ITEM CHECKUP

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

Chapter 1 Specification

Introduction

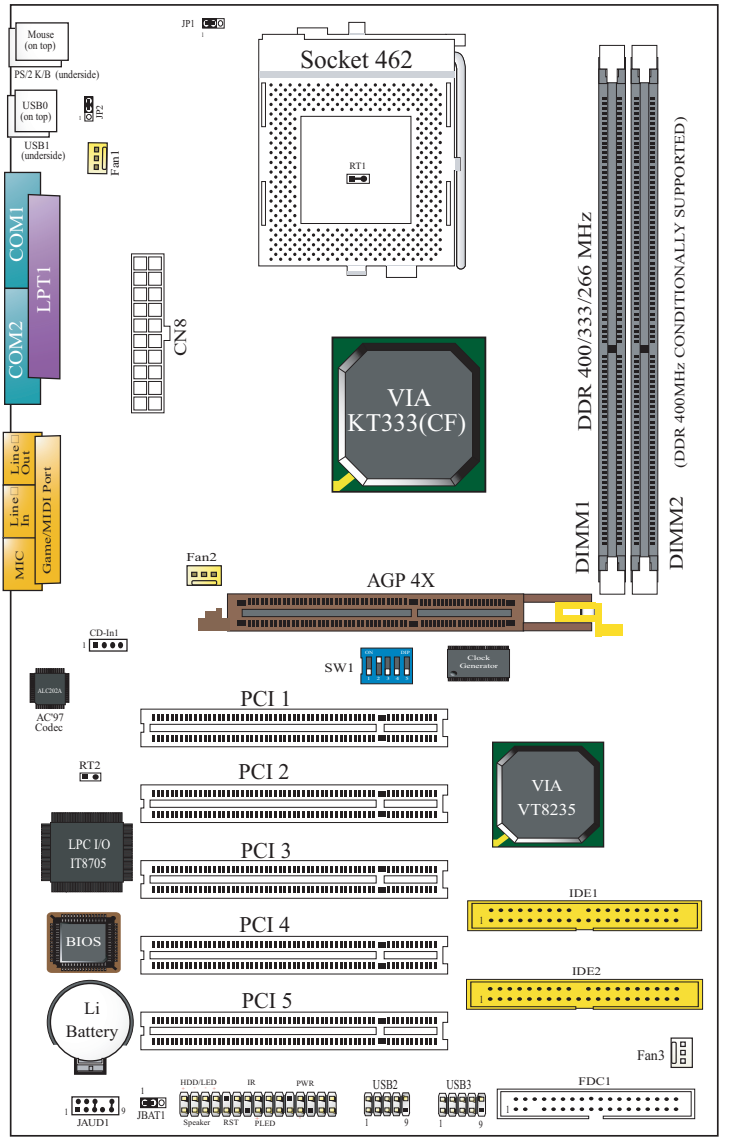
This mainboard features an integration of the powerful AMD processors Athlon/Athlon XP/Duron and the North Bridge VIA Apollo KT333 (CF) plus South Bridge VT8235, with which the whole system performance supports 333/266/200 MHz system bus.

VIA Apollo KT333(CF) plus VT8235 supports on-board AMD processors to implement the 333/266/200MHz Front Side Bus, the AGP 4X interface, the LPC Super I/O, the DDR *400/333/266MHz SDRAM, the 2-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:

**** If any difference is found between this manual and the Mainboard you are using, please look up the ERRATA/UPDATE Slip 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 KT400-A4C Mainboard Layout**



1-2 Mainboard Specifications

1-2.1 CPU Socket

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

1-2.2 System Chipsets

- North Bridge VIA KT333(CF) for managing and supporting 333/266/200MHz system Bus, AGP 4X interface and DDR 333/266MHz Memory Interface *with an enhanced support of DDR 400MHz Memory Module which should have passed Soltek DDR 400 Memory Module Validation.
- South Bridge VIA VT8235 working with North Bridge KT333(CF) supporting the V-Link, LPC Super I/O, PCI interface, ATA133 interface, USB V2.0 interface, as well as AC'97 Audio 2-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 2 GBs (DDR 400 Module supported conditionally)
- Supporting installation of mixed volumes yet same type of DDR SDRAM modules

* Soltek Computer Inc. typically runs a DDR 400 Memory Module Validation Program for Chipset VIA KT333(CF). Detailed information is available in Soltek Web Site: www.soltek.com.tw

1-2.4 AMI 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 IO, IRQ, DMA Assign. etc.)
- SmartDoc Anti-burn Shield (CPU/System Temp., Fan speed etc.)
- Frequency/Voltage Control (CPU clock, Voltage of DIMM, AGP etc.)
- System Information (CPU type, BIOS version, Memory size etc.)

1-2.5 Accelerated Graphics Port (AGP) Interface

AGP Controller embedded on board, supporting:

- 1.5V(4X) power mode only, 1 AGP Slot supported
- 4X 66MHz AD and SBA signaling; AGP pipelined split-transaction longburst transfers up to 1GB/sec.
- AGP 4X supported, AGP V2.0 compliant

1-2.6 Advanced System Power Management

- ACPI 1.0B compliant (Advanced Configuration and Power Interface), including ACPI suspend mode support (See Power Management of BIOS Setup)
- APM V1.2 compliant (Legacy Power Management)
- PS/2 Keyboard / Mouse Power On
- 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 Win 98 and later operating systems; USB drivers provided in Support CD for installation
  -- 2 built-in USB connectors and 2 more USB pin-headers which require 2 optional USB cables to provide 4 more USB ports
- PS/2 Keyboard and PS/2 Mouse
- UARTs (Universal Asynchronous Receiver / Transmitter):
  -- 2 complete serial ports (COM1 & COM2) on board

1-2.8 Expansion Slots

- 5 PCI Bus Master slots
- 1 AGP 4X slot
- 2 DDR DIMM slots

1-2.9 AC'97 Audio Codec on board

AC'97 Audio Codec on board, 2-channel interface compliant.

1-2.10 Hardware Monitor on board

- Hardware Monitor supported by LPC I/O IT8705F, 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.

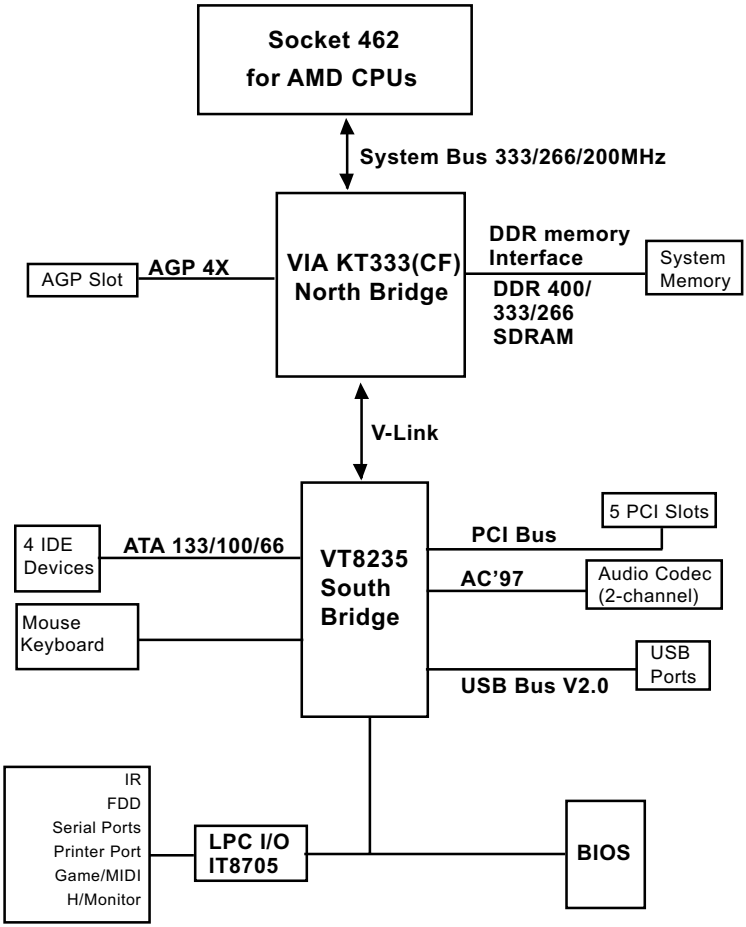
1-2.11 Form Factor

- ATX Form Factor, ATX Power Supply
- Mainboard size: 305mm x 190mm

1-3 Mainboard Specification Table

KT400-A4C Specifications and Features	
CPU	Socket 462 for AMD Athlon, Athlon XP, Duron CPU
North Bridge	VIA KT333(CF), supporting 333/266/200 MHz FSB
South Bridge	VT8235
BIOS	AMI BIOS
Memory	Supporting DDR *400/333/266 SDRAM, up to 2GB in 2 DDR SDIMM slots
I/O Chip	ITE IT8705F with Hardware Monitor
AGP interface	AGP 4X mode only
Audio	AC'97 Audio Codec, 2-channel compliant
IDE Interface	2 ATA 133/100/66 IDE
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
Other common features	BIOS Writing Protection; Keyboard/ Mouse Power On; ATX Power Supply; ATX Form Factor

