User's Manual

nVidia *GeForce 6100* mainboard for AMD Socket AM2 (940-pin) processor

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6000012MGF610

DISCLAIMER OF WARRANTIES:

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THE MANUFACTURER LIMITED WARRANTY. THE MANUFACTURER EXPRESSLY EXCLUDES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING ITS PRODUCTS; INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT. THIS DISCLAIMER OF WARRANTIES SHALL APPLY TO THE EXTENT ALLOWED UNDER LOCAL LAWS IN THE COUNTRY PURCHASED IN WHICH LOCAL LAWS DO NOT ALLOW OR LIMIT THE EXCLUSION OF THE IMPLIED WARRANTIES.

HANDLING PROCEDURES:

Static electricity can severely damage your equipment. Handle the mainboard and any other device in your system with extreme care and avoid unnecessary contact with system components on the mainboard. Always work on an antistatic surface to avoid possible damage to the mainboard from static discharge. Always have the power supply unplugged and powered off when inserting and removing devices within the computer chassis. The Manufacturer assumes no responsibility for any damage to the mainboard that results from failure to follow instruction or failure to observe safety precautions.

CAUTION

The mainboard is subject to damage by static electricity.
Always observe the handling procedures.

Table of Contents

Page

Section 1 -- Introduction

1-1 Package Contents

Contents

A. Mainboard

B. User's manual

C. Floppy drive cable

D. HDD drive cable

E. CD (drivers and utilities)

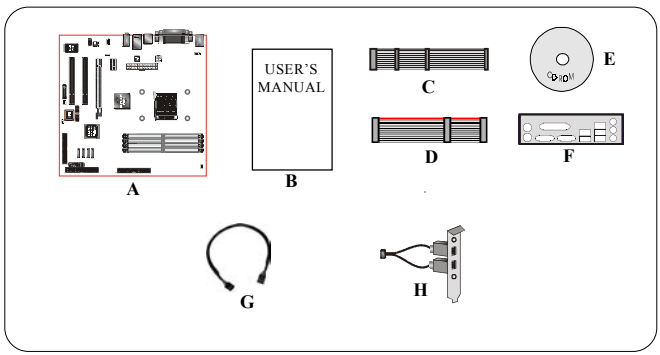
F. I/O Shield

G. SATA II data cable

Optional items

H. Extra USB2.0 port cable

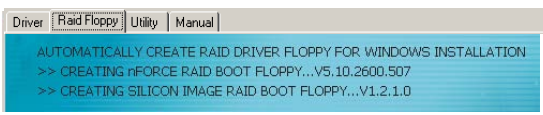
If you need the optional item, please contact your dealer for assistance.



If you intend to setup RAID:

When installing Windows XP/2000 into any RAID drive, the O/S setup will require a floppy disk containing the RAID driver. This step will show you how to prepare this driver floppy.

1. Locate a PC and insert the bundled CD into its CD-ROM drive.
2. A main menu screen will appear (Autorun feature)
3. Select the page "RAID floppy"



4. Insert a blank floppy into the A:drive
5. Click on the required RAID controller driver to begin copy into the floppy

1-2 Mainboard Features

Brief Introduction

- **Socket AM2**

  Socket AM2 (940-pin) based motherboards are designed to provide performance enhancements for AMD Athlon AM2 processor-based systems, and it also expected to be the next-generation of platform innovations.

  For more information about all the new features Athlon™ AM2 Processor deliver, check out the AMD website at http://www.amd.com

- **Chipset**

  The board is designed with nVidia GeForce 6100 chipset, featuring performance and stability with the most innovative technology and features.

  For more details about the nVidia chipset, please visit the nVidia Web site at http://www.nVidia.com.

- **VGA**

  Chipset contains integrated VGA. The VGA core shares memory usage with system memory, therefore sometimes referred to as Unified Memory Architecture (UMA).

- **PCI-Express (PCI-E)**

  Next generation peripheral interface to succeed to current PCI bus for the next decade. With smaller slot size and 250MB/sec (PCI-E*1) or 4GB/sec(PCI-E*16) maximum transfer, PCI-Express overcomes PCI bus bottleneck.

- **DDRII**

  DDRII ushers in the new era of DDR memory technology. DDRII memory offers faster speed, higher data bandwidth and lower power consumption over DDR.

- **Dual Channel**

  Supports dual channel of DDRII memory to give you twice the memory bandwidth for greater system performance.

- **Hardware Monitoring**

  Hardware monitoring enables you to monitor various aspects of the system operation and status. This includes CPU temperature, voltage and fan speed in RPMs.

- **10/100 LAN (Optional)**

  This mainboard is mounted with a 10/100BASE-T Ethernet LAN PHY. It allows the mainboard to connect to a local area network by means of a network hub.

- **GbE LAN (Optional)**

  This mainboard is mounted with the new Gigabit Ethernet LAN which allows data transmission at 1,000 megabits per second (Mbps), running at 10 times faster than conventional 10/100BASE-T Ethernet LANs.

- **Serial ATA II**

  S-ATA II is the second generation SATA interface with double the transferring speed up to 300MB/sec. It supports NCQ to provide faster reading speed for your storage devices.

