SOLTEK®

SL-75MAV/75MAV-X V1.1

USER MANUAL

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USER NOTICE

This Users Guide & Technical Reference is for assisting system manufacturers and end-users in setting up and installing the mainboard.

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CHAPTER 1
INTRODUCTION

1-1 ITEM LIST CHECKUP

- Motherboard
- Support CD
- User's Manual
- Bundle Bonus Pack CD
- Bundle Bonus Pack Manual
- ATA 66/100 IDE Cable
- Temperature Sensor Cable
- RS232 Cable
- FDD Cable

1-2 PROCESSOR

- Supports AMD Athlon Thunderbird processors up to 1.5GHz
- Supports AMD Athlon Duron processors up to 1.2GHz
- Supports processor VID (voltage ID) and FID (frequency ID) auto detection
- Supports AMD Athlon processor with 200 and 266MHz Front Side bus.

1-3 CHIPSET

- North Bridge VIA VT8365A (KM-133A)
- South bridge VIA VT82C686B

1-4 ADVANCED HIGH PERFORMANCE DRAM CONTROLLER

- Supports PC133 and PC100 SDRAM and Virtual Channel Memory (VCM) SDRAM up to 3 DIMMs
- 64-bit data width and 3.3V DRAM interface
- Supports up to 1.5 GB memory space
- Different DRAM types may be used in mixed combinations
- PCI-2.2 compliant, 32 bit 3.3V PCI interface with 5V tolerant inputs

1-5 INTEGRATED SAVAGE4 2D/3D VIDEO ACCELERATOR

- Optimized Shared Memory Architecture (SMA)
- 2 to 32 MB frame buffer using system memory
- Floating point triangle setup engine
- Single cycle 128-bit 3D architecture
- 8M triangles/second setup engine
- 140M pixels/second trilinear fill rate
- Full AGP 4X, including sideband addressing and execute mode
- 2D/3D resolutions up to 1920x1440

1-6 FULL FEATURED ACCELERATED GRAPHICS PORTS (AGP) CONTROLLER

- Synchronous and pseudo-synchronous with the host CPU bus with optimal skew control PCI AGP Mode 33MHz/66MHz/100MHz DDR 3x synchronous
- Supports 66MHz 1x, 2x and 4x modes for AD and SBA signaling
- AGP v2.0 compliant

1-7 MULTI-I/O FUNCTION

- Two UltraDMA 33/66/100 Master Mode PCI EIDE ports
- Two UARTs for complete Serial Ports
- One dedicated IR connector:
  --Third serial port dedicated to IR function either through the two complete serial ports or the third delicated port Infrared-IrDA (HPSIR) and ASK(Amplitude Shift Keyed) IR
- Multi-mode parallel connector:
  --Standard mode, ECP and EPP support
- Floppy Disk connector:
  --Two FDDs with drive swap support
- Universal Serial Bus connector:
  --USB v1.1 and Intel Universal HCI v1.1 compatible
  --Provides 2 build-in USB ports (another 2 internal USB ports for extensible purpose require an optional USB connect cable)
- PS/2 keyboard connector
- PS/2 Mouse connector

1-8 EXTENSION SLOTS

- Five PCI bus Master slots
- One ISA slot
- One DVC1 slot

- One AGP Pro 4x mode slot
- Three DIMM slots

1-9 BIOS

- Award BIOS V6.0
- Supports Plug & Play V1.0
- Flash Memory for easy upgrade
- Year 2000 compliant
- Supports BIOS writing protection
- Supports SMARTDOC ANTI-BURN SHIELD
- Supports RedStorm Overclocking Tech

1-10 SOUND CONTROLLER

- SoundBlaster Pro Hardware and Direct Sound Ready AC97 Digital Audio Controller with Codec onboard

1-11 POWER MANAGEMENT

- ACPI 1.0 compliant (Advanced Configuration and Power Interface)
- APM V1.2 compliant (legacy power management)
- Supports ACPI suspend STR mode (Suspend To RAM) and POS mode (Power On Suspend)
- Supports Wake On LAN (WOL) & Wake On Modem (WOM)
- Supports real time clock (RTC) with date alarm, month alarm, and century field
- Supports USB boot-up Function

1-12 FROM FACTOR

- ATX from factor, 4 layers PCB
- Motherboard size 22.0cm x 33.3cm

1-13 HARDWARE MONITORING

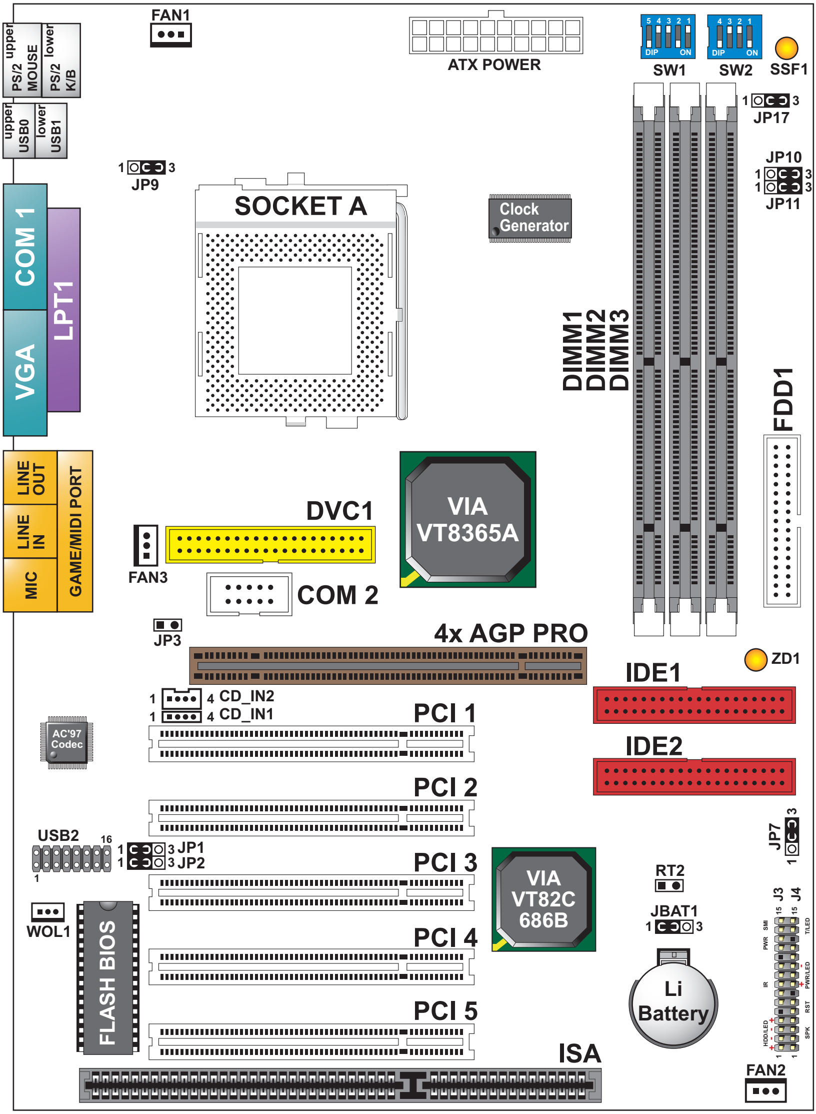
- Programmable control, status, monitor and alarm for flexible desktop management (software include)
- Five-positive voltage monitoring
- Two-temperature monitoring
- 2 Fan-speed monitoring