1-4 Chipset System Block Diagram



Socket 462 + VIA KT333(CF) + VIA VT8235 Diagram

Chapter 2 Hardware Setup

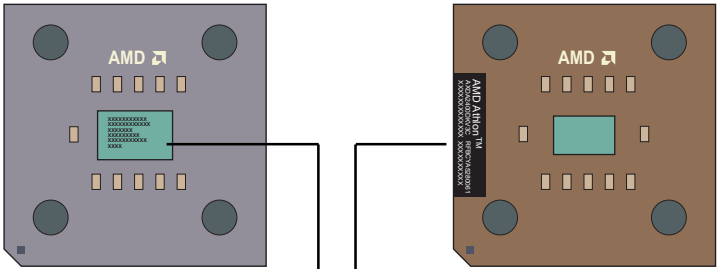
To Get Things Ready for Hardware Setup !

1. We recommend to install your CPU before any other components. For detailed installation instructions of 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

2-1.1 CPU Identification Legends



.18 micron process CPU

.13 micron process CPU

AMD Athlon(Duron)
AX 1900 D M T 3 C
(1) (2) (3) (4) (5) (6) (7)

(1) **Family / Architecture:**
A, AX, AXDA=AMD Athlon Processor
D, DHD=AMD Duron Processor

(2) **Speed: 1000=1000MHz, 1600=1400MHz, 1700=1467MHz, 1800=1533Mhz, 1900=1600MHz, 2000=1667MHz, 2100=1733MHz, 2200=1800MHz, 2400=2000MHz, 2700=2167MHz**

(3) **Package Type: M=Card Module, A=PGA, D=OPGA**

(4) **Voltage: L=1.5V, U=1.6V, K=1.65V, P=1.7V, M=1.75V, N=1.8V**

(5) **Case Temperature: Q=60˚C, X=65˚C, R=70˚C, Y=75˚C, T=90˚C, S=95˚C**

(6) **Size of L2 Cache: 1=64Kbyte, 2=128Kbyte, 3=256Kbyte**

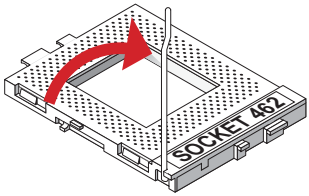
(7) **Max FSB: A=B=200MHz, C=266MHz, D=333MHz**
Note: Get the Host CPU Clock by dividing FSB by 2.

2-1.2 CPU Installation with Socket 462

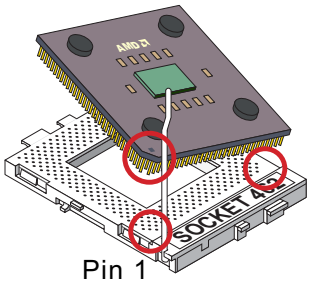
This mainboard is built with CPU Socket 462 supporting the AMD CPUs Athlon, Athlon XP and Duron:

- 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.

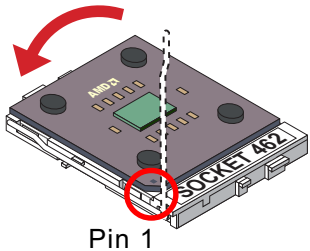


2. Configure Pin 1 of CPU to Pin 1 of the Socket, just as the way shown in the diagram on the right. Adjust the position of CPU until you can feel all CPU pins get into the pin holes of the socket.



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.

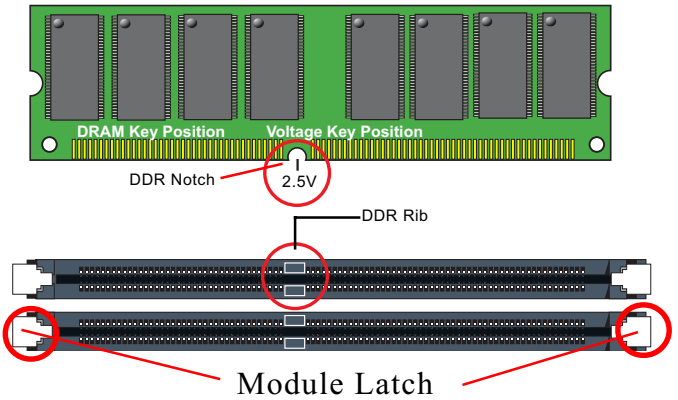
2-2.1 To Install DDR SDRAM Module

- This mainboard supports up to 2GB unbuffered *DDR 400/333/266 SDRAM, with 2 DDR DIMM slots on board. Do not insert other type of modules into these slots. Memory support is upgradable to DDR 400 without guarantee of success in BIOS Setup.

* DDR 400 Module is supported on condition that the module has passed Soltek DDR 400 Memory Module Validation Test. Soltek Computer Inc. typically runs a DDR 400 Memory Module Validation Program for Chipset VIA KT333(CF)/P4X400A. Detailed information is available in Soltek Web Site: www.soltek.com.tw

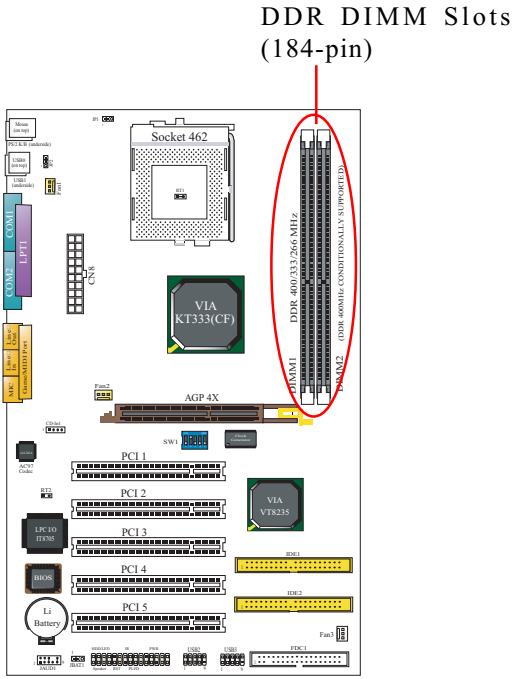
- DDR DIMM slot has 184-pins and one notch. Insert a DDR SDRAM vertically into the 184-pin slot with the notch-to-rib matching.

184-Pin DIMM Notch Key Definitions



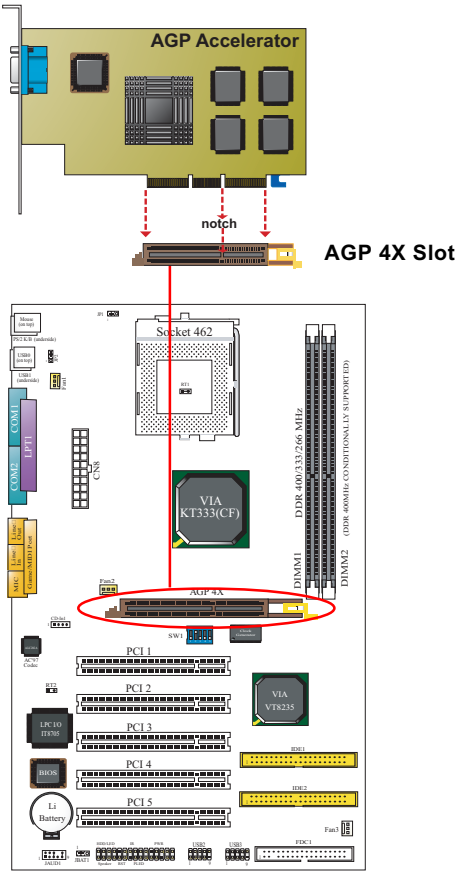
2-2.2 To Remove a DIMM

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



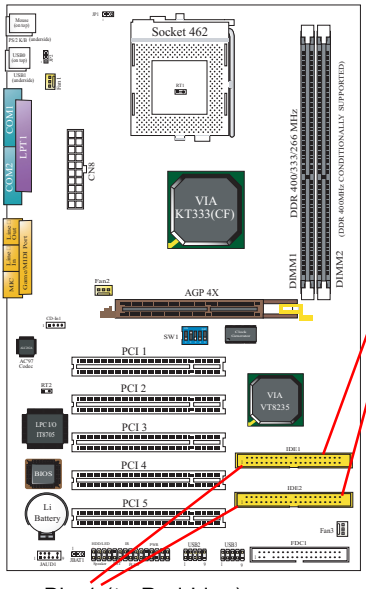
2-3 AGP Slot Installation

The AGP slot on board supports 1.5V AGP 4X card only. A Rib is specifically added to the 4X slot so as to match the AGP 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 4X card will support a data transfer rate up to 1GB/sec.