- **SATA RAID**

  RAID function available on chipset's SATA II ports.

- **USB2.0**

  A popular USB standard for plugging in peripherals with up to 480Mbps transfer speed while maintaining backward compatibility with older USB1.1 device.

- **6ch**

  Mainboard is equipped with 6 channel of audio to support Dolby Digital 5.1 audio for DVD-playback. The onboard audio jacks can be configured for normal 2 channel mode or 6 channel mode.

- **AMD Cool'n'Quiet™ Technology**

  AMD's Cool'n'Quiet™ Technology lowers CPU operating voltage when the system is in idle mode. This helps to reduce heat dissipation and in effect lowers the fan speed to noise from your PC.

- **NVIDIA Firewall (Optional)**
  An unprecedented addition design for nForce product, provide high performance & enhanced reliability of PC security solution to the users. The features would be more advanced than many stand-alone firewalls can provide!

- **NVIDIA ActiveArmor™ (Optional)**
  Enhances networks security while delivers the highest system performance by off-loading CPU-intensive packet filtering tasks in hardware, providing users with a PC networking environment that is both fast and secure.

Special Features

- **Thunder Probe**
  A hardware diagnostic software to monitor voltage, temperature and speed of a variety of hardware. It also includes an ingenious built in fan control feature called Smart Fan.

- **Magic Flash**
  An automatic BIOS update utility in Windows environment, making DOS-based flash utility or bootable diskette a thing of the past.

- **Magic Screen**
  Software utility to personalize the boot-up screen with your favorite images or logos.

- **Magic Health**
  Reports your system hardware status for every boot-up to help detect faults early. Monitor hardware status including CPU temperature, CPU/Memory/Chipset voltage, fan RPM speed for chassis fan, CPU fan & Power supply fan.

- **EZ-Boot**
  Simply press “ESC” to select your bootable device. No more hassle to search the BIOS menu, change and re-start.

- **PowerBIOS**
  Supporting a full range of overclocking setting via BIOS. Various adjustable feature include FSB/Memory/Chipset voltage tweaking.

1-3 Mainboard Specification

Processor

- Support Socket-AM2 (940 pin) based AMD Athlon-AM2 with 2.0GTs 16x16 Hyper Transport processors
- Support VMM (Virtualization-Machine-Monitoring)

Chipset

- nVidia GeForce 6100 + nForce 410 or nForce 430 Chipset
- Integrate GeForce6-class Texture engine, Support Microsoft DirectX 9.0c, Shader Model 3.0 Graphics Processing Unit, 300MHz RAMDAC for display resolutions up to and including 1920 x 1440 at 75 Hz

Main Memory

- Four 240-pin unbuffered non-ECC DDRII SDRAM DIMM sockets
- Support single-sided or double-sided 1.8v DDRII-533/667/800 DIMMs with dual channel architecture in 256Mb/512Mb/1Gb technologies
- Supports up to 16GB memory size

Expansion Slots

- Two PCI connectors compliant with PCI v2.3
- One PCI-E (x1) connectors compliant with PCI Express 1.0a
- One PCI-E (x16) connectors compliant with PCI Express 1.0a

USB

- Eight USB connectors compliant with USB2.0 from embedded USB controller (4 connectors at rear panel)

LAN

- One 10/100 Ethernet from Realtek RTL8201 LAN PHY with nForce 410 (Optional)
- One Gb Ethernet from Realtek RTL8211 LAN PHY with nForce 430 (Optional)

P-ATA IDE

- Two IDE interface (up to 4 IDE devices) with UDMA-33/66/100/133 support from embedded IDE controller

S-ATA RAID

- Two S-ATA II ports with up to 300MB/s bandwidth from nForce 410, support RAID 0, 1 (Optional)
- Four S-ATA II ports with up to 300MB/s bandwidth from nForce 430, support RAID 0, 1, 0+1 (Optional)

Audio

- 6 channel audio from onboard Realtek ALC8xx High Definition audio compliant CODEC
  - Support CD-In
  - Support **Jack detection** for fool-proof audio device installation
  - Rear panel audio jacks configuration:

Phone Jack Color	2 channel	6 channel
Light Blue	Line-in	Rear stereo-out
Lime	Line-out	Front stereo-out
Pink	Mic-in	Center&Subwoofer

I/O

- Onboard Fintek LPC bus I/O controller
- Legacy peripheral interface for PS/2 keyboard & mouse, FDD, Parallel, Serial, and IrDA (v1.0 compliant)
- Support Hardware Monitoring for fan speed monitoring and CPU temperature sensing
- Intelligent fan speed control for CPU-fan (PWM) for quiet operation

BIOS

- Flash EEPROM with Award Plug&Play BIOS

- Support ACPI S3 (Suspend To RAM) mode in ACPI compliant O/S
- Support **EZ Boot** for fast bootable device selection
- Support **Magic Health** for system hardware status report during system boot-up

Peripheral Interfaces

At Rear Panel

- PS/2 keyboard and mouse ports
- One Parallel (printer) port
- One Serial port
- One VGA port
- One RJ45 LAN connector
- Four USB2.0 ports
- Three Audio jacks