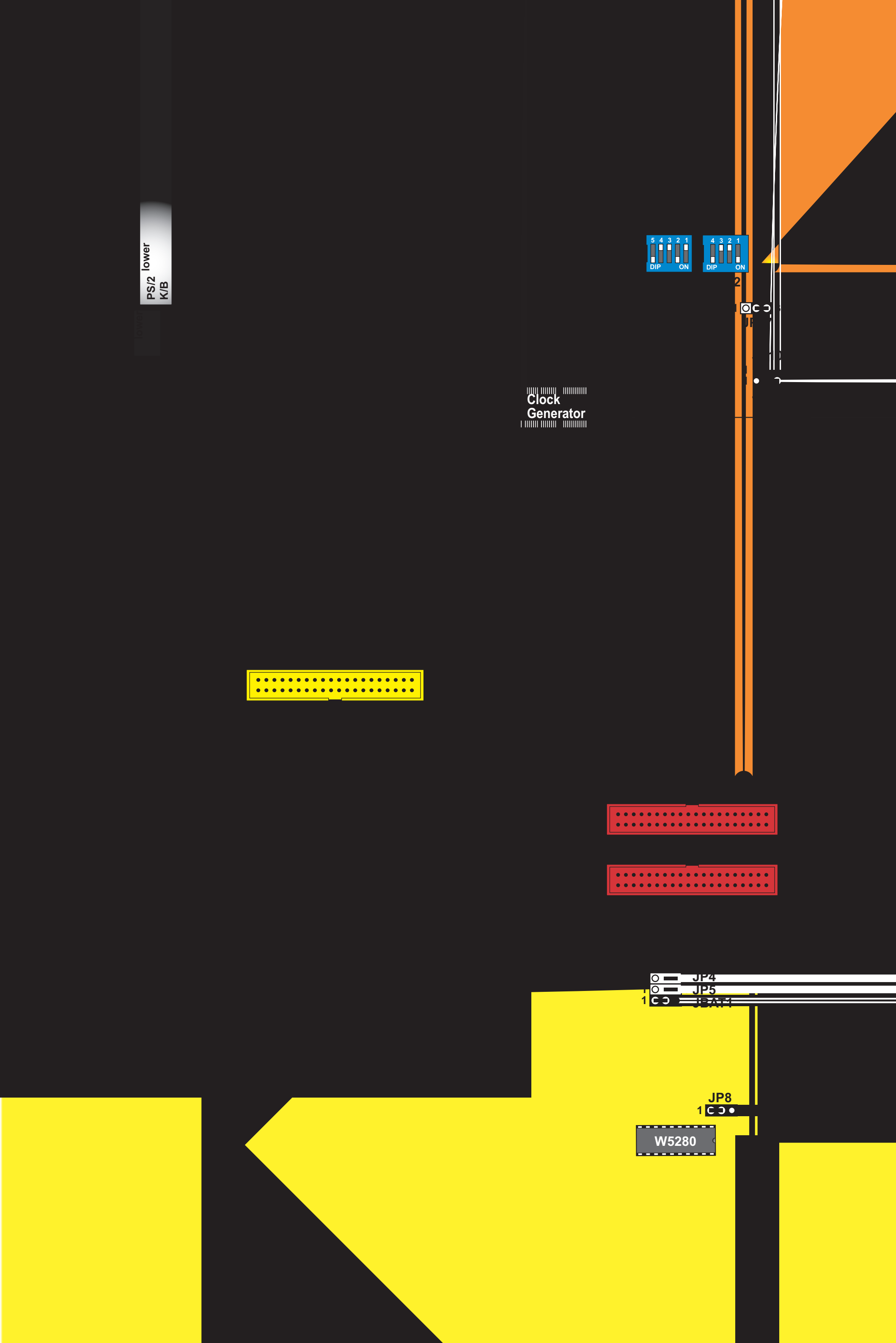
1-14 OTHERS

- Clock generator supports 1 MHz linear clock setting
- Supports DRAM Voltage select Function

1-14.1 MOTHERBOARD LAYOUT --- 75MAV

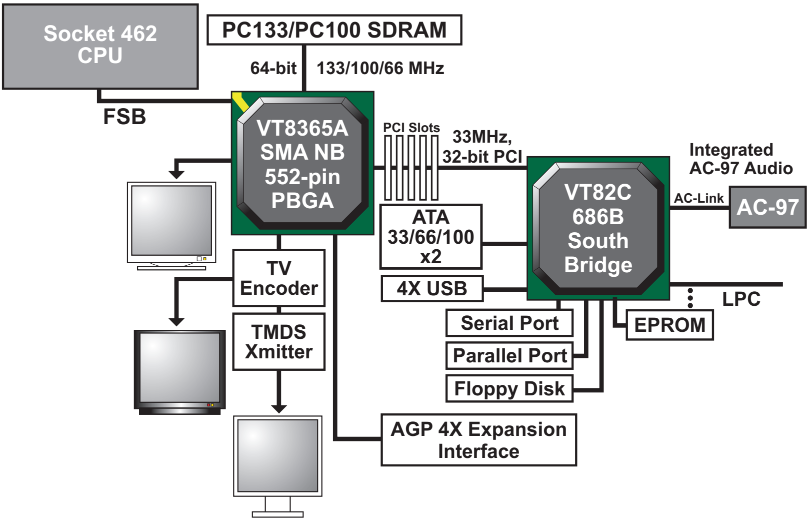
- Default Setting: AMD Athlon Thunderbird™ 100MHz.


FAN1
ATX POWER
5 4 3 2 1
DIP ON
SW1
4 3 2 1
DIP ON
SW2
SSF1
upper PS/2 MOUSE
lower PS/2 K/B
upper USB0
lower USB1
1 3 JP17
JP10
1 3
1 3
JP11
1 3 JP9
SOCKET A
Clock Generator
COM 1
LPT1
VGA
DIMM1
DIMM2
DIMM3
FDD1
LINE OUT
LINE IN
MIC
GAME/MIDI PORT
DVC1
VIA VT8365A
FAN3
COM 2
JP3
4x AGP PRO
ZD1
IDE1
1 4 CD_IN2
1 4 CD_IN1
PCI 1
AC'97 Codec
IDE2
PCI 2
JP7
1 3
USB2
16
1
1 3 JP1
1 3 JP2
PCI 3
VIA VT82C 686B
RT2
JBAT1
1 3
J3
J4
15
15
SMI
PWR
IR
HDD/LED
+ - - +
T/LED
- PWR/LED +
RST
SPK
1
1
WOL1
FLASH BIOS
PCI 4
Li Battery
PCI 5
ISA
FAN2


PS/2 K/B lower
5 4 3 2 1
DIP ON
4 3 2 1
DIP ON
2
1
Clock Generator
JP4
JP5
1
JBAT1
JP8
1
W5280

1-15 CHIPSET DIAGRAM--- 75MAV/75MAV-X

- The KM-133A / VT8365A and VT82C686B chipset is a high performance, cost-effective and energy efficient system controller for the implementation of AGP / PCI / ISA desktop personal computer system based on 64-bit Socket-A (AMD Athlon) processors.


Socket 462
CPU
PC133/PC100 SDRAM
64-bit
133/100/66 MHz
FSB
VT8365A
SMA NB
552-pin
PBGA
PCI Slots
33MHz,
32-bit PCI
VT82C
686B
South
Bridge
Integrated
AC-97 Audio
AC-Link
AC-97
ATA
33/66/100
x2
4X USB
TV
Encoder
TMDS
Xmitter
LPC
Serial Port
EPROM
Parallel Port
Floppy Disk
AGP 4X Expansion
Interface

VT8365A System Block Diagram with VT82C686B PCI-TO-ISA South Bridge

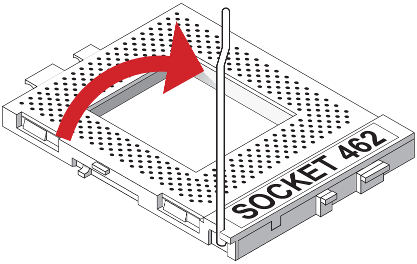
CHAPTER 2
HARDWARE SETUP

2-1 CPU INSTALLATION

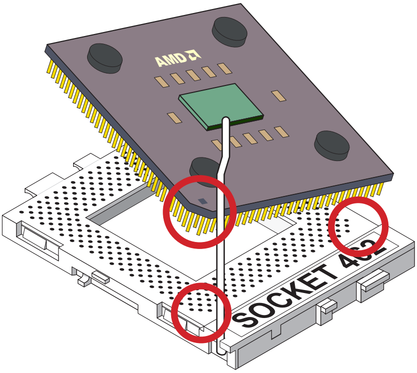
WARNING:

- Make sure that +5V DVC and +3.3 DVC capabilities of your power supply are suitable for the processor.
- Any attempt to operate the AMD Athlon or Duron processor without a suitable cooling Fan will result in permanent damage to the processor and potentially other component within the system.

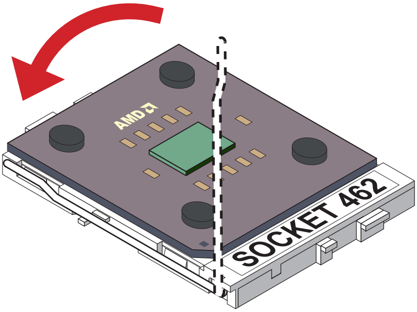
1. Pull the lever sideways away from the socket, and then raise the lever up to a 90-degree angle.



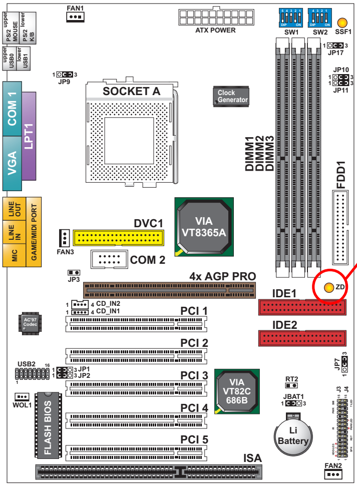
2. Take note of the red circle as below picture. While inserting the CPU into the socket, you can find out there is a definite pin orientation for CPU and socket.