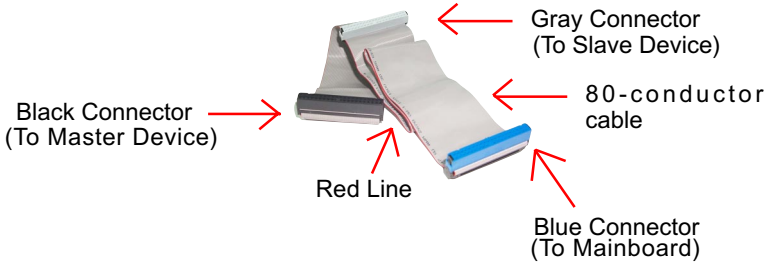
2-4 IDE Connector Installation

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.



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

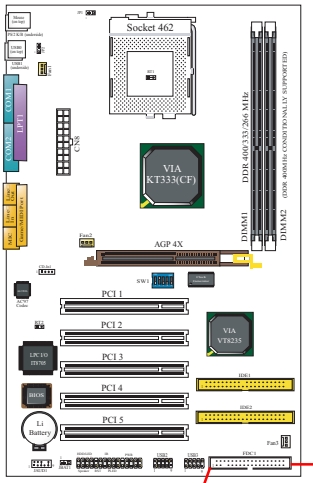
Pin 1 (to Red Line)

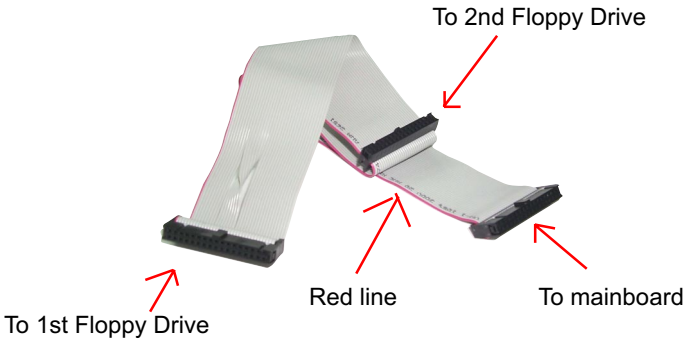


IDE Flat Cable

2-5 Floppy Drive Connector Installation

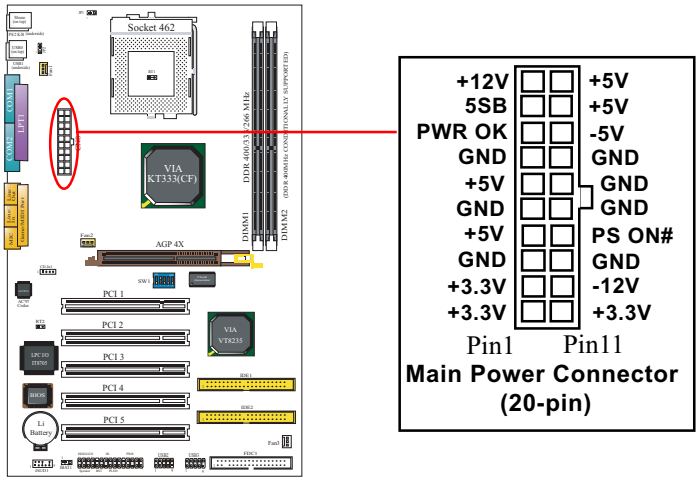
To install FDC, you should connect the end of FDC cable with single connector to the board, and connect the other end with two connectors to the floppy drives.





FDD Cable

2-6 ATX Power Supply Installation



To set up Power Supply on this mainboard:

1. Connect the on-board Main Power Connector (20-pin) to the Main Power Connector (20-pin) of an ATX Power Supplier which can be either of the latest version 2.03 or of earlier ATX model.

2-7 Jumper / Switch Settings

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

JP1: Anti-burn Shield (ABSII)
(Overheated CPU Shutdown)
(only for Athlon XP/Duron Morgan)

1 **1-2 closed (default)**
Enable overheated CPU (85°C) shutdown function

1 **2-3 closed**
Disable overheated CPU shutdown function

JP2
PS/2 KB/Mouse Power On

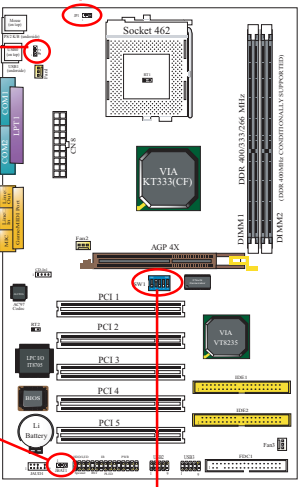
1 **1-2 closed**
PS/2 KB/Mouse Power On Enabled

1 **2-3 closed** (default)
PS/2 KB/Mouse Power On Disabled

JBAT1
Clear CMOS

1 **1-2 closed (default)**
To hold data

1 **2-3 closed**
To clear CMOS

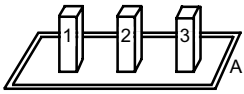


SW1 (5-Dip) On / Off

SW1 (5-Dip): CPU Clock/Overclock Select

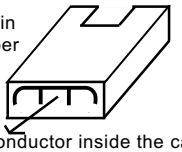
CPU Clock	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5
100MHz (default)	Off	On	Off	Off	Off
133MHz	On	Off	On	Off	Off
166MHz	On	Off	On	On	On

2-7.1 How to tackle the Jumpers:



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

Jumper with Pin 2-3 closed

Jumper with all pins open

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 CPU Clock/Overclock Select

SW1 is designed on board as a 5-dip switch for CPU clock select.

1. Before setting the CPU clock, please read the Identification Legend on the CPU, and find the Max FSB and divide it by two. The result is the default CPU clock.
2. Select the CPU clock you want from 100/133/166MHz and set SW1 to match your choice.
3. If you select a CPU clock which is higher than your default CPU clock, it means that an overclock is desired. However, if an overclok fails to boot system, you should restore the default setting and then clear CMOS to rebooting your system. (See Clear CMOS in next paragraph.)

SW1 (5-Dip) On / Off

SW1 (5-Dip): CPU Clock/Overclock Select

CPU Clock	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5
100MHz (default)	Off	On	Off	Off	Off
133MHz	On	Off	On	Off	Off
166MHz	On	Off	On	On	On

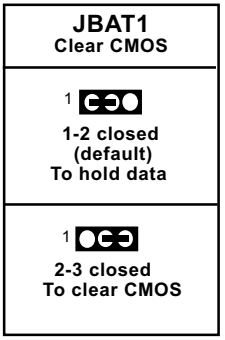
Further notes on CPU Overclocking:

1. If you have successfully booted system with or without CPU overclock, you still can do another CPU overclock in BIOS Setup. Please enter BIOS Setup, choose “Frequency/Voltage Control” menu, and take the “Use Linear” option of the “Use CPU Linear Frequency”. Then configure the “CPU Clock” item to raise your CPU clock.
2. CPU overclocking should take all components on board into account. If you fail in BIOS overclocking, you will not be able to restart system. In such case, power off system and clear CMOS by JBAT1 as stated below and then restart your system. And remember to reconfigure whatever should be reconfigured.
3. If your system is already fixed in a cabinet or case, you may not like to take the trouble to clear CMOS. Then power on your system with the power button on the case and simultaneously press down the “Insert” key of the keyboard until you see the initial bootup screen appear. And remember you should also enter CMOS BIOS Setup and choose “Load Optimized Defaults” to restore default BIOS .