Onboard connector and pin-header

- One floppy drive connector
- Two ATA-100/133 IDE connectors
- Four extra USB2.0 ports
- One CD-IN connector
- One IR connector
- Two or Four S-ATA II connectors
- Three Fan connectors

Front Panel Controller

- Supports Reset & Soft-Off switches
- Supports HDD & Power LEDs
- Supports PC speaker
- Supports Front Panel Audio connector

Special Features

- Support KBPO function – Keyboard power on, turn on the computer from keyboard
- Support Wake-On-LAN by PME
- Support USB resume in S3
- **PowerBIOS** for excellent overclocking features:
  - Programmable FSB and PCI-E Clock output frequency with 1MHz fine tuning
  - Support BIOS adjustable CPU multiplier, FSB clock, DIMM frequency
  - Support BIOS adjustable CPU Core voltage, Chipset voltage and DIMM voltage

Powerful utilities for Windows

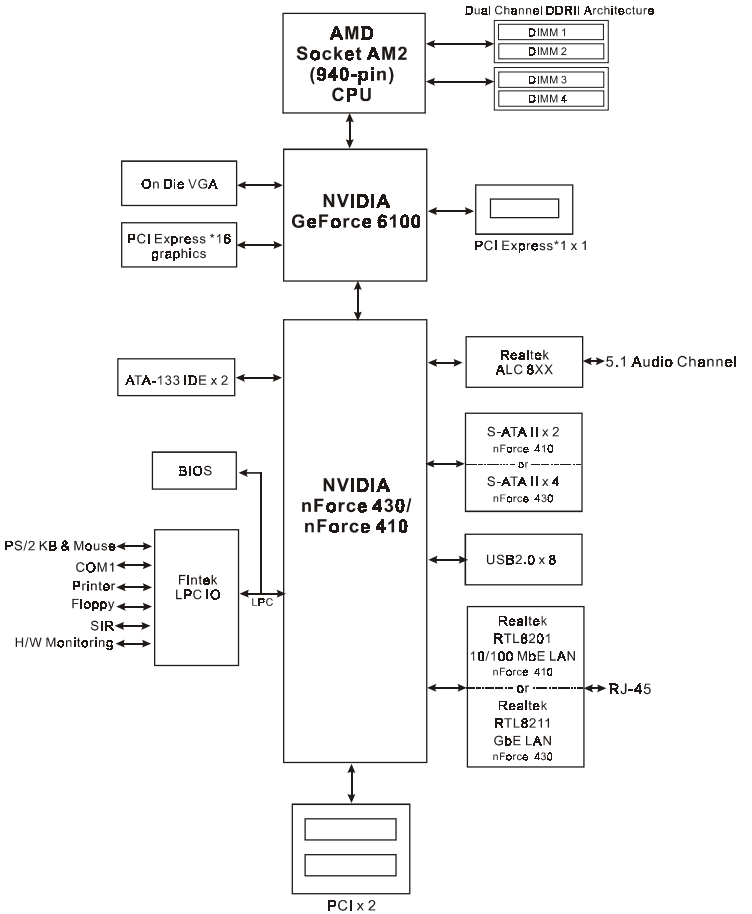
- Support **Thunder Probe** - A hardware diagnostic software to monitor voltage, temperature and speed of a variety of hardware. It also includes an ingenious built in fan control feature called Smart Fan.
- Support **Magic Flash** - An automatic BIOS update utility in Windows environment, making DOS-based flash utility or bootable diskette a thing of the past.
- Support **Magic Screen** - Software utility to personalize the boot-up screen with your favorite images or logos.

Form Factor

- 245mm x 245 mm Micro ATX size

Depending on the model you purchased, some components are optional and may not be available.

1-4 System Block Diagram

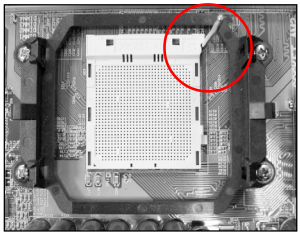


Section 2 -- Installation

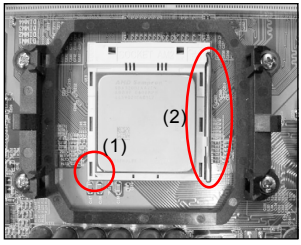
Always have the power supply unplugged and powered off when inserting and removing devices within the computer chassis.

English

2-1 CPU Installation



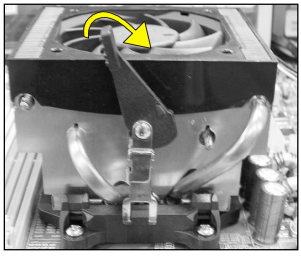
Step 1
Open the socket by raising the actuation lever.



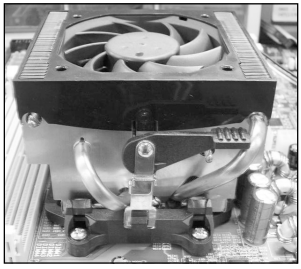
Step 2
(1) Align pin 1 on the CPU with pin 1 on the CPU socket as shown. Insert the CPU and make sure it is fully inserted into the socket.