3. Make sure that the CPU position in the socket tightly, and then put the lever down to complete the CPU installation.


AMD
SOCKET 462

2-2 MEMORY INSTALLATION


FAN1
ATX POWER
SW1
SW2
SSF1
JP17
JP10
JP11
JP9
PS/2 MOUSE
PS/2 K/B
USB0
USB1
COM 1
LPT1
VGA
SOCKET A
Clock Generator
DIMM1
DIMM2
DIMM3
FDD1
LINE OUT
LINE IN
MIC
GAME/MIDI PORT
DVC1
VIA VT8365A
FAN3
COM 2
JP3
4x AGP PRO
ZD
IDE1
IDE2
CD_IN2
CD_IN1
AC'97 Codec
PCI 1
PCI 2
USB2
JP1
JP2
PCI 3
VIA VT82C 686B
RT2
JBAT1
JP7
J3
J4
WOL1
FLASH BIOS
PCI 4
Li Battery
PCI 5
ISA
FAN2

NOTICE : When LED "ZD1" light is on , meaning that 3.3V is operating and flowing into DIMM slots, please do not add or remove memory modules .

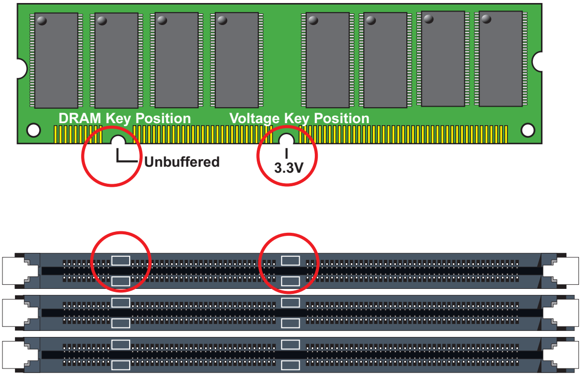
WARNING!!!

- **Make sure that you unplug your power supply when adding or removing memory modules or other system components. Failure to do so may cause severe damage to both your mainboard and expansion cards.**
- **Be careful when inserting or removing DIMM, forcing a DIMM in or out of a socket can be damaged the memory module or the socket. Some of DIMMs contain EDO or FTP DRAM. These DIMM types are incompliant with the motherboard, the M/B only supports 3.3V true SDRAM DIMMs**

Installing DIMM

- Make sure you have the correct memory module type for your motherboard.
- Insert the module(s) as shown, DIMMs have 168-pins and two notches that will match with the onboard DIMM socket, memory modules are installed by inserting them straight into the slot until they “click” into place. They only fit in one direction so do not force them into place.

168-Pin DIMM Notch Key Definitions(3.3V)

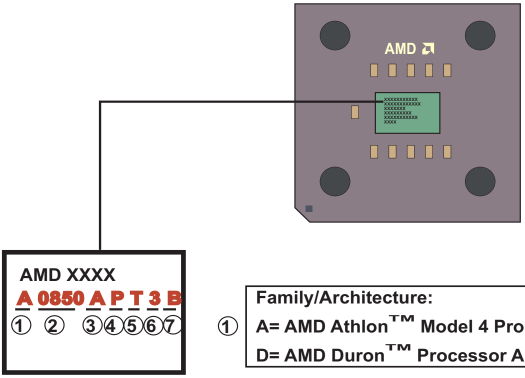


Removing DIMM

- Press the holding clips on both sides of socket out ward to release the DIMM out of the socket.

2-3 AMD SOCKET 462 PROCESSOR MARKING IDENTIFICATION

- The following figures and tables describe the product marking for the PGA (Socket A) versions of the AMD Athlon Model 4 processor and AMD Duron processor...



① **Family/Architecture:**
A= AMD Athlon™ Model 4 Processor Architure.
D= AMD Duron™ Processor Architecture.

② **Speed: 0850= 850MHz, 0900= 900MHz,**
1000= 1000MHz, 1100= 1100MHz, etc.

③ **Package Type: M= Card Module, A= PGA.**

④ **Operating Voltage: S= 1.5V, U= 1.6V, P= 1.7V, M= 1.75V, N= 1.8V.**

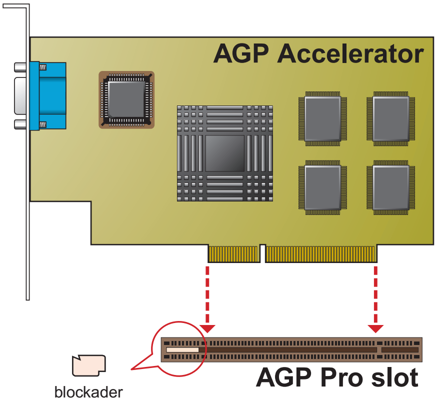
⑤ **Case Temperature: Q= 60°C, X= 65°C, R= 70°C, Y= 75°C,**
T= 90°C.

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

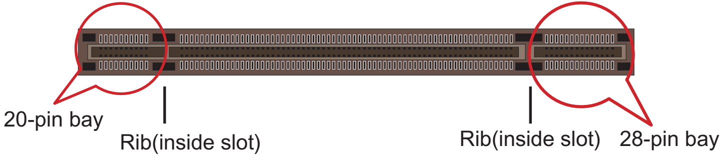
⑦ **Max FSB: A= B= 200MHz, C or others= 266MHz. (For correct FSB setting, please refer to chapter 2-5)**

2-4 ACCELERATED GRAPHICS PORT (AGP) PRO INSTALLATION

- **The AGP Pro connector is an extension of the existing AGP connector and it accepts existing AGP cards.**


AGP Accelerator
blockader
AGP Pro slot

Accelerated Graphics Port (AGP) Pro Slot

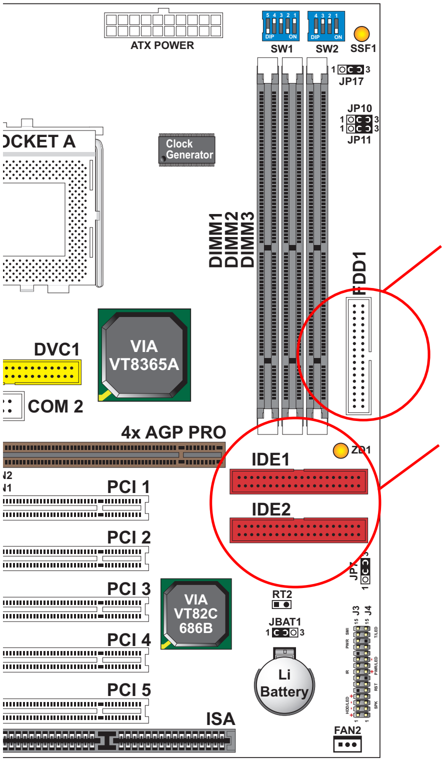

20-pin bay
Rib(inside slot)
Rib(inside slot)
28-pin bay

CAUTION!!

The AGP Pro slot is shipped with a warning label over the 20-pin bay.Do not remove this label and the safety tab underneath it if you will be using an AGP card without a retention notch.Removing may cause the card to shift and may cause damage to your card , slot , and motherboard. Remove ONLY when you will be using an AGP Pro card.

2-5 HDD / FDD INSTALLATION

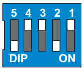
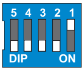
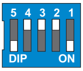
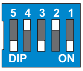
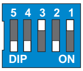
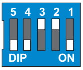
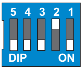
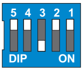
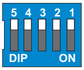
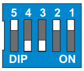
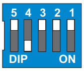
- **To install HDD (Hard Disk Drive), you may connect the cable's blue connector to the motherboard's primary (IDE1) or secondary IDE connector, and then connect the gray connector to your slave device and the black connector to your master device.If you install two hard disks , you must configure the second drive to Slave mode by setting its jumper accordingly.Please refer to your hard disk documentation for the jumper settings.**
- **To install FDD (Floppy Disk Drive), you may connect the single end to the board , and connect two plugs on the other end to the floppy drives.**


ATX POWER
SW1
SW2
SSF1
JP17
JP10
JP11
CKET A
Clock Generator
DIMM1
DIMM2
DIMM3
FDD1
DVC1
VIA VT8365A
COM 2
4x AGP PRO
ZD1
IDE1
IDE2
PCI 1
PCI 2
PCI 3
PCI 4
PCI 5
VIA VT82C 686B
RT2
JBAT1
Li Battery
J3
J4
ISA
FAN2

Floppy Disk Drive Connector:
Orient the red markings on the floppy ribbon cable to Pin1.

Hard Disk Drive Connector:
Orient the red markings on the IDE ribbon cable to Pin1.