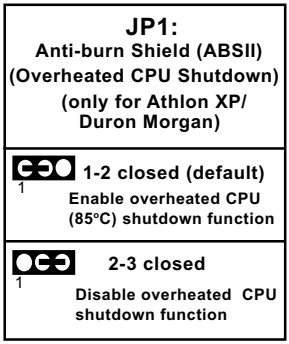
2-7.3 Clear CMOS

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

1. Power off system.
2. Set JBAT1 to Pin 2-3 closed.
3. After 2 or 3 seconds, return the JBAT1 setting to Pin1-2 closed.
4. CMOS data are restored to default. Remember never clear CMOS when system power is on.



2-7.4 Anti-burn Shield (ABSII)



JP1 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 JP1 1-2 closed (default setting) will get system shutdown when the above-mentioned CPUs get to 85°C (the default protection temperature.) Only when the CPU returns to a cooler state can you restart your system.
For other CPUs that are not incorporated with a protective thermal diode, please set JP1 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 to restart your system.

2-7.5 PS/2 KB/Mouse Power On

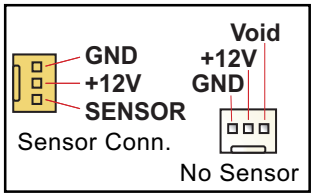
JP2 is designed to select PS/2 Keyboard / Mouse or the Power button as the power-on controller. Setting JP2 to 2-3 closed (default) will allow users to power on system by power button while setting JP2 to 1-2 closed will allow users to power up system by PS/2 Keyboard/Mouse. Yet users still have to choose the KB/Mouse Power-on mode on BIOS. (See Integrated Peripherals" in BIOS Setup.)

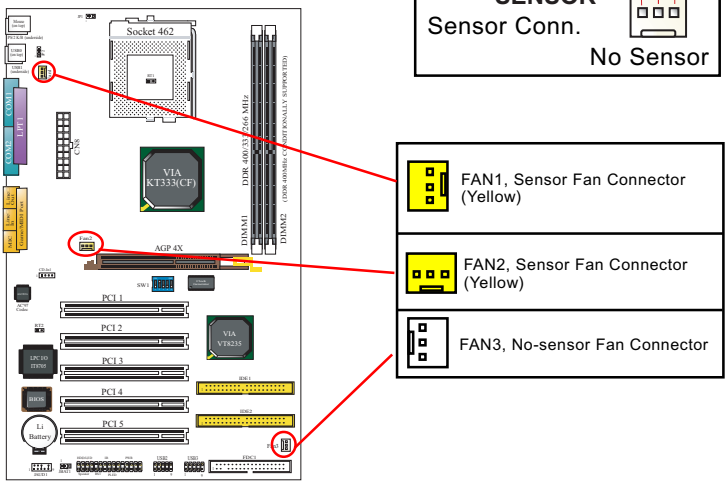
JP2 **PS/2 KB/Mouse Power On**
 **1-2 closed** PS/2 KB/Mouse Power On Enabled
 **2-3 closed** (default) PS/2 KB/Mouse Power On Disabled

2-8 Other Connectors Configuration

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

2-8.1 On-board 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 "Hardware Monitor Status" in CMOS BIOS.

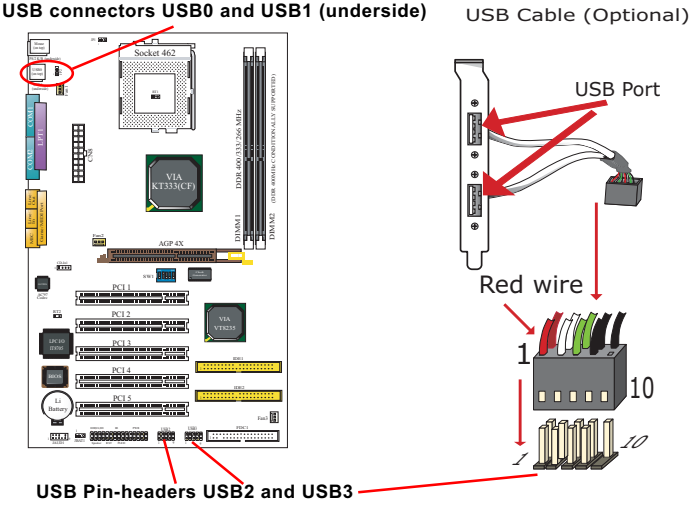
A running fan will send out 2 electric pulses per rotation of its fan blade to a Sensor Fan Connector which in turn will count the electric pulses and send the information to the System Hardware Monitor. The hardware Monitor Program will work out the fan rotation speed and display it on screen.

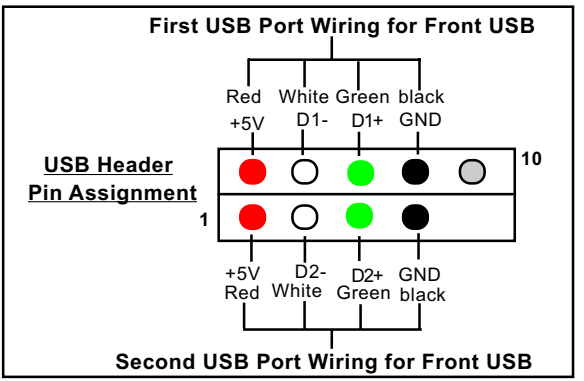
2-8.2 USB Ports and USB Pin-headers

This mainboard 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. Users can order the optional USB cables from your mainboard dealer or vendor.

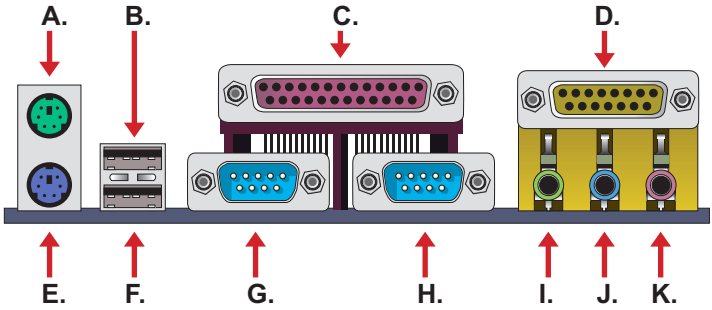
When plugging the USB cable to USB Header, user must make sure the red wire is connected to Pin 1.

All 6 USB ports are compliant with 1.0 / 2.0 USB Bus. USB 2.0 supports Win 98 and above. USB 1.0 / 2.0 drivers are provided in Support CD for user's installation.





2-8.3 Chassis Panel Connectors

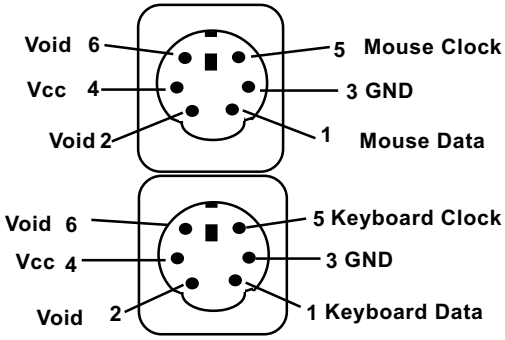


A : PS/2 Mouse
B : Port USB 0
C : LPT1 PORT
D : Game/MIDI
E : PS/2 Keyboard
F : USB 1 (Underside)

G : COM 1
H : COM 2
I : Line Out
J : Line In
K : Microphone Input

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

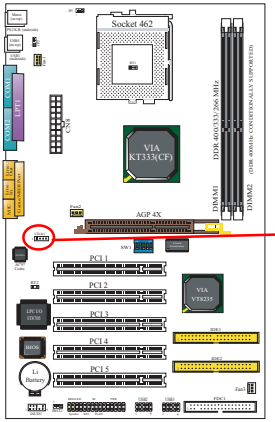
(PS/2 Mouse: On top of keyboard connector, Green)



(PS/2 Keyboard Connector: Underside, Purple)

2-8.5 CD-ROM Audio Connectors

CD-In1 is an audio connector connecting CD-ROM audio to mainboard.



CD-ROM Audio Connector	
CD-In1 	Pin Signal
Pin 1	Left Channel
Pin 2	GND
Pin 3	GND
Pin 4	Right Channel

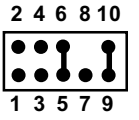
2-8.6 Front Panel Audio Connector (Optional)

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

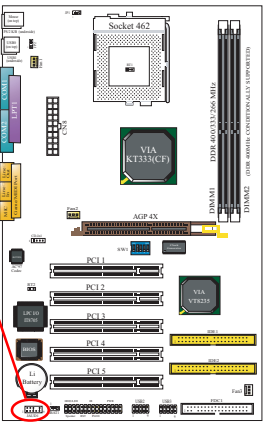
1. When JAUD1 is set to 5-6 closed and 9-10 closed, this default setting disables this connector and leaves the Back Panel Audio enabled.
2. To use this Front Audio Connector for the Front Panel Audio, please open all pins of JAUD1 and connect it to the Front Panel Audio Connector.