(2) Close the socket by lowering and locking the actuation lever.

The CPU is keyed to prevent incorrect insertion, do not force the CPU into the socket. If it does not go in easily, check for mis-orientation.



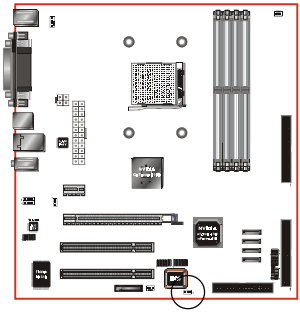
Step 3
Insert the heatsink as shown. Press the clips in the direction of the arrows shown to secure the assembly to the CPU socket.



Step 4
Plug the CPU fan power into the mainboard's CPU fan connector. The installation is complete.

- Thermal compound and qualified heatsink recommended by AMD are a must to avoid CPU overheat damage.
- Apply heatsink thermal compound/paste to the CPU.

2-2 Jumper Settings



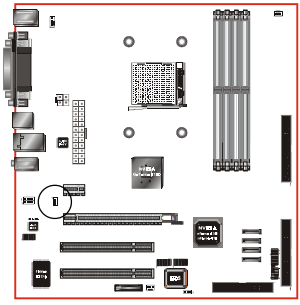
JCMOS: Clear CMOS data Jumper

If the CMOS data becomes corrupted or you forgot the supervisor or user password, clear the CMOS data to reconfigure the system back to the default values stored in the ROM BIOS.

Settings:
1-2: Normal (Default)
2-3: Clear CMOS

To CMOS Clear data, please follow the steps below.

1. Turn off the system.
2. Change the jumper from "1-2" to "2-3" position for a few seconds.
3. Replace the jumper back to the "1-2" position.
4. Turn on the system and hold down the <Del> key to enter BIOS setup.



JUSB: USB S3 Wake up Jumper

This jumper disconnects 5V standby voltage to USB devices. This means USB devices will not be able to wake-up the system from S3 (Suspend to RAM) power saving mode.

Settings:
1-2: Enabled (S3 enabled)
2-3: Disabled (No S3)

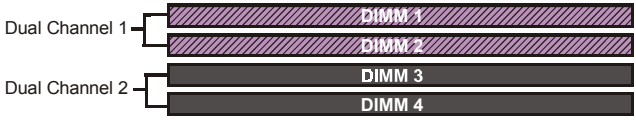
2-3 System Memory Configuration

The mainboard accommodates Four 240-pin DDRII DIMMs.

- Supports up to 16GB of 533/667/800MHz DDRII SDRAM.
- Supports unbuffered DIMM configurations defined in JEDEC DDRII DIMM specification.

☞Dual Channel interface:

- Dual channel memory access offers increased system performance.
- For dual channel to operate, both channel must be populated with same amount of memory, preferably of the same type.
- The four DIMM sockets are divided into two colors to help you identify the channel pairs <Figure 1>. Each dual channel pair has the same color, e.g. DIMM1 and DIMM2. **To obtain best performance, simply mount DIMM sockets of the same color.**



<Figure 1>

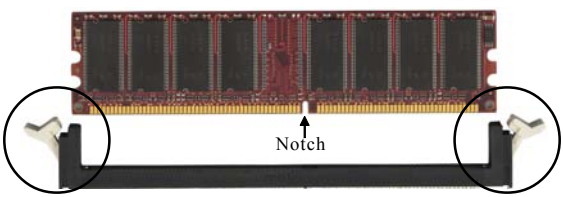
☞Memory configurations supported:

	1 DIMM (64-bit)		2 DIMM (64-bit)	2 DIMM (128-bit)		**4 DIMM (128-bit)**
DIMM#1	SS/DS		SS/DS	SS/DS		SS/DS
DIMM#2				SS/DS		SS/DS
DIMM#3		SS/DS	SS/DS		SS/DS	SS/DS
DIMM#4					SS/DS	SS/DS

* SS: Single-Sided DIMM, DS: Double-Sided DIMM

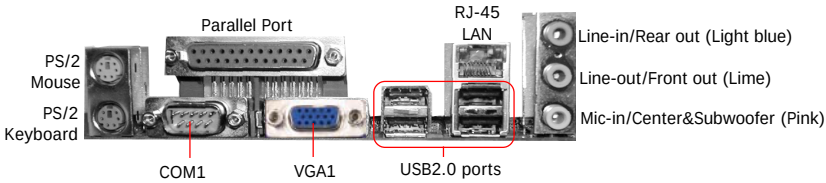
☞Memory Installation :

1. To install, align the notch on the DIMM module with the connector.
2. Press straight down as shown in the figure until the white clips close and the module fits tightly into the DIMM socket.