2-6 CPU FREQUENCY (SW1)

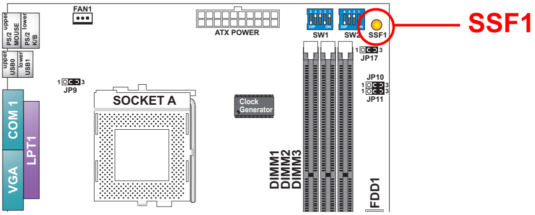
SW1	CPU EXTERNAL CLOCK	PCI CLOCK	FSB CLOCK
 5 4 3 2 1 DIP ON	100MHz (default)	33.3MHz	200MHz
 5 4 3 2 1 DIP ON	103MHz	34.3MHz	206MHz
 5 4 3 2 1 DIP ON	105MHz	35.0MHz	210MHz
 5 4 3 2 1 DIP ON	110MHz	36.7MHz	220MHz
 5 4 3 2 1 DIP ON	112MHz	37.3MHz	224MHz
 5 4 3 2 1 DIP ON	115MHz	38.3MHz	230MHz
 5 4 3 2 1 DIP ON	120MHz	40.0MHz	240MHz
 5 4 3 2 1 DIP ON	124MHz	31.0MHz	248MHz
 5 4 3 2 1 DIP ON	133.3MHz	33.3MHz	266MHz
 5 4 3 2 1 DIP ON	140MHz	35.0MHz	280MHz
 5 4 3 2 1 DIP ON	150MHz	37.5MHz	300MHz

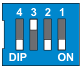
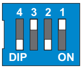
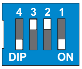
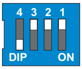
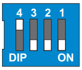
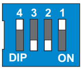
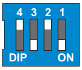
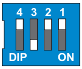
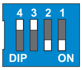
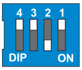
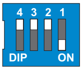
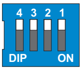
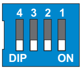
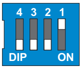
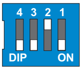
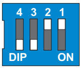
IMPORTANT:

- You may figure out the correct processor type by processor's OPN (Ordering Part Numbers), select correct CPU external frequency is key to ensure reliable operation.
- Incorrect CPU external frequency or overclocking are not guaranteed to be stable, we strongly recommended to leave "SW1" at default setting or legal operation.

2-7 BUS RATIO SELECT (SW2 DIP1-4/JP17)

- The AMD Athlon and Duron processor provides four frequency ID signals (FID) to the system controller to indicate the SYSTCLK multiplier at which the processor core operates, This mechanism is automatic. The board maker does not guarantee “Bus Ratio” can be selected if the processor dose not support it.
- When LED “SSF1” light is on, meaning that Bus Ratio Select Function is enabled.


FAN1
ATX POWER
SW1
SW2
SSF1
JP17
JP10
JP11
JP9
PS/2 MOUSE
PS/2 K/B
USB0
USB1
COM 1
LPT1
VGA
SOCKET A
Clock Generator
DIMM1
DIMM2
DIMM3
FDD1
SSF1

SW2 DIP1 ~ DIP4 SETTING				JP17
5.0x		5.5x		
6.0x (Default)		6.5x		Bus ratio detected by FID (Auto) 1 ○⊂⊃ 3
7.0x		7.5x		
8.0x		8.5x		Bus ratio selected by SW2 DIP 1-4 1 ⊂⊃○ 3
9.0x		9.5x		
10.0x		10.5x		JP17 allows you to enable or disable the "Frequency Ratio Select" function.
11.0x		11.5x		
12.0x		12.5x		

IMPORTANT Note:

Frequency ratio 10.5x and JP17 for PCB version F1 or above only.

2-8 JUMPER DEFINITIONS

- The figure below shows the location for the motherboard's jumper blocks.

CAUTION

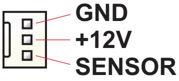
- Do not move the jumper with the power on. Always turn off the power and unplug the power cord from the computer before changing the jumper. Otherwise, the motherboard could be damaged.

2-8.1 ONBOARD FAN CONNECTOR (FAN1/FAN2/FAN3)

FAN1/FAN2/FAN3: ONBOARD FAN CONNECTOR (12V)		
CPU FAN	**FAN1**	
SYSTEM FAN	**FAN2**	
CHASSIS FAN	**FAN3**	

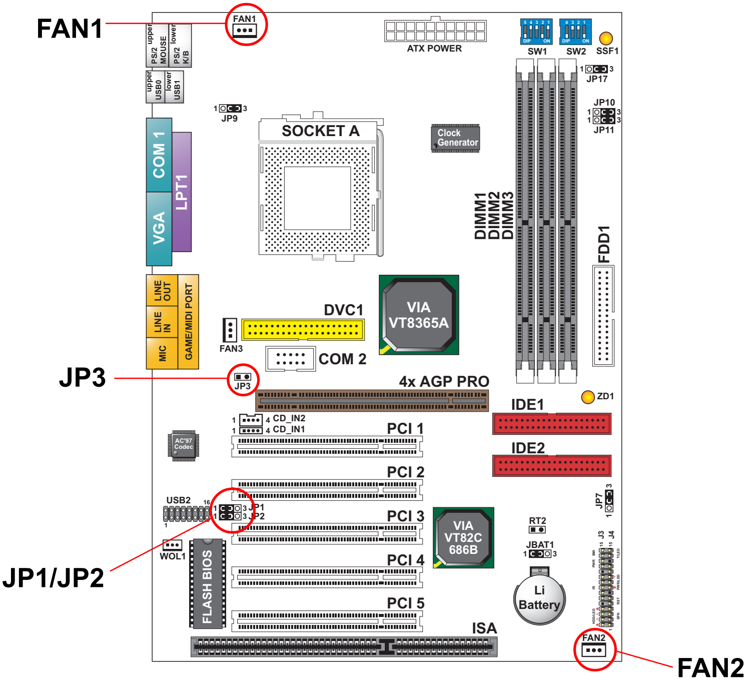
Those connectors support processor/system cooling fan with +12V. Those support three pin head connector. When connecting the wire to FAN connectors, user should give attention that the red wire is the positive and should be connected to the +12V, the black wire is Ground and should be connected to GND. If your motherboard has Hardware Monitor chipset on-board, you must use a specially designed fan with speed sensor to take advantage of this function.

For fans with fan speed sensor, every rotation of the fan will send out 2 pulses. System Hardware Monitor will count and report the fan rotation speed.

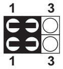
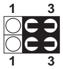


NOTE 1: Always consult vendor for proper CPU cooling fan.

NOTE 2: CPU FAN supports the FAN control. You can install PC Alert utility. This will automatically control the CPU FAN speed according to the actual CPU temperature.


FAN1
FAN1
PS/2 MOUSE upper
PS/2 K/B lower
USB0 upper
USB1 lower
ATX POWER
SW1
SW2
SSF1
JP17
JP10
JP11
JP9
SOCKET A
Clock Generator
COM 1
VGA
LPT1
DIMM1
DIMM2
DIMM3
FDD1
LINE OUT
LINE IN
MIC
GAME/MIDI PORT
DVC1
VIA VT8365A
FAN3
COM 2
JP3
JP3
4x AGP PRO
ZD1
IDE1
CD_IN2
CD_IN1
PCI 1
AC'97 Codec
IDE2
PCI 2
USB2
JP1
JP2
PCI 3
JP7
VIA VT82C 686B
RT2
J3
J4
JBAT1
WOL1
PCI 4
JP1/JP2
FLASH BIOS
Li Battery
PCI 5
ISA
FAN2
FAN2

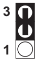
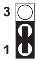
2-8.2 USB PORT SELECT (JP1/JP2)

JP1/JP2: USB PORT SELECT	
Redirect USB port 3 to USB 2 connector (default)	JP1 JP2 
Redirect USB port 3 to AGP	JP1 JP2 

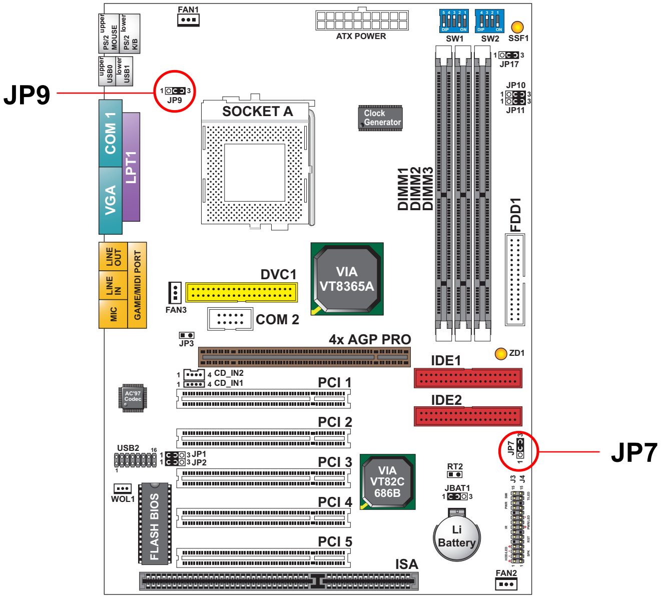
2-8.3 FACTORY (JP3)

JP3: FACTORY TEST	
Only for factory test.	JP3 ■ ●

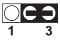
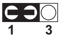
2-8.4 POWER LOST RESUME (JP7)

JP7: POWER LOST RESUME	
Normal (default)	**JP7** 
Enabled	**JP7** 

This jumper allows you to use the switch of ATX power supply to control ON/OFF switch directly instead of using the power switch on the motherboard.

