "SAVE AND EXIT SETUP" saves your changes and reboots the system, 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)	Thu, June 5 2003	Item Help
Time (hh:mm:ss)	9 : 41 : 11	
		Menu Level ▶
IDE Primary Master	WDC WD400BB-00DEA0	
IDE Primary Slave	None	Change the day,
IDE Secondary Master	None	month, year and
IDE Secondary Slave	None	century
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	Auto	Menu Level ▶
Access Mode	Auto	
		To auto-detect the
Capacity	40022MB	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	
CPU Internal Cache	Enabled	Menu Level ▶
External Cache	Enabled	
Quick Power On Self Test	Enabled	Allows you to choose
First Boot Device	Floppy	the VIRUS warning
Second Boot Device	HDD-0	feature for IDE Hard
Third Boot Device	CDROM	Disk boot sector
Boot Other Device	Enabled	protection. If this
Swap Floppy Drive	Disabled	functions is enabled
Boot Up Floppy Seek	Disabled	and someone attempt
Boot Up NumLock Status	On	to write data into this
Gate A20 Option	Fast	area, BIOS will show a
Typematic Rate Setting	Disabled	warning message on
x Typematic Rate (Chars/Sec)	6	screen and alarm beep
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 (Advanced Programmable Interrupt Controller) function. APIC mode will expand available IRQs for the system when enabled.

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	Menu Level ▶
FSB Frequency	100MHz	
x CPU Interface	Optimal	[Optimal] - Use the most stable
Memory Frequency	By SPD	settings.
Resulting Frequency	133MHz	
x Memory Timings	Optimal	[Aggressivee/Turbo] - Use over
x T(RAS)	7	clocked settings for higher
x T(RCD)	3	performance but with higher risk of
x T(RP)	3	instability.
x Cas Latency	2.5	
FSB Spread Spectrum	Disabled	[Expert] - Allows full
AGP Spread Spectrum	Disabled	customization of performance
AGP Aperture Size (MB)	64M	options. Advanced users only.
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	

↑↓→← : 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 set 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 only);
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.
Choices: 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.

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. The default AGP Frequency is 66MHz. 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 mode 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. Choices: Disabled; 12.5%~87.5% in 12.5% stepping

System BIOS Cacheable Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance.

Video BIOS 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.

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	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	
x KB Power ON Password	Enter	
x 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 RxD , TxD 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	
x EPP Mode Select	EPP1.9	
x 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 0/1 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 Master / Slave PIO Secondary Master / Slave PIO Choose Auto or Mode 0~4. The BIOS will detect the HDD mode type automatically when you choose Auto. You need to set to a lower mode than Auto when your hard disk becomes unstable.
The choices: Auto(default); Mode 0; Mode 1; Mode 2; Mode 3; Mode 4

Primary Master / Slave UDMA Secondary Master / Slave UDMA 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. Select "Auto" to enable BIOS support.
The choices: Auto(default); Disabled

IDE Prefetch Mode The on-board IDE drive supports IDE prefetching for faster drive accesses. If the IDE device doesn't support prefetching, set this field to Disabled.
The choices: Enabled(default); Disabled

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

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 *"Enabled"* 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.
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 Pass-word	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; 3F8/IRQ4; 2F8/IRQ3; 3E8/IRQ4; 2E8/IRQ3
UART Mode Select	The serial port 2 on your system may offer a variety of infrared port modes. Click here for a description of various modes. The choices: Normal(default); IrDA; ASKIR

RxD , TxD Active	The option controls the speed between receiving and transmitting of IrDA or ASKIR when using. Choices: Hi,Hi; Hi,Lo; Lo,Hi; Lo,Lo
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	This options controls the operating mode between receiving and transmitting of IrDA or ASKIR. The operating mode will be synchronous bi-directional transmission and reception when Full mode is selected. Nevertheless, the operating mode will be asynchronous bi-directional transmission and reception when Half mode is selected. 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 sure 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 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   This item allows you to select the ACPI Suspend type. You can select S3(STR) for Suspending To RAM if your system supports this mode. Or you can select S1(POS) for Power On Suspend under ACPI mode.
Choices: S1(POS)(default);S3(optional); S1&S3 (Optional)