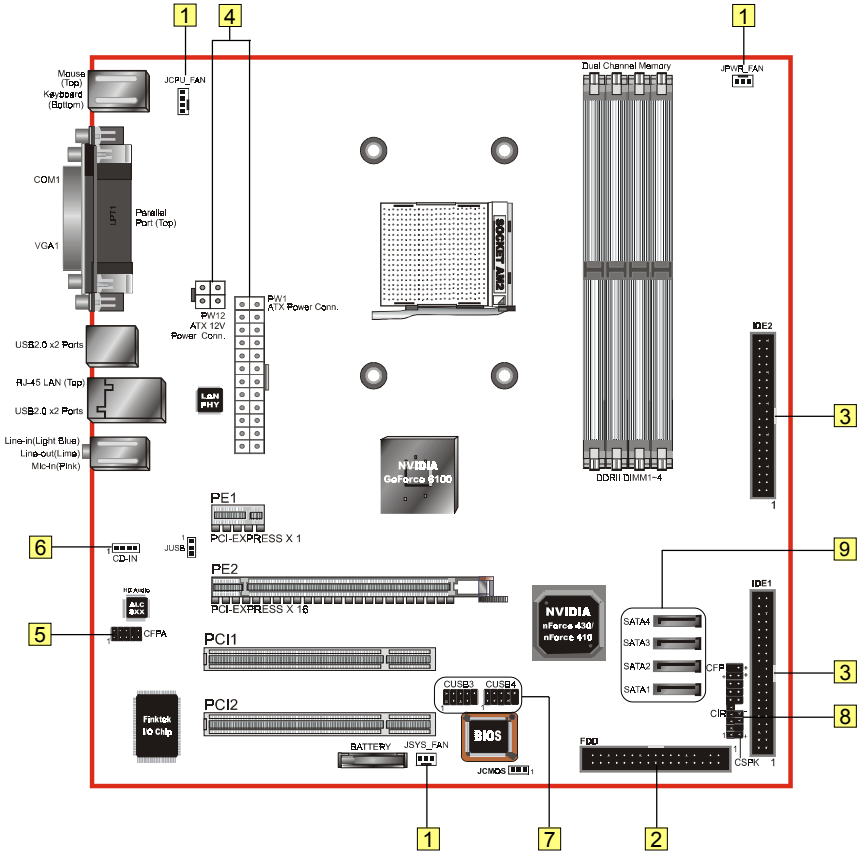


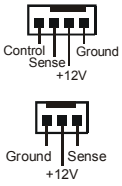
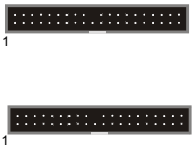
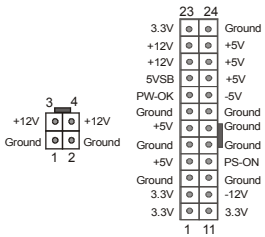
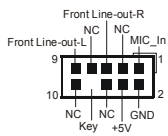
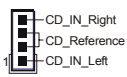
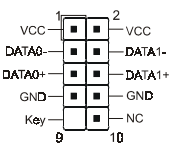
2-4 Rear IO Port

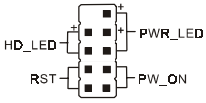
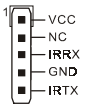
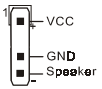
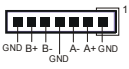
The I/O back panel for this mainboard is shown below. When installing the mainboard into the computer case, use the bundled I/O shield to protect this back panel.



2-5 Internal Connectors



Connectors	Figure	Descriptions
1 JCPU_FAN JPWR_FAN JSYS_FAN		CPU / Power / Chassis Fan Power Connectors JCPU_FAN: Connect the CPU fan to this connector. JPWR_FAN: Use this connector if you are installing an additional fan in the unit. JSYS_FAN: The chassis fan will provide adequate airflow throughout the chassis to prevent overheating the CPU.
2 FDD		Floppy Drive Connector
3 IDE1 Primary IDE IDE2 Secondary IDE		Primary/Secondary IDE Connector Connects to the IDE device, i.e. HDD and CD-ROM device. When using two IDE drives on the same connector, one must be set to Master mode and the other to Slave mode. Refer to your disk drive user's manual for details.
4 PW1 PW12		PW1: 24-pin ATX Power Connector PW12: 4-pin ATX12V Power Connector The plugs of the power cables are designed to fit in only one orientation. The PW1 and PW12 Power Connector must be used simultaneously.
5 CFPA		CFPA: Front Panel Audio Connector This audio connector connects to the audio jacks located on the front panel. Refer to your case manual to match the pin-out names.
6 CD-IN		CD-IN: CD Audio-in connectors These connectors are used to receive audio from a CD-ROM drive, TV tuner or MPEG card.
7 CUSB3 CUSB4		CUSB3/CUSB4: Four USB2.0 header This mainboard includes 4 additional onboard USB ports. To use these additional USB ports, a USB bracket is required. Please contact your retailer for details.