JAUD1: Front Audio Connector

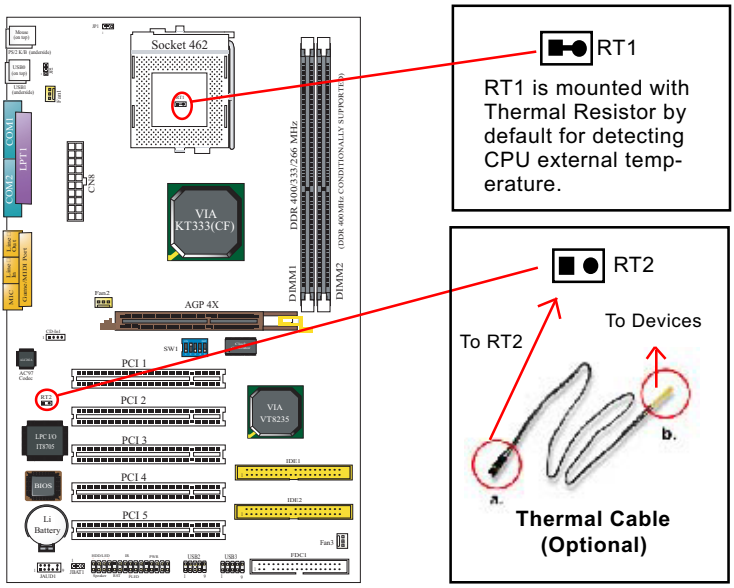
Pin 2 Aud GND
Pin 4 Aud Vcc
Pin 6 RET R
Pin 8 (Void)
Pin10 RET L



Pin 1 Mic In
Pin 3 Mic VREF
Pin 5 FPOUT R
Pin 7 (Key)
Pin 9 FPOUT L



2-8.7 Thermal Connectors

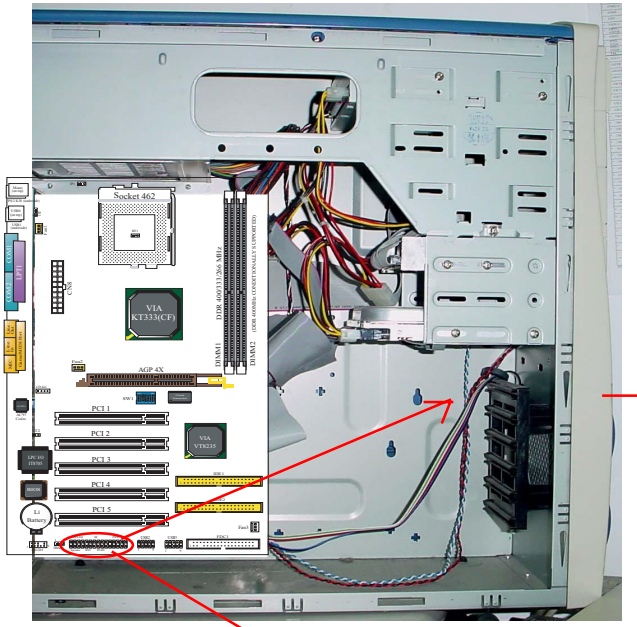


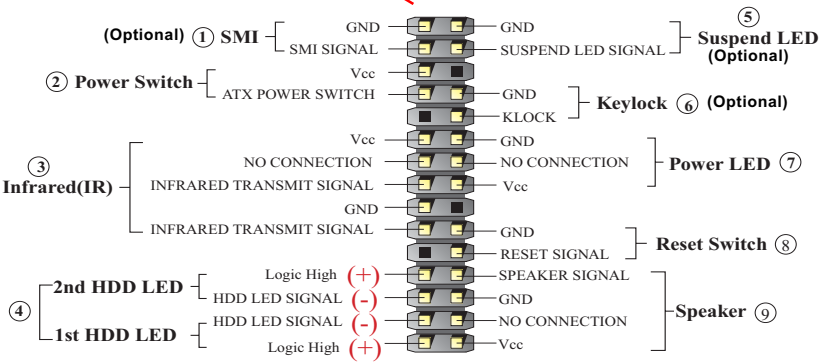
1. Connector RT1: A thermal resistor is mounted by default to connector RT1 so as to detect the temperature of the CPU. What RT1 does is to transmit the thermal signal to BIOS or Hardware Monitor.

2. Connector RT2: A thermal cable is needed to connect RT2 to on-board devices such as HDD, Graphics card etc., so as to detect the temperature generated therein. Please connect the end (a) of the thermal cable to RT2, and tape another end (b) of the thermal cable on to the device which you want to monitor. After you have finished the thermal cable installation, you will **see the detected temperature in BIOS setup or Hardware Monitor utility.**

2-8.8 Complex Pin-header (Front Panel Connectors)

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





(1) SMI Connector (Optional):

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

(2) Power Switch Connector:

Connectedion**:** Connected to a momentary button or switch.
Function: Manually switching the system between "On" and "Soft Off". Pressing the momentary button for more than 4 seconds will also turn the system off.

(3) IR Connector (Infrared Connector):

Connectedion: Connected to Connector IR on board.
Function: To support wireless transmitting and receiving module on board.

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

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

(5) Suspend LED Connector (Optional):

Connectedion: Connected to Suspend Indicator.
Function: To supply power to "Suspend Indicator".

(6) Keylock Connector (Optional):

Connectedion: Connected to keyboard.
Function: To lock keyboard and disable keyboard function.

(7) Power LED Connector:

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

(8) Reset Switch Connector:

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

(9) Speaker Connector:

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

Chapter 4 AMI 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

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:

DEL : 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 check and configure the BIOS Setup for the new start.

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 Update 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 for upgrading saving, and verifying the system BIOS. The Update Utility can also be run from a hard disk drive or a network drive.

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

- Normally, to update BIOS is unnecessary if the system is working fine. Users should only update BIOS when incompatible problems are encountered or new features have to be added to system.

- "AMIFLASH.EXE" is a Flash EPROM Programming utility that updates the BIOS by uploading a new BIOS file to the programmable flash ROM on the mainboard. This program only works in ***DOS environment, the utility can not be executed in Win95/98, ME, NT, WINDOWS 2000 or Windows XP environment.***

• Please follow the steps below for updating the system BIOS:

Step 1. Please visit the board maker's website, download the zip files of the latest BIOS and AMI flash utility "AMIFLASH.EXE" for your mainboard. After unzipping, the BIOS file format will be *.ROM, of which " * " stands for the specific BIOS file name.

Step 2. Create a bootable diskette. Then copy the BIOS file and AMI flash utility "AMIXXX.EXE" into the diskette.

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

Step 4. Type **AMIFLASH *.ROM** and then press <Enter> to run BIOS update program. (*.ROM will vary, depending on your mainboard model and version code. Instead of typing "*", you should type specific file name for your specific mainboard. For example: AMIFLASH(space) 75FRV11.ROM).

Step 5. When the message "Flash ROM Update Completed - Pass." appears, please restart your system.

Step 6. You will see a message "CMOS Memory Size Wrong" during booting the system. Press <Del> or <F1> to run CMOS setup utility, then reload "LOAD SETUP DEFAULTS" or **"Load Optimal Defaults"** and save this change.