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.
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:
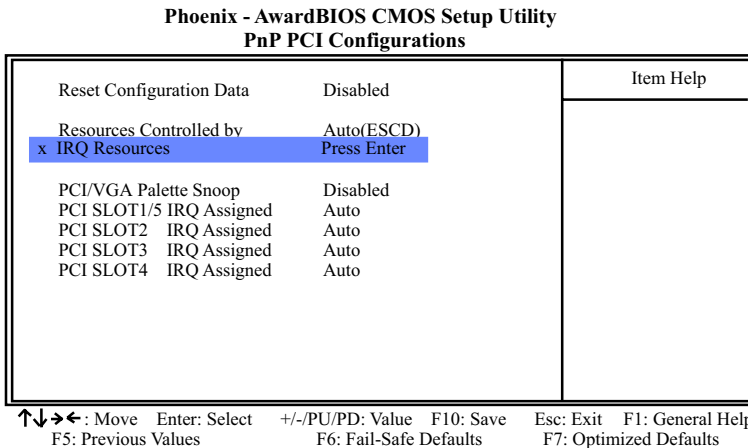
Phoenix - AwardBIOS CMOS Setup Utility
PnP PCI Configurations

		Item Help
Reset Configuration Data	Disabled	
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 in-cluding 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 un-
locked CPU ratio, this item allows you user to ad-
just the CPU Ratio. If your CPU is one with the
CPU Ratio locked, this item will be invalid.

CPU Vcore   Allows you to configure the CPU Voltage. Usually,
Select   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 step-
ping

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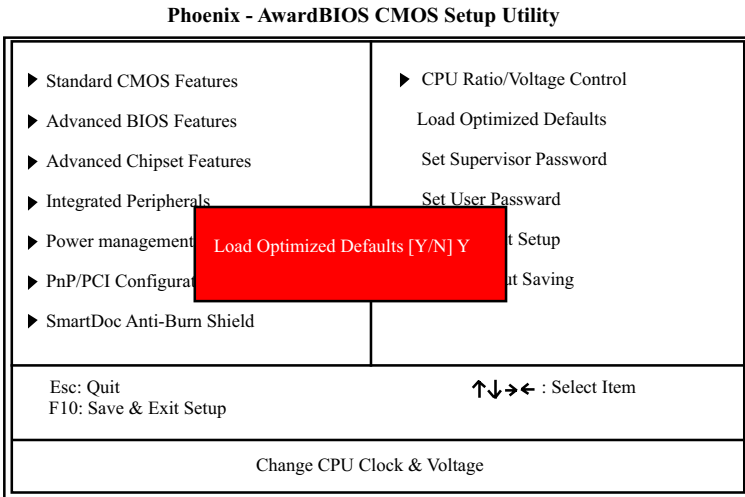**Select**   Choices: 1.5V; 1.6V; 1.7V; 1.8V

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

VDD Voltage   Allows you to configure the VDD Voltage.
Select   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 "

Phoenix - AwardBIOS CMOS Setup Utility

▶ Standard CMOS Features	▶ CPU Ratio/Voltage Control
▶ Advanced BIOS Features	Load Optimized Defaults
▶ Advanced Chipset Features	Set Supervisor Password
▶ Integrated Peripherals	Set User Password
▶ Power management	Load Optimized Defaults [Y/N] Y
▶ PnP/PCI Configurat	Saving
▶ SmartDoc Anti-Burn Shield	
Esc: Quit F10: Save & Exit Setup	↑↓→← : Select Item
Change CPU Clock & Voltage	

"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:

<div align="center">"Enter Password : "</div>

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:

<div align="center">"Confirm Password : "</div>

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. Please do not reset or power off until you see the boot screen. Highlight this option on the Main Menu and the following message appears:

```
"Not To Reset Or Power-off
 Before Boot Screen Showed.
 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 .