Connectors	Figure	Descriptions
8 CFP		CFP: Case Front Panel Connector ◆ HD_LED This LED indicates hard drive activity. ◆ PWR_LED Connects to the power indicator on the PC case. ◆ RST Connects to the RESET switch on the PC case. ◆ PW_ON Connects to the Power button on the PC case, to turn on the system. To turn off the system, press the power button for 4 seconds.
CIR		CIR: IR connector For connection to an IrDA receiver unit.
CSPK		CSPK: Speaker Connects to the case's speaker for PC beeps.
9 SATA1 SATA2 SATA3 SATA4		SATA1 ~ SATA4: Four Serial ATA II Connectors from nForce 430, or SATA1 ~ SATA2: Two Serial ATA II Connectors from nForce 410 These connectors enable you to connect Serial ATA HDDs or optical drives type.

Section 3 -- BIOS Setup

3-1 Main Menu

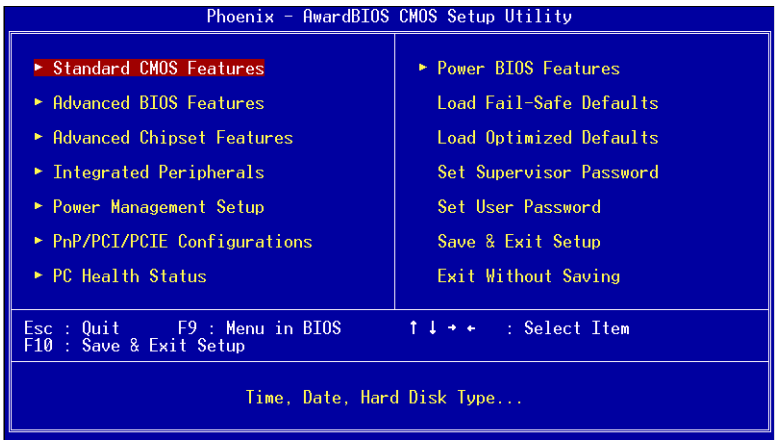
The ROM BIOS contains a built-in Setup program which allows user to modify the basic system configuration and hardware parameters. The modified data is stored in a battery-backed CMOS, so that data will be retained even when the power is turned off. In general, the information saved in the CMOS RAM will stay unchanged unless there is a configuration change in the system, such as hard drive replacement or a device is added.

It is possible for the CMOS battery to fail causing CMOS data loss. If this happens you will need install a new CMOS battery and reconfigure your BIOS settings.

> The BIOS setup screen and description are for reference only, and may not exactly match what you see on your screen. The contents of BIOS are subject to change without notice. Please visit our website for BIOS updates.

To enter the Setup Program :

Power on the computer and press the <Del> key during the POST (Power On Self Test). The BIOS CMOS SETUP UTILITY opens.



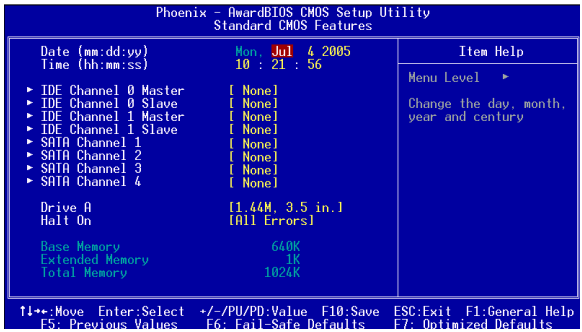
The main menu displays all the major selection items. Select the item you need to reconfigure. The selection is made by moving the cursor, press any direction (arrow key) to the item and pressing the 'Enter' key. An on-line help message is displayed at the bottom of the screen as the cursor is moved to various items which provides a better understanding of each function. When a selection is made, the menu of the selected item will appear so that the user can modify associated configuration parameters.

> For more information regarding BIOS settings refer to the complete manual in the bundled CD.

English

3-2 Standard CMOS Setup

Choose “STANDARD CMOS FEATURES” in the CMOS SETUP UTILITY Menu. Standard CMOS Features Setup allows the user to configure system settings such as the current date and time, type of hard disk drive installed, floppy drive type, and display type. Memory size is auto-detected by the BIOS and displayed for your reference. When a field is highlighted (use direction keys to move the cursor and the <Enter> key to select), the entries in the field can be changed by pressing the <PgDn> or the <PgUp> key.

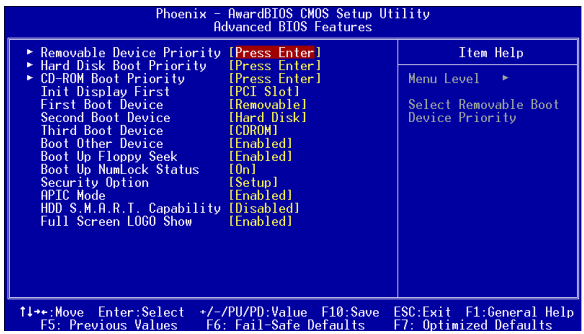


Notes:

- If the hard disk Primary Master/Slave and Secondary Master/Slave are set to Auto, the hard disk size and model will be auto-detected.
- The “Halt On:” field is used to determine when the BIOS will halt the system if an error occurs.

3-3 Advanced BIOS Features

Selecting the “ADVANCED BIOS FEATURES” option in the CMOS SETUP UTILITY menu allows users to change system related parameters in the displayed menu. This menu shows all of the manufacturer’s default values for the board. Pressing the [F1] key displays a help message for the selected item.