4-6 BIOS SETUP --- CMOS Setup Utility

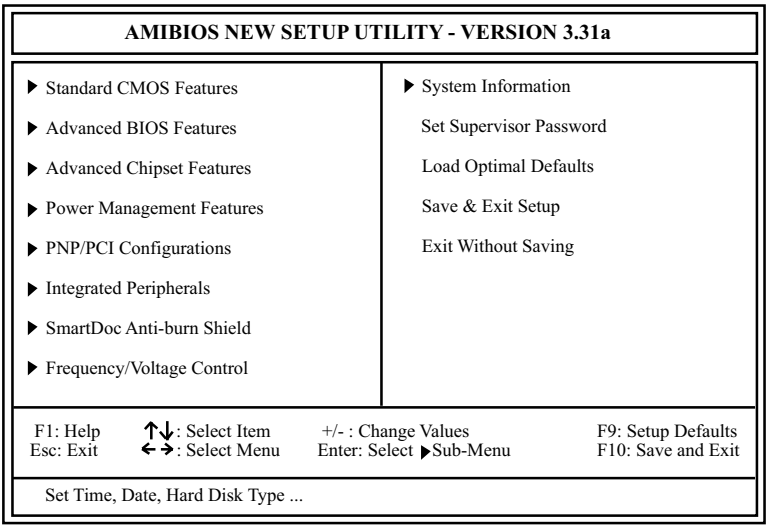
4-6.1 CMOS Setup Utility

This mainboard comes with the AMI BIOS from American Megatrends Inc. Enter the CMOS Setup Utility Main Menu by:

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

PRESS <Del> TO RUN SETUP

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



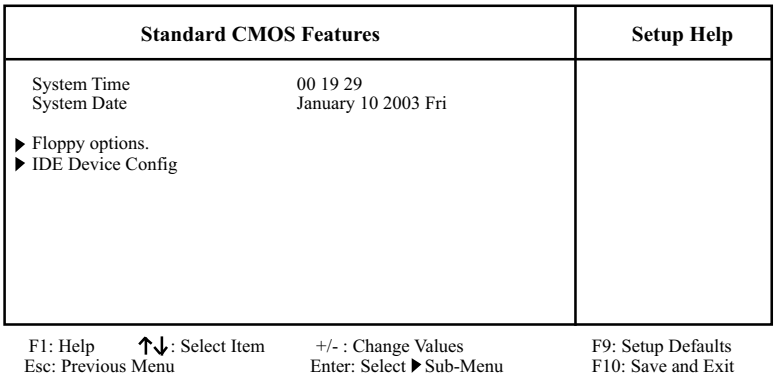
3. Use the arrow keys on your keyboard to select an option, and press <Enter>. Modify the system parameters to reflect the options installed in your system.
4. You may return to the Main Menu anytime by pressing <ESC>.
5. In the Main Menu, “Save & Exit Setup” saves your changes and reboots the system, 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. Modify the configuration values of this option if you want to change your system hardware configuration or after you clear CMOS data.

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:



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.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

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 Time The BIOS shows the time of the day in the format: hh:mm:ss. Choose the field with the Arrow keys and change the time with the Page Up/Page Down +/- keys.

System Date The BIOS shows the date of the day in the format: mm:dd:yy :day of the Week. Choose the field with the Arrow keys and change the value with the Page Up/Page Down +/- keys.

Floppy options Press Enter on “Floppy options” will let you select this field to the type(s) of floppy disk drive(s) installed in your system. The choices are:
1.2MB, 5.25 in.
720KB, 3.5 in.
1.44MB, 3.5 in.
2.88MB, 3.5 in.
Not Installed

IDE Device Config Press Enter on IDE Device Config will let you configure the IDE devices on board and the following menu will reveal the following submenu for your configuration of the hard Disk you have installed:

Primary IDE Master : Not Installed		Setup Help
Type	Auto	
Cylinders		
Heads		
Write Precompensation		
Sectors		
Maxium Capacity	0 Mb	
LBA Mode	Off	
Black Mode	Off	
Fast Programmed I/O Modes	0	
32 Bit Transfer Mode	Off	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

Type This option shows the types of configuration for the IDE devices:

1-50: Predefined types
USER: set Parameters by User
Auto: Set parameters automatically
CD-ROM: Use for ATAPI CD-ROM drives

Double click [Auto] to set all HDD parameters automatically, including “Cylinders, Heads, Write Precompensation, Sectors, Maximum Capacity and 32 Bit Transfer Mode.

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:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

Advanced BIOS Features		Setup Help
Quick Boot	Enabled	
Delay for Hard Drive (Sec.)	2	
Boot Device Priority		
1st Floppy: 1.44 MB 3.5		
2nd CD-ROM		
3rd IDE-0 :Maxtor 20560 A4 -		
Try Other Boot Devices	Yes	
Initial Display Mode	Silent	
Display Mode at Add-On ROM Init	Force BIOS	
S.M.A.R.T for Hard Disks	Disabled	
Bootup Num-lock	On	
Floppy Drive Swap	Disabled	
Floppy Drive Seek	Disabled	
Primary Display	VGA/EGA	
Password Check	Setup	
Boot To OS/2	No	
L1 Cache	Writeback	
L2 Cache	Enabled	
System BIOS Cacheable	Enabled	
C000,32K Shadow	Cached	
C800,16K Shadow	Disabled	
CC00,16K Shadow	Disabled	
D000,16K Shadow	Disabled	
D400,16K Shadow	Disabled	
D800,16K Shadow	Disabled	
DC00,16K Shadow	Disabled	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

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.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

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.

Quick Boot Allows you to enable (default) / disable quick boot of your system.

Delay for Hard Drive (Sec.) Allows you to adjust the time of detecting hard disk on board at booting system.
Choices: Disabled; 1~10 sec. in 1 sec. stepping.

1st/2nd/3rd Boot Device Allows you to set floppy or IDE devices already installed on board to be the 1st/2nd/3rd boot device.
Choises: Disabled; Device(s) installed

Try Other Boot Devices Allows you to enable/disable system to try to boot with other boot devices.
Choises: Yes (default); No

Initial Display Mode If option is "Silent", the initial display mode is set to one with Soltek logo. If option is "BIOS", initial display will hide logo.
Choices: Silent (default); BIOS

Display Mode at Add-On ROM Init If the item "Initial Display Mode" is set to "Silent", two sub-modes are provided for the initial display mode. If "Force BIOS" (default) is chosen, the vendor's logo screen will be followed by the "Add-on ROM" initial screen (the screen showing the add-on card BIOS message). If "Keep Current" is chosen, no "Add-On ROM" screen is followed.

S.M.A.R.T. for Hard Disks Allows you to enable / disable (default) the Self Monitoring Analysis and Reporting Technology for the hard disk.
Choices: Enabled; Disabled

Bootup Num-lock Allows you to toggle between On or Off to control the state of the NumLock keys when the system boots. If On (default), the numeric keypad is in numeric mode. If off, the numeric keypad is in cursor control mode.

Floppy Drive Swap Disabled (default), Floopy Drive A will not be chnged to B, nor B to A. Enabled, Floppy Drive a and B will change position.

Floppy Drive Seek Disabled (default), Floppy Drives will not be checked and diagnosed at system bootup; Enabled, Floppy Drives will be checked and diagnosed at system bootup.

Primary Display Allows you to choose the primary display for the system. Choices: VGA/EGA (default); CGA40x25; CGA80x25; Mono; Absent

Password Check Allows you to set BIOS to check up password with a password prompt at BIOS Setup or whenever restarting system.
Choices: Setup (default); Always

Boot to OS/2 Allows you to set your system to OS/2 operating system.
Choices: Yes; No (default)

L1 Cache Allows you to set the Internal/External Cache Mode.
Choices: WriteBack (default); WriteThru; Disabled

L2 Cache Allows you to set the Internal/External Cache Mode.
Choices: Enabled (default); Disabled

System BIOS Cacheable Allows you to enable (default) / disable the System BIOS Cacheable function.

C000, 32K Shadow Allows you to set these addresses cached, Enabled or Disabled. Default: Cached

C800,CC00,D000,D400, D800,DC00 16K Shadow Allows you to set these addresses cached, Enabled or Disabled. Default: Disabled

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:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

Advanced Chipset Features		Setup Help
DRAM Timing		
Configure SDRAM Timing by SPD	Enabled	
SDRAM Frequency	Auto	
SDRAM CAS# Latency	2.5	
SDRAM Bank Interleave	Disabled	
SDRAM Burst Length	4 QW	
SDRAM Command Rate	2T	
Fast Command	Normal	
AGP Mode	4X	
AGP Fast Write	Disabled	
AGP Aperture Size	64MB	
AGP Master 1 W/S Write	Disabled	
AGP Master 1 W/S Read	Disabled	
AGP Read Synchronization	Disabled	
APIC Interrupt Mode	Enabled	
USB Controller	6 USB Ports	
USB 1.1 Device Legacy Support	Disabled	
USB 1.1 Port 64/60 Emulation	Disabled	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

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.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

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.

Configure SDRAM Timing by SPD SPD (Serial presence detect) is a device in memory module for storing the module information such as DRAM timing and chip parameters. If this option is enabled, BIOS will access SPD automatically to configure module timing. If disabled, DRAM timing can be configured manually.