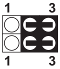
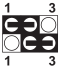
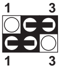
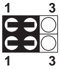

JP9
JP7
FAN1
ATX POWER
SW1
SW2
SSF1
JP17
JP10
JP11
PS/2 MOUSE upper
PS/2 K/B lower
USB0 upper
USB1 lower
SOCKET A
Clock Generator
COM 1
VGA
LPT1
DIMM1
DIMM2
DIMM3
FDD1
LINE OUT
LINE IN
MIC
GAME/MIDI PORT
DVC1
VIA VT8365A
FAN3
COM 2
JP3
4x AGP PRO
ZD1
IDE1
CD_IN2
CD_IN1
PCI 1
AC'97 Codec
IDE2
PCI 2
USB2
JP1
JP2
PCI 3
VIA VT82C 686B
RT2
JBAT1
J3
J4
WOL1
FLASH BIOS
PCI 4
Li Battery
PCI 5
ISA
FAN2

2-8.5 USB WAKE UP (JP9)

JP9: USB Wake up	
Disabled (default)	**JP9** 
Enabled	**JP9** 

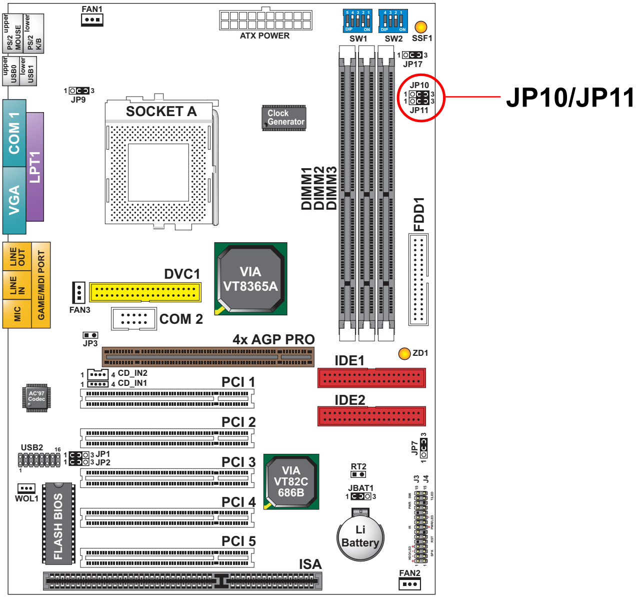
This function allows you to use USB mouse or keyboard to wake up the system.

2-8.6 MEMORY MODULE VOLTAGE SELECT (JP10/JP11)

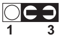
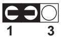
JP10/JP11: MEMORY MODULE VOLTAGE SELECT	
3.3V (default)	JP10 JP11 
3.4V	JP10 JP11 
3.5V	JP10 JP11 
3.6V	JP10 JP11 

This function allows you to select the voltage supplied to the DRAM. The default voltage (3.3V) should be used unless processor overclocking requires a higher voltage.

NOTE! Using a higher voltage may help when overclocking but may result in the shortening of your computer components's life. It is strongly recommended that you leave this setting on its default.

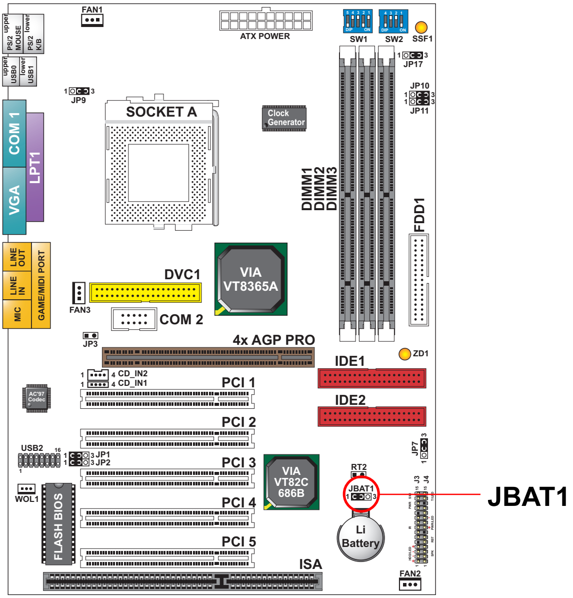

FAN1
ATX POWER
SW1
SW2
SSF1
JP17
JP10
JP11
JP10/JP11
upper PS/2 MOUSE
lower PS/2 K/B
upper USB0
lower USB1
JP9
SOCKET A
Clock Generator
COM 1
LPT1
VGA
DIMM1
DIMM2
DIMM3
FDD1
LINE OUT
LINE IN
MIC
GAME/MIDI PORT
DVC1
VIA VT8365A
FAN3
COM 2
JP3
4x AGP PRO
ZD1
IDE1
CD_IN2
CD_IN1
PCI 1
AC'97 Codec
IDE2
PCI 2
USB2
JP1
JP2
PCI 3
VIA VT82C 686B
RT2
JP7
J3
J4
WOL1
JBAT1
FLASH BIOS
PCI 4
Li Battery
PCI 5
ISA
FAN2

2-8.7 CLEAR CMOS DATA (JBAT1)

JBAT1: CLEAR CMOS DATA	
Clear CMOS Data	**JBAT1**  1 3
Retain Data (default)	**JBAT1**  1 3

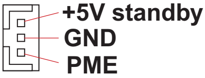
A battery must be used to retain the motherboard configuration in CMOS RAM.

NOTE : You can clear CMOS by shorting 2-3 pin when the system is POWER OFF. Then, return to 1-2 pin position (default). It may damage the motherboard if clearing the CMOS in POWER ON status. Unplug the power cord from power supply before clearing CMOS will be a best bet for user.


FAN1
ATX POWER
SW1
SW2
SSF1
JP17
JP10
JP11
upper PS/2 MOUSE
lower PS/2 K/B
upper USB0
lower USB1
JP9
SOCKET A
Clock Generator
COM 1
LPT1
VGA
DIMM1
DIMM2
DIMM3
FDD1
LINE OUT
LINE IN
MIC
GAME/MIDI PORT
DVC1
VIA VT8365A
FAN3
COM 2
JP3
4x AGP PRO
ZD1
IDE1
CD_IN2
CD_IN1
PCI 1
AC'97 Codec
IDE2
PCI 2
USB2
JP1
JP2
PCI 3
VIA VT82C 686B
JP7
RT2
JBAT1
J3
J4
WOL1
PCI 4
FLASH BIOS
Li Battery
PCI 5
ISA
FAN2
JBAT1

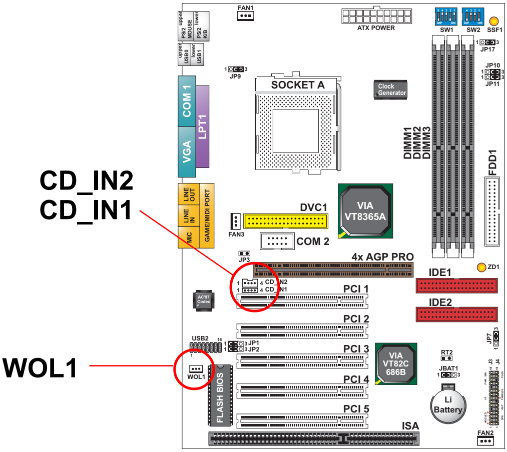
2-8.8 WAKE ON LAN FUNCTION (WOL1)

WOL1 : WAKE ON LAN (WOL) FUNCTION	
Connect the Wake On LAN signal from LAN card to WOL1	WOL1


+5V standby
GND
PME

This connector connects to a LAN card with a Wake On LAN output. The connector powers up the system when a wake-up packet or signal is received through the LAN card.

This feature requires that Wake On LAN feature is enabled at the BIOS "*Power Management Setup*" and that your system has an ATX power supply with at least 720mA / +5V standby power.