▶Removable Device Priority

This item allows you to select the hard disk boot priority.

Options: Floppy Disk, LS120, ZIP100, USB-FDD0, USB-FDD1, USB-ZIP0, USB-ZIP1.

▶Hard Disk Boot Priority

This item allows you to select the hard disk boot priority.

Options: Pri. Master, Pri. Slave, Sec. Master, Sec. Slave, USBHDD0, USBHDD1, USBHDD2, Bootable Add-in cards.

▶CD-ROM Boot Priority

This item allows you to select the CD-ROM boot priority.

Options: Pri. Master, Pri. Slave, Sec. Master, Sec. Slave, USB-CDROM0, USB-CDROM1.

Init Display First
This item is used to select whether to initialize the PCI-E or PCI first when the system boots.
Options: PCI Slot, PCIEx.

First /Second/Third Boot Device
The BIOS attempts to load the operating system from the devices in the sequence selected in these items.
Options: Floppy, LS120, Hard Disk, CDROM, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, Legacy LAN, Disabled.

Boot Other Device
When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the first, second, and third boot devices.
Options: Enabled, Disabled.

Boot Up Floppy Seek
If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette drive with 360K capacity.
Options: Enabled, Disabled.

Boot Up NumLock Status
This controls the state of the NumLock key when the system boots.
On: The keypad acts as a 10-key pad.
Off: The keypad acts like cursor keys.

Security Option
This category allows you to limit access to the System and Setup, or just to Setup.
System: The system will not boot and access to Setup will be denied unless the correct password is entered at the prompt.
Setup: The system will boot, but access to Setup will be denied unless the correct password is entered at the prompt.

APIC Mode
This item allows you to enable APIC (Advanced Programmable Interrupt Controller) functionality.
Options: Enabled, Disabled.

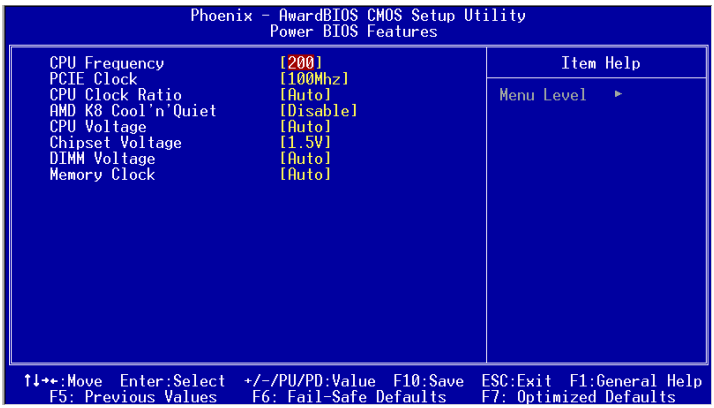
HDD S.M.A.R.T. Capability
The S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance. S.M.A.R.T. Software resides on both the disk drive and the host computer. If a device failure is predicted, the host software, through the Client WORKS S.M.A.R.T applet, warns the user of the impending condition and advises appropriate action to protect the data.
Options: Enabled, Disabled.

Full Screen LOGO Show
This item allows you determine Full Screen LOGO display during POST.
Options: Enabled, Disabled.

3-4 POWER BIOS Features

This page lets you adjust various parameters to obtain improved performance for overclocking.

Warning:
Overclocking requires expert knowledge and risks permanent damage to system components. We recommend you leave these parameters at their default values for proper operation.



CPU Frequency

Enables you to increment the CPU's clock generator at 1 MHz step. This works together with CPU Clock Ratio (below) to set the CPU operating frequency.

CPU Clock Generator x CPU Clock Ratio = CPU Frequency

For example, if you have a processor that is rated at 2.4GHz and the clock generator is 200MHz, then 200MHz x 12 = 2.4GHz
Options: 200 to 450 in 1MHz increments.

Overclocking failure will cause no display on the monitor. To overcome this switch off the power supply and switch on again. Restart the system, press and hold ***<Insert>*** key. This will revert the BIOS to default or initial setting.

PCIE Clock

Enables you to subtle tune the PCI-E frequency at increments of 1MHz step.
Options: 100 to 145 in 1MHz increments.

CPU Clock Ratio

Use this item to select a multiplier to set the CPU frequency. See CPU Frequency item above for explanation. If your CPU multiplier is locked this option will be unavailable.

AMD K8 Cool'n'Quiet

Reduce the noise and heat from your PC when AMD's Cool'n'Quiet™ technology is Auto.
Options: Auto, Disabled.

CPU Voltage

This item allows you to adjust the CPU Vcore voltage.
Options: Off, Auto, -0.200V to +0.350V in 0.025V increments. We recommend that you leave this at the default value.

Chipset Voltage

This item allows you to adjust the Chipset voltage.
Options: +1.5V to +1.8V in 0.1V increments. We recommend that you leave this at the default value.

DIMM Voltage

This item allows you to adjust the DIMM slot voltage.

Options: Auto, +1.8V to +2.5V in 0.1V increments. We recommend that you leave this at the default value.

Memory clock

This item sets the memory clock.