SDRAM Frequency Allows you to set the SDRAM frequency.
Choices: Auto; 200MHz; 266MHz; 333MHz; 400MHz

SDRAM CAS# Latency With SDRAM Timing by SPD disabled, you can select the SDRAM CAS# (Column Address Strode)latency manually.
Choices: 1.5 Clocks; 2 Clocks; 2.5 Clocks (default); 3 Clocks

SDRAM Bank Interleave This item allows you to enable / disable SDRAM Bank Interleave function.
Choices: Disabled (default); 2-Way; 4-Way

SDRAM Burst Length With SDRAM Timing by SPD disabled, you can select the SDRAM Burst length manually.
Choices: 8 QW; 4 QW (default)

SDRAM Command Rate Allows you to set the SDRAM Command Rate.
Choices: 1T; 2T (default)

Fast Command Allows you to select SDRAM Command Mode.
Choices: Normal (default); Fast; Ultra

AGP Mode Allows you to see the AGP Mode on board. The default setting is 4X. This item supports 4X AGP Mode. 2X and 1X modes are included in options for attempt to lower the AGP speed.

AGP Fast Write Allows you to enable / disable (default) the AGP Fast Write function

AGP Aperture Size Allows you to set the AGP Aperture Size. Choices: 4MB; 8MB; 16MB; 32MB; 64MB (default); 128MB; 256MB;

AGP Master 1 W/S Write Allows you to enable / disable (default) the support of AGP Master 1 Waite State Write.

AGP Master 1 W/S Read Allows you to enable / disable (default) the support of AGP Master 1 Waite State Read.

AGP Read Synchronization Allows you to enable / disable (default) the AGP Read Synchronization function.

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

USB Controller Allows you to set the USB Controller on the USB port(s). Choices: 6 USB Ports (default); 4 USB Ports; 2 USB Ports; disabled

USB 1.1 Device Legacy Support Allows you to select the USB Device Legacy support. Choices: No Mice; All Devices; Disabled (default)

USB 1.1 Port 64/60 Emulation Allows you to enable / disable (default) the Port 64/60 Emulation.

4-6.5 Power Management Features

Power Management Features allows you to set the system's power saving functions.

Run the Power Management Features as follows:

1. Choose "Power Management Features" from the Main Menu and a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

Power Management Features		Setup Help
ACPI Standby State	S1/POS	
Power Management/APM	Enabled	
Video Power Down Mode	Suspend	
Hard Disk Power Down Mode	Stand By	
Standby Time Out (Minute)	Disabled	
Suspend Time Out (Minute)	Disabled	
Power Button Function	On/Off	
Restore on AC/Power Loss	Power Off	
Resume On PME#	Disabled	
Resume On PS/2 KB	Disabled	
Wake-Up Key	Any Key	
Resume On PS/2 Mouse	Disabled	
Resume On RTC Alarm	Disabled	
RTC Alarm Date	15	
RTC Alarm Hour	12	
RTC Alarm Minute	30	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

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.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

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 Standby State This item allows you to select the ACPI Suspend type. You can select S3(STR) for suspending to DRAM if your system supports this mode. Or you can select S1 (POS) for Power on Suspend under Windows 98 or later O/S ACPI mode..

Power Management/ APM Allows you to enable (default) / disable the Power management / Advanced Power Management function.

Video Power Down Mode Allows you to select the Video Power Down Mode. Choices: Disabled; Stand By; Suspend (default)

Hard Disk Power Down Mode Allows you to select the Hard Disk Power Down Mode.
Choices: Disabled; Stand By (default); Suspend

Standby Time Out (Minute) To set the duration of Standby Time Out.
Choices: Disabled (default); 1; 2; 4; 8; 10; 20; 30; 40; 50; 60

Suspend Time Out (Minute) To set the duration of Suspend Time Out.
Choices: Disabled (default); 1; 2; 4; 8; 10; 20; 30; 40; 50; 60

Power Button Function Allows you to set Power Button function.
Choices: On/Off (default); Suspend

Restore on AC/Power Loss Allows you to set the restore state from AC/Power Loss.
Choices: Last State; Power Off(default); Power On

Resume on PME# Allows you to enable / disable (default)the Resume on PME function.

Resume on PS/2 KB Allows you to select S3/S4/S5 mode or disable the Resume on Keyboard clock function.
Choices: Disabled (default); S4/S5

Wake Up Key If Resume On KBC is not disabled, this item allows you to select any key to wake up system.

Resume on PS/2 Mouse Allows you to S4/S5 mode or disable the Resume on PS/2 Mouse function.
Choices: Disabled (default); S4/S5

Resume On RTC Alarm Allows you to enable / disable (default) the Resume On RTC Alarm function.

RTC Alarm Date / Hour / Minute If resume On RTC Alarm is enabled, this field allows you to set the Alarm date Hour, Minute and second.
Date Choices: Every Day; 01 ~ 31
Hour Choices: 00 ~ 23
Minute Choices: 00 ~ 59

4-6.6 PNP / PCI Configurations

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

Run the PNP/PCI Configurations as follows:

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

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

PNP/PCI Configurations		Setup Help
Plug and Play Aware O/S	No	
Clear NVRAM	No	
PCI Latency Timer (PCI Clocks)	32	
Primary Graphics Adapter	PCI	
PCI IDE BusMaster	Enabled	
PCI Slot1 IRQ Priority	Auto	
PCI Slot2 IRQ Priority	Auto	
PCI Slot3 IRQ Priority	Auto	
PCI Slot4 IRQ Priority	Auto	
PCI Slot5 IRQ Priority	Auto	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

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.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

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.

Plug and Play Aware O/S Allows BIOS to recognize the Plug and Play Aware Operating System.
Choices: No (default); Yes

Clear NVRAM Allows BIOS to clear the NVRAM data.
Choices: No (default); Yes

PCI Latency Timer (PCI Clocks) Allows you to set the PCI Latency Time.
Choices: 32 (default); 64; 96; 192; 128; 160; 192; 224; 248

Primary Graphics Adapter Allows you to select the primary Graphics Adapter.
Choices: PCI (default); AGP

PCI IDE BusMaster Allows you to enable (default) / disable the PCI IDE Bus Master function.

PCI Slot 1/2/3/4/5 IRQ Priority Allows you to specify the IRQ for the PCI slots.
Choices: Auto (default); 3; 4; 5; 7; 9; 10; 11

4-6.7 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:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

Integrated Peripherals		Setup Help
Onboard FDC	Auto	
Onboard Serial Port 1	Auto	
Onboard Serial Port 2	Auto	
Serial Port 2 Mode	Normal	
Onboard Parallel Port	Auto	
Parallel Port Mode	ECP	
Parallel Port IRQ	Auto	
Parallel Port DMA Channel	Auto	
Onboard MIDI Port	Disabled	
MIDI Port IRQ	5	
Onboard Game Port	200	
Onboard IDE	Both	
Onboard AC’97 Audio	Enabled	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

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.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

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.

Onboard FDC Allows you to enable / disable the Onboard FDC.
Choices: Auto (default); Enabled; disabled

Onboard Serial Port 1 Allows you to set the Onboard Serial Port A.
Choices: Auto (default); Disabled; 3F8/COM1; 2F8/COM2; 3E8/COM3; 2E8/COM4;

Onboard Serial Port 2 Allows you to set the Onboard Serial Port B.
Choices: Auto (default); Disabled; 3F8/COM1; 2F8/COM2; 3E8/COM3; 2E8/COM4;

Serial Port 2 Mode Allows you to set the Serial Port B Mode.
Choices: Normal (default); IrDA; ASKIR;

Onboard Parallel Port Allows you to configure onboard Parallel port .
Choices: Auto (default); Disabled; 378; 278; 3BC;

Parallel Port Mode If Parallel Port is not disabled, this item allows you to configure parallel port mode.
Choices: ECP (default); EPP + ECP; Normal; EPP

Parallel Port IRQ If Parallel Port Mode is set at EPP, this item allows you to set the Parallel Port IRQ.
Choices: Auto (default); 5; 7

Parallel Port DMA Channel If Parallel Port Mode is set at ECP, this item allows you to set the DMA Channel.
Choices: Auto (default); 0; 1; 3

Onboard MIDI Port Allows you to configure onboard MIDI port address.
The choices: Disabled (default); 300h; 310h; 320h; 330h

MIDI Port IRQ If the onboard MIDI port is enabled, this item shows up to allow you to configure the MIDI Port IRQ to IRQ 5.