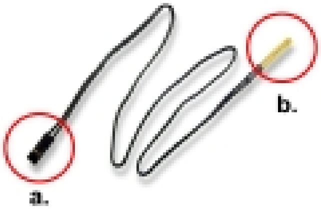

CD_IN2
CD_IN1
WOL1
FAN1
ATX POWER
SW1
SW2
SSF1
JP17
JP9
JP10
JP11
SOCKET A
Clock Generator
COM 1
LPT1
VGA
DIMM1
DIMM2
DIMM3
FDD1
DVC1
VIA VT8365A
FAN3
COM 2
JP3
4x AGP PRO
ZD1
IDE1
IDE2
PCI 1
PCI 2
PCI 3
PCI 4
PCI 5
USB2
JP1
JP2
JP7
RT2
JBAT1
VIA VT82C 686B
Li Battery
FLASH BIOS
ISA
FAN2
AC'97 Codec
LINE OUT
LINE IN
MIC
GAME/MIDI PORT

2-8.9 CD-ROM AUDIO CONNECTOR (CD-IN1/CD-IN2)

CD_IN1/CD_IN2: CD-ROM AUDIO CONNECTOR		
PIN NO.	CD_IN1	CD_IN2
PIN 1	Left Channel	Left Channel
PIN 2	GND	GND
PIN 3	GND	Right Channel
PIN 4	Right Channel	GND

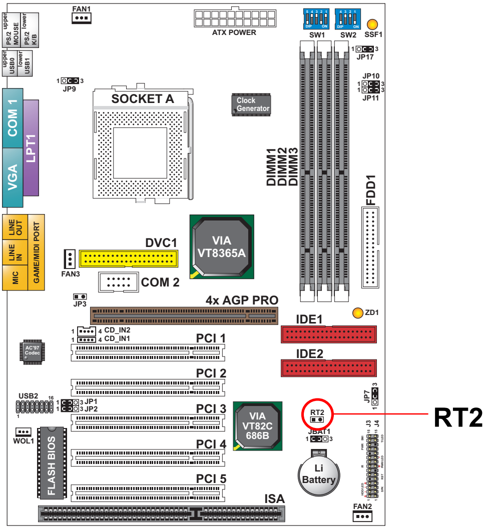
2-8.10 THERMAL SENSOR CONNECTOR (RT2)

RT2: THERMAL SENSOR CONNECTOR



a: Connect to RT2.

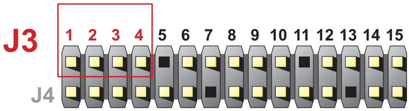
b: Connect this thermal sensor to particular device which generates lots of heat such as Hard Driver, VGA chip, etc. When connected, user could observe the temperature change from the BIOS program.


FAN1
ATX POWER
SW1
SW2
SSF1
JP17
JP10
JP11
JP9
SOCKET A
Clock Generator
COM 1
LPT1
VGA
DIMM1
DIMM2
DIMM3
FDD1
LINE OUT
LINE IN
MIC
GAME/MIDI PORT
DVC1
VIA VT8365A
FAN3
COM 2
JP3
4x AGP PRO
ZD1
IDE1
CD_IN2
CD_IN1
PCI 1
AC'97 Codec
IDE2
PCI 2
USB2
JP1
JP2
PCI 3
VIA VT82C 686B
JP7
RT2
JBAT1
J3
J4
WOL1
FLASH BIOS
PCI 4
Li Battery
PCI 5
ISA
FAN2
RT2

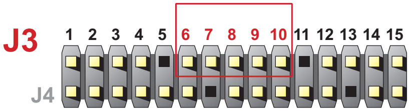
2-9 CONNECTORS

- In this section we list all external connectors that user will use them.

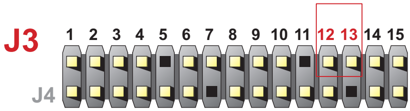
2-9.1 J3 AND J4



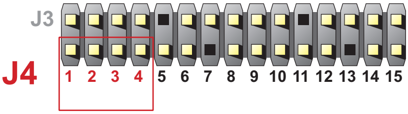
HDD LED CONNECTOR	
PIN 1	Logic High (+)
PIN 2	HDD LED SIGNAL
PIN 3	HDD LED SIGNAL
PIN 4	Logic High (+)
DESCRIPTION	This connector supplies power to the cabinet's IDE activity LED. Read and write activity by devices connected to the Primary or SecondaryIDE connector will cause the LED to light up.



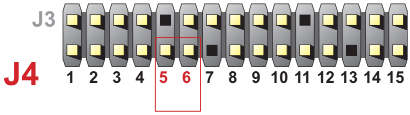
INFRARED CONNECTOR	
PIN 6	INFRARED TRANSMIT SIGNAL
PIN 7	GND
PIN 8	INFRARED RECEIVE SIGNAL
PIN 9	NONE
PIN 10	Vcc
DESCRIPTION	This connector supports an optional wireless transmitting and receiving infrared module. This module mounts to a small opening on system cases that support this feature. User must also configure the setting through BIOS program "Peripheral Setup" to select whether UART2 is directed for use with COM2 or IrDA. Use the five pins and connect a ribbon cable from the module to the motherboard's IR connector according to the pin definitions.



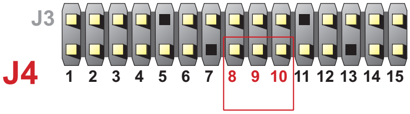
ATX POWER SWITCH	
PIN 12	ATX POWER SWITCH
PIN 13	GND
DESCRIPTION	The system power is controlled by a momentary switch connected to this lead. Pressing the button once will switch the system between ON and SOFT OFF. Pushing the switch while in the ON mode for more 4 seconds will turn the system off. The system power LED shows the status of the system's power.



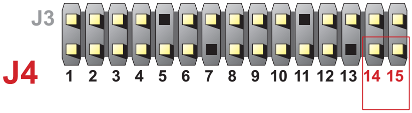
SPEAKER CONNECTOR	
PIN 1	SPEAKER SIGNAL
PIN 2	NONE
PIN 3	GND
PIN 4	Vcc
DESCRIPTION	This SPEAKER connector connects to the case-mounted speaker. Two sources (LINE OUT and SPEAKER) allow you to hear system beeps and warnings. Only SPEAKER allows you to hear system beeps before the integrated audio has been properly initialized.


J3
J4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

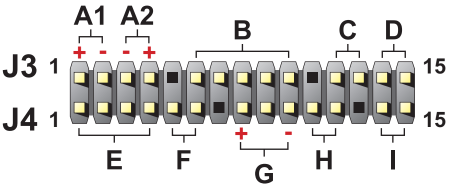
RESET SWITCH CONNECTOR	
PIN 5	RESET SIGNAL
PIN 6	GND
DESCRIPTION	RESET SWITCH connector connects to the case-mounted reset switch for rebooting your system without having to turn off your power switch. This is a preferred method of reboot to prolong the life of the system's power supply.


J3
J4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

POWER LED CONNECTOR	
PIN 8	Vcc
PIN 9	NONE
PIN 10	GND
DESCRIPTION	This Power LED connector connects the system power LED, which lights when the system is powered on and blinks when it is in sleep mode.


J3
J4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

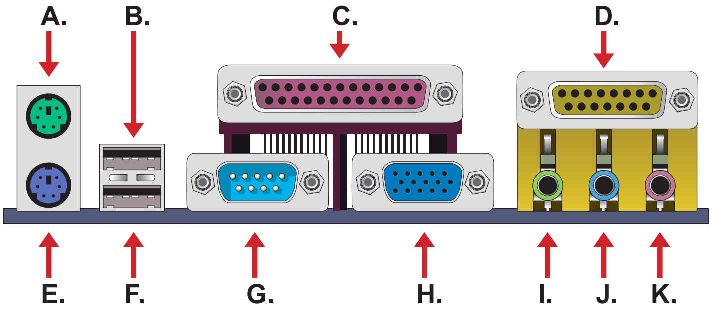
SUSPEND LED	
PIN 14	SUSPEND LED SIGNAL
PIN 15	GND
DESCRIPTION	Connect to Suspend indicator light.


A1
A2
B
C
D
+
-
-
+
J3
1
15
J4
1
15
+
-
E
F
G
H
I

J3 & J4 DESCRIPTION

A1 : 1st HDD LED
A2 : 2nd HDD LED
B : INFRARED (IR)
C : POWER SWITCH
D : None
E : SPEAKER
F : RESET SWITCH
G : POWER LED
H : NONE
I : SUSPEND LED

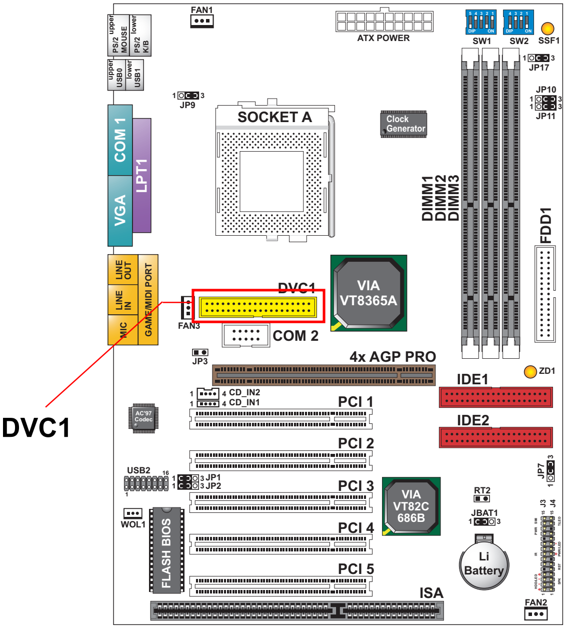
2-9.2 CHASSIS PANEL CONNECTOR


A.
B.
C.
D.
E.
F.
G.
H.
I.
J.
K.

A : PS/2 MOUSE PORT
B : USB O PORT
C : LPT 1 PORT
D : GAME/MIDI PORT
E : PS/2 KEYBOARD PORT
F : USB 1 PORT
G : COM 1 PORT
H : VGA PORT
I : LINE OUT/SPEAK OUT PORT
J : LINE IN
K : MICROPHONE

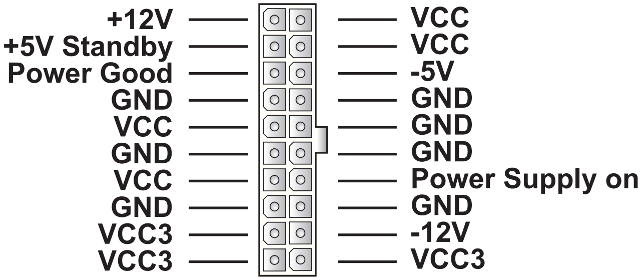
2-9.3 FLAT-PANEL DISPLAY CONNECTOR (DVC1)

- This motherboard provides a special socket " **DVC1** ". Which has the capability of displaying graphics on TFT flat panel desktop monitors using a 12-bit digital interface to an external encoder. The motherboard also supports auto expansion and centering of all VGA text and graphics modes to ensure that the entire flat panel display will be utilized. All resolutions are supports up to 1280x1024. The solution is Digital Visual Interface 1.0 specification compliant.

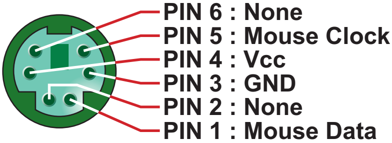

FAN1
ATX POWER
SW1
SW2
SSF1
JP17
JP10
JP11
upper PS/2 MOUSE
lower PS/2 K/B
upper USB0
lower USB1
JP9
SOCKET A
Clock Generator
COM 1
LPT1
VGA
DIMM1
DIMM2
DIMM3
FDD1
LINE OUT
LINE IN
MIC
GAME/MIDI PORT
DVC1
FAN3
VIA VT8365A
COM 2
JP3
4x AGP PRO
ZD1
IDE1
CD_IN2
CD_IN1
PCI 1
AC'97 Codec
IDE2
PCI 2
USB2
JP1
JP2
PCI 3
VIA VT82C 686B
JP7
RT2
JBAT1
J3
J4
WOL1
FLASH BIOS
PCI 4
Li Battery
PCI 5
ISA
FAN2
DVC1

2-9.4 ATX POWER SUPPLY CONNECTOR

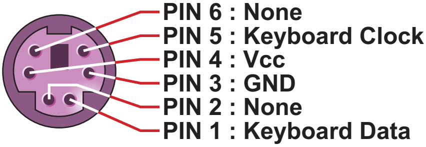
- This connector connects to an ATX power supply. The plug from the power supply only inserts in an orientation because of the different hole sizes. Find the proper orientation and push down firmly making sure that all pins are aligned.
- Reminding that your power supply should support at least 10mA on the 5V standby voltage. It may cause an difficulty to power on the system if the power supply can't support the load.
- **For Wake On LAN function, the power supply should support at least 720mA current.**


+12V
+5V Standby
Power Good
GND
VCC
GND
VCC
GND
VCC3
VCC3
VCC
VCC
-5V
GND
GND
GND
Power Supply on
GND
-12V
VCC3

2-9.5 PS/2 MOUSE AND PS/2 KEYBOARD


PIN 6 : None
PIN 5 : Mouse Clock
PIN 4 : Vcc
PIN 3 : GND
PIN 2 : None
PIN 1 : Mouse Data

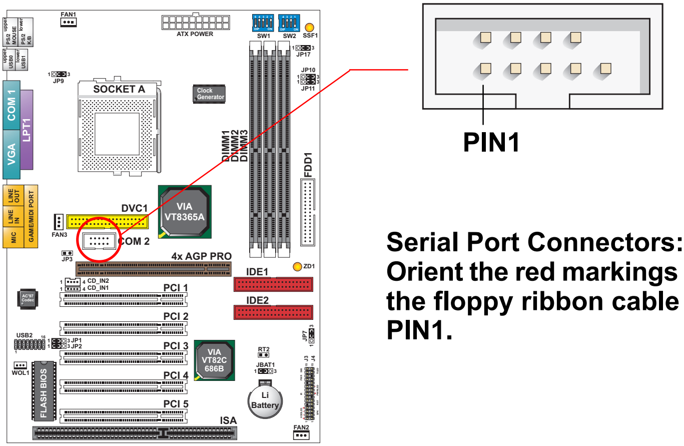
PS/2 MOUSE


PIN 6 : None
PIN 5 : Keyboard Clock
PIN 4 : Vcc
PIN 3 : GND
PIN 2 : None
PIN 1 : Keyboard Data

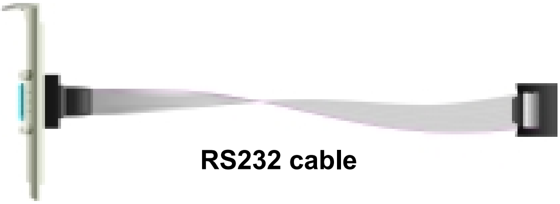
PS/2 KEYBOARD

2-9.6 SERIAL PORT CONNECTORS

- One serial port is ready for a mouse or other serial devices. A second serial port is available using a serial port bracket connected from the motherboard to an expansion slot opening.


SOCKET A
COM 1
LPT1
VGA
DVC1
COM 2
VIA VT8365A
4x AGP PRO
PCI 1
PCI 2
PCI 3
PCI 4
PCI 5
ISA
IDE1
IDE2
FDD1
DIMM1
DIMM2
DIMM3
ATX POWER
FLASH BIOS
VIA VT82C 686B
Li Battery
PIN1

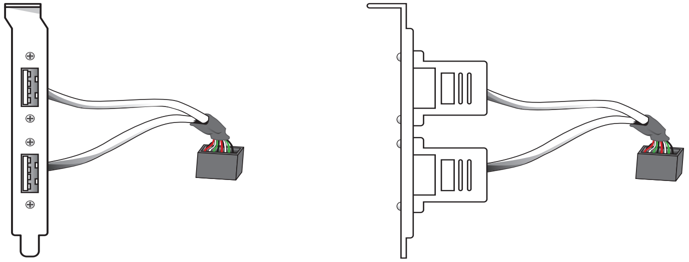
Serial Port Connectors: Orient the red markings on the floppy ribbon cable to PIN1.



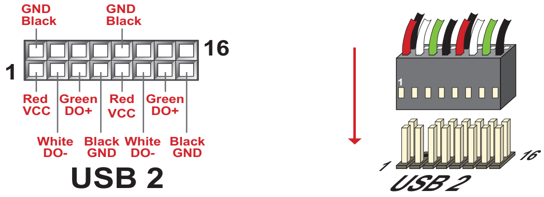
RS232 cable

2-9.7 SECOND USB CONNECTOR

- This connector is for connecting the additional USB cable. It provides you additional two USB ports. User can order the additional USB cable from your motherboard dealer and vender.



Additional USB Cable (Optional)


GND
Black
GND
Black
16
1
Red
VCC
Green
DO+
Red
VCC
Green
DO+
White
DO-
Black
GND
White
DO-
Black
GND
USB 2
1
1
16
USB 2

USB2 Connector (Optional)

- When plugging the USB cable to USB2 connector, user can see each color of wires to determine which is first pin.

2-9.8 IRQ DESCRIPTION

IRQ	Function Description	Priority
IRQ 0	System Timer	1
IRQ 1	Keyboard Controller	2
IRQ 2	Programmable Interrupt	N/A
IRQ 3	Serial Port (COM 2)	11
IRQ 4	Serial Port (COM 1)	12
IRQ 5		13
IRQ 6	Floppy Disk Controller	14
IRQ 7	Parallel Port (LPT1)	15
IRQ 8	Real Time Clock (RTC)	3
IRQ 9		4
IRQ 10		5
IRQ 11		6
IRQ 12	PS/2 Mouse Port	7
IRQ 13	Coprocessor	8
IRQ 14	Primary IDE Channel	9
IRQ 15	Secondary IDE Channel	10

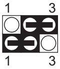
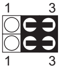
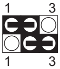
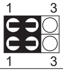
- Both ISA and PCI expansion cards may require IRQs. System IRQs are available to cards installed in the ISA expansion bus first, then any remaining IRQs are available to PCI cards. Currently, there are two types of ISA cards.
- The original ISA expansion card design, now referred to as "Legacy" ISA card, requires that you configure the card's jumpers manually and then install it in any available slot on the ISA bus. To see a map of your used and free IRQs in Windows 98, the ***Control Panel*** in ***My Computer***, contains a ***System*** icon, which gives you a ***Device Manager*** tab. Double-Clicking on a specific hardware device gives you a ***Resources*** tab which shows the Interrupt number and address. Double-Clicking ***Computers*** to see all the interrupts and addresses for your system. Make sure that no two devices use the same IRQ or your computer will experience problems when those two devices are in use at the same time.

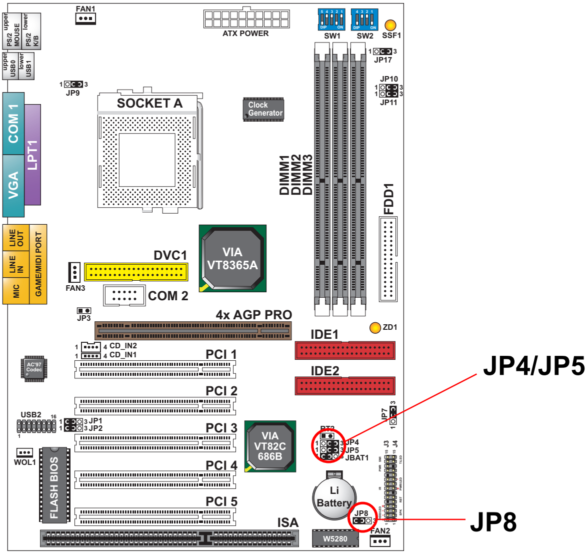
2-10 VOICE DIAGNOSTIC FUNCTION----ONLY FOR 75MAV-X

- The Voice Diagnostic Function provides user an indispensable assistance on troubleshooting while assembling your computer components. If there is any conflict or other latent problem triggers a boot-up failure, this new VD-TECH technology will voice you realistically where the conflict/problem is, then user can remove the malfunction quickly.
- This function mainly provides 4 languages and their contents as following table:

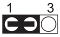
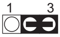
English Voice Content
1. No memory module
2. Please check memory module
3. Please clear CMOS setting
4. Please check the Video adapter
5. Please check hard disk cable or setting
國語語音內容
1. 未安裝記憶體
2. 請檢查記憶體
3. 請清除 **CMOS** 設定
4. 請檢查顯示卡
5. 請檢查硬碟接線及設定
El Contenido Español de la Voz
1. No hay modulo de memoria
2. Por favor, chequea el modulo de memoria
3. Por favor, borra CMOS setting
4. Por favor, chequea la tarjeta de video
5. Por favor, chequea el cable o la instalacion del disco duro
日本語音內容
1. メモリーないじゃん（メモリーがありません）
2. メモリーだめだめ（メモリーをチェックして下さい）
3. CMOS だめっす？（**CMOS**の內容をクリアして下さい）
4. VGA どう？（ビデオカードをチェックして下さい）
5. ハードディスクつながってる？ （**HDD**ケーブル又は設定をチェックして下さい）

2-10.1 VOICE DIAGNOSTIC FUNCTION (JP4/JP5)

JP4/JP5: VOICE DIAGNOSTIC LANGUAGE SELECT	
Chinese Language	JP4 JP5 
English Language (default)	JP4 JP5 
Japanese Language	JP4 JP5 
Spanish Language	JP4 JP5 


FAN1
ATX POWER
SW1
SW2
SSF1
JP17
JP10
JP11
JP9
SOCKET A
Clock Generator
COM 1
LPT1
VGA
DIMM1
DIMM2
DIMM3
FDD1
LINE OUT
LINE IN
MIC
GAME/MIDI PORT
DVC1
VIA VT8365A
FAN3
COM 2
JP3
4x AGP PRO
ZD1
IDE1
CD_IN2
CD_IN1
PCI 1
AC'97 Codec
IDE2
PCI 2
USB2
JP1
JP2
PCI 3
VIA VT82C 686B
JP7
JP4
JP5
JBAT1
J3
J4
WOL1
FLASH BIOS
PCI 4
Li Battery
PCI 5
JP8
ISA
W5280
FAN2
JP4/JP5
JP8

2-10.2 VD-TECH CONTROLLER CHIP (JP8)

JP8: VD-TECH CONTROLLER CHIP	
Enabled (default)	JP8 
Disabled	JP8 

MEMO

CHAPTER 3
SOFTWARE SETUP

3-1 ABOUT SUPPORT CD

- In support CD, it contains most informations for user’s requirement, such as Acrobat Reader, BIOS, User’s full version Manual, Driver, Hardware Monitor(if motherboard supports this function), Patch, and Utilities etc,. User can browse the CD and get further details in regard of our motherboard. Of course, welcome to vendor’s website for the newest release.

3-2 VIA CHIPSET DRIVER INSTALLATION (4-IN-1 DRIVER)

Step 1:

- Please put the support CD attached to motherboard into the CD-ROM drive.
- When appears a welcome window as left screen, then user should choose “**Install Driver**”

Step 2:

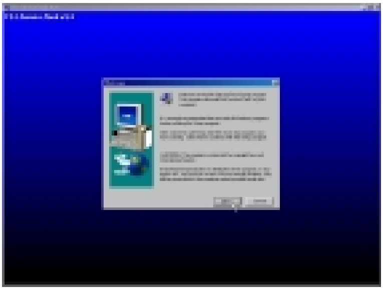
- Click on the “**VIA Chipset Driver**”.

Step 3:

- Click on the “**4-in-1 driver**”.

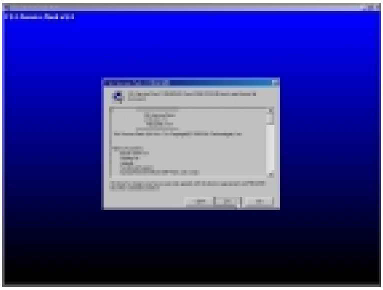
Step 4:

- Click on the “**Install via 4-in-1 driver**” to continue.



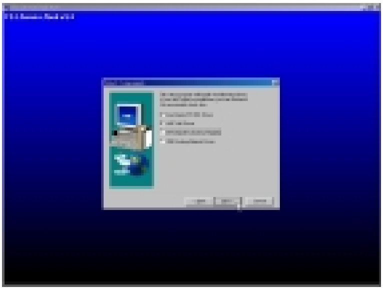
Step 5:

- Press **Next** button to continue.



Step 6:

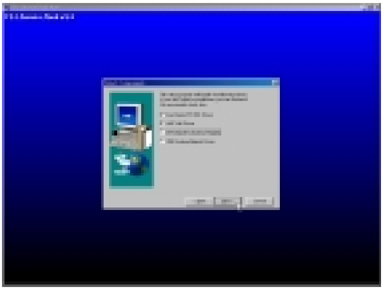
- Click "Yes" to continue.



Step 7:

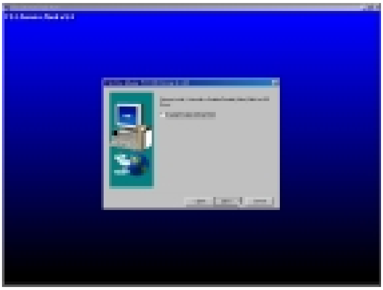
- Press select the checkbox as below:
  - ■ Bus Master PCI IDE Driver
  - ■ AGP VxD Driver
  - ■ VIA Chipset Function's Registry
  - ■ IRQ Routing Miniport Driver

Note: For user who are upgrading VIA Drivers. We recommend installing the 4-in-1 as it will automatically detect and update the necessary drivers.



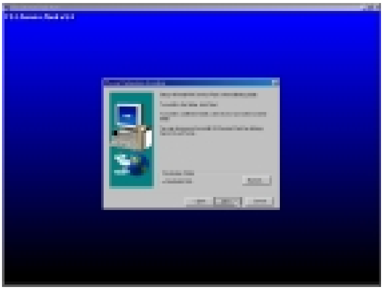
Step 8:

- Click "**Install**" and press **Next** button to continue.



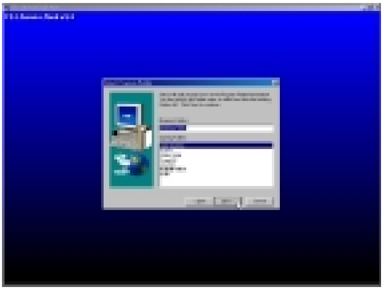
Step 9:

- Click on the "click to enable DMA mode" checkbox for enable DMA function.



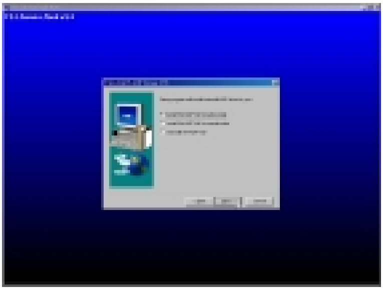
Step 10:

- The default setup destination is **C:\VIADMATOOL**, press **Next** button to continue.