CPU Core Clock Multiplier vs. DRAM Interface Speed

CPU Ratio	CPU Frequency	100 MHz		133 MHz		166 MHz		200 MHz	
		DIV	Freq.	DIV	Freq.	DIV	Freq.	DIV	Freq.
4	800 MHz	5	160MHz	5	160MHz	5	160MHz	5	160MHz
5	1000 MHz	5	200MHz	5	200MHz	5	200MHz	5	200MHz
6	1200 MHz	6	200MHz	5	240MHz	5	240MHz	5	240MHz
7	1400 MHz	7	200MHz	6	233MHz	5	280MHz	5	280MHz
8	1600 MHz	8	200MHz	6	266MHz	5	320MHz	5	320MHz
9	1800 MHz	9	200MHz	7	257MHz	6	300MHz	5	360MHz
10	2000 MHz	10	200MHz	8	250MHz	6	333MHz	5	400MHz
11	2200 MHz	11	200MHz	9	244MHz	7	314MHz	6	366MHz
12	2400 MHz	12	200MHz	9	266MHz	8	300MHz	6	400MHz
13	2600 MHz	13	200MHz	10	260MHz	8	325MHz	7	371MHz
14	2800 MHz	14	200MHz	11	254MHz	9	311MHz	7	400MHz
15	3000 MHz	15	200MHz	12	250MHz	9	333MHz	8	375MHz
16	3200 MHz	16	200MHz	12	266MHz	10	320MHz	8	400MHz
17	3400 MHz	17	200MHz	13	261MHz	11	309MHz	9	377MHz

* Memory Frequency = CPU Frequency / Division

Section 4 -- Driver & Utility

Once the operating system has been installed, you need to install the drivers for the mainboard.

Insert the bundled CD into the CD-ROM and the main menu screen will appear. The main menu displays links to the supported drivers, utilities and software.

Method 1

This item installs all drivers automatically.

Method 2

This item allows you to install the drivers selectively.

Step 1 : Click **"nVIDIA nForce Driver"** to install chipset driver.

Step 2 : Click **"REALTEK AUDIO Driver"** to install audio driver.

Step 3 : Click **"USB 2.0 Driver"** to install USB 2.0 driver.

Step 4 : Click **"AMD Cool'n'Quiet Processor Driver"** to install AMD series processor driver.

Main menu items may vary depending on model you purchased.

Once the drivers have been successfully installed, you may proceed to install the bundled utility software.

Section 5 -- Flashing the BIOS

Do NOT flash the system BIOS unless it is really necessary.

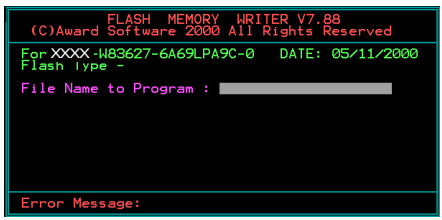
Updating and flashing the BIOS content risks BIOS data corruption which may cause system unable to power-on.

English

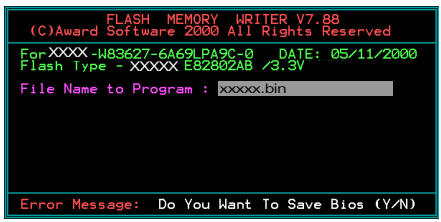
Download the xxxxx.EXE file corresponding to your model from our website to an empty directory on your hard disk or floppy. Run the downloaded xxxxx.EXE file and it will self extract. Copy these extracted files to a bootable floppy disk.

Note: The floppy disk should contain NO device drivers or other programs.

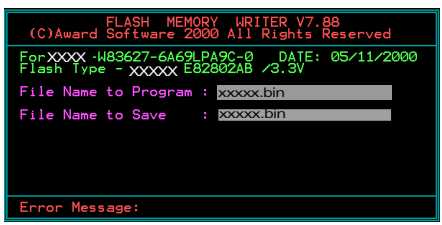
1. Type "A:\AWDFLASH and press <Enter> Key.
2. You will see the following setup screen.
3. Please key in the xxxxx.bin BIOS file name.



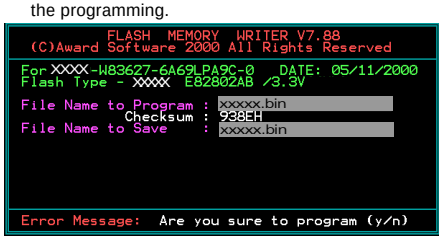
4. If you want to save the previous BIOS data to the diskette, please key in [Y], otherwise please key in [N].



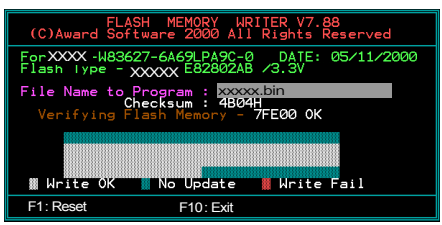
5. Key in File Name to save previous BIOS to file.



6. To confirm and proceed, please key in [Y] to start the programming.



7. The BIOS update is finished.



8. Keep this BIOS floppy disk for future use.