Onboard Game Port Allows you to configure Onboard Game port address.
The choices: Disabled; 200h (default); 208h

Onboard IDE Allows you to choose the Onboard IDE Mode.
Choices: Disabled; Primary; Secondary; Both (default)

Onboard AC‘97 Audio Allows you to disable or set AC’97 Audio automatically by system.
Choices: Auto; Disabled

4-6.8 SmartDoc Anti-Burn Shield

This menu helps you to read only and get more information on the working CPU temperature, FAN speed and voltage.

1. Choose “SmartDoc Anti-Burn Shield” from the Main Menu and a screen with a list of current status of your working system will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

SmartDoc Anti-Burn Shield		Setup Help
CPU Warning Temperature	Disabled	
CPU Shut Down Temperature	Disabled	
CPU Fan Low speed Warning	Disabled	
CPU Fan Low Speed Shutdown	(Disabled)	
(ABSII)CPU Current Temperature	(53 ^{0}C/127^{0}F)	
(ABSII)CPU Shutdown Temperature	85 ^{0}C/185 ^{0}F	
Temperature 1	(31 ^{0}C/87 ^{0}F)	
Temperature 2	N/A	
Fan 1 Speed	(5443 RPM)	
Fan 2 Speed	(0 RPM)	
Vcore	(+1.680 V)	
+2.5V	(+2.504 V)	
+3.3V	(+3.408 V)	
+5.0V	(+5.126 V)	
+12.0V	(+11.187V)	
-12.0V	(-11.972V)	
5V SB	(+5.164V)	
Battery	(+3.296V)	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

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.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

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 Warning Temperature Select a upper limits for the CPU temperature. If the CPU temperature extends beyond the limit, any warning mechanism programmed into your system will activate the warning.

CPU Shutdown Temperature This feature allows you to set the shutdown temperature to the running CPU.
Choices: Disabled (default) ; 50 ^{0}C~71^{0}C in 3˚ C stepping

CPU Fan Low Speed Warning This feature allows you to set up the CPU Fan Low Speed warning function.
Choices: Disabled (default); Stop/0RPM; 1000~6000RPM

CPU Fan Low Speed Shutdown This feature allows you to enable/disable the CPU Fan Low Speed Shutdown function.
Choices: Disabled (default); Stop/0RPM; 1000~6000RPM

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

ABS II CPU Shutdown Temperature(for Athlon XP/Duron Morgan) This item will appear if Athlon 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

Temperature 1 Shows current CPU internal temperature.

Temperature 2 Shows current CPU external temperature.

Fan 1 / 2 Displays the current speed of CPU Fan, and other onboard device which user has connected to the onboard Fan Connectors.

CPU Vcore Shows CPU core actual voltage value.

+2.5V/+3.3V/+5.0V/ +12V/-12V/+5.V SB/ Shows current voltage against the respective power supply.

Battery Shows current voltage against battery power supply.

4-6.9 Frequency/Voltage Control

Run the “Frequency/Voltage Control” as following:

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

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

Frequency/Voltage Control		Setup Help
RedStorm Overclocking Tech	(Optional)	
CPU Linear Frequency	Disabled	
CPU Clock	100 MHz	
Spread spectrum	Disabled	
Auto Detect PCI Slot	Disabled	
CPU Voltage Control	Auto	
AGP Voltage Control	1.5V	
DIMM Voltage Control	2.5V	
CPU Ratio Selection	Default	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

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.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

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.

(Optional) Redstorm Overclocking Tech If this option is chosen in BIOS, press <Enter> to start *RED STORM OVERCLOCKING TECH*. This option helps user to raise CPU clock automatically until an unacceptable valueis reached. Then BIOS will restart your systemwith a highest acceptable CPU clock.

CPU Linear Frequency This item allows you to enable / disable (default) this setting function.

CPU Clock If CPU Linear Frequency is set at Enabled, this item allows you to set CPU Clock.
Choices: 100MHz ~200MHz in 1MHz stepping.

Spread Spectrum Allows you to enable / disable (default) this Spread Speectrum function. If enabled, this function will reduce the EMI (Electromagnetic Interference) in your system. If you do not have an EMI problem, leave this item disabled.

Auto Detect PCI Slot Allows you to enable / disable (default) the Auto Detect PCI Slot function.

CPU Voltage Control Allows you to configure the CPU Voltage. Usually, to raise CPU voltage will raise the chance of CPU overclocking and yet risk damage of CPU.
Choices: Auto (default); 1.100V ~1.850V in 0.025 stepping

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

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

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

4-6.10 System Information

This menu helps you to read only and get more information on the system.

1. Choose “System Information” from the Main Menu and a screen with a list of current status of your working system will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

System Information		Setup Help
BIOS Version	(14/02/03)	
Processor Type	(AMD Duron(tm)	
Processor Speed	(1300MHz)	
Base Memory	(640KB)	
Extended Memory	(255MB)	
Total Memory	(256MB)	
Cache Size	(192KB)	
Memory Bank 0	(SDRAM)	
Memory Bank 1	(SDRAM)	
Memory Bank 2	(None)	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

2. Press <ESC> to return to the Main Menu. In case any irregular reading appears about your system, it indicates that a problem exists therein. To solve the problem, a hardware engineer or your dealer is recommended.

4-6.11 Set Supervisor Password

This option allows you to set a Supervisor password for the system:

1. Choose “Set Supervisor Password” in the Main Menu and press <Enter>. Then the following message appears:

[Enter new supervisor password]

2. The first time you run this option, enter your password up to 8 characters and press <Enter>. (The screen does not display the entered characters.)
3. After you enter the password, the following message appears prompting you to confirm the password:

[Retype new supervisor Password]

4. Enter the same password “exactly” the same as you have just typed to confirm the password and press <Enter>.

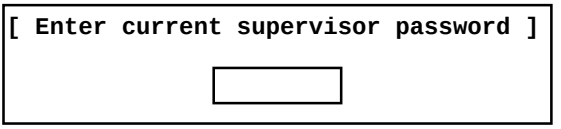
5. The following message appears to confirm the new password setup.

[New supervisor password installed]
Any Key to Continue

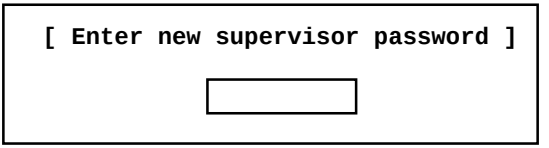
6. Then press any key to continue your CMOS Setup. To save the password setup, you should press “Save & Exit Setup” and choose “yes” to exit and save setup.

7. After the Supervisor password is set, you have to choose whether the password is for entering the system or only for entering BIOS Setup program. To make the choice, please enter BIOS Setup and choose “Advanced BIOS Features” in the main menu. (At entering BIOS Setup, you have to enter the password now.) In “Advanced BIOS Features”, choose “Password Check” and change the option. The “Setup” option is to set the password only for entering BIOS Setup. The “Always” option is to set the password for entering the system.

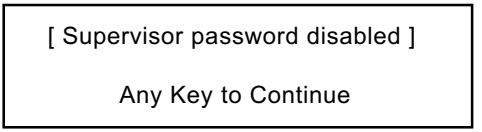
8. To change or remove a current supervisor password, choose “Set Supervisor Password” and press <Enter>. An instruction box appears on the screen, prompting you to enter the current password first:



9. Type the current password with keyboard and then press <Enter>. An instruction box appears, prompting you to enter new supervisor password:



10. If you enter a new password into the box, you will be using this new password after you have finished and saved this new setup. Instead, if you press <Enter> before you enter any new password into the instruction box, another message box appears, telling you that you have disabled the Supervisor password. That means, no password is set for either entering BIOS Setup or system:



NOTE: If you forget or lose a supervisor password, the only way to access the system is to clear the CMOS. All setup informations will then be cleared including the password and you need to run the BIOS setup program again so as to reconfigure BIOS.

4-6.12 Load Optimized Defaults

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

[Load Optimized Settings]

Press [Enter] to continue
or [ESC] to abort

Press <Enter> now to load Optimal values for all the Setup options.

4-6.13 Save & Exit Setup

Save & Exit Setup allows you to save all modifications you have specified into the CMOS memory. Highlight this option on the Main Menu and press <Enter>. The following message appears:

[Saving current settings and exit]

Press [Enter] to continue
or [ESC] to abort

Press <Enter> key to save the configuration changes and exit CMOS Setup to restart your system.

4-6.14 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 Changes]

Press [Enter] to continue
or [ESC] to abort

Follow the message and press <Enter> key to exit CMOS Setup and restart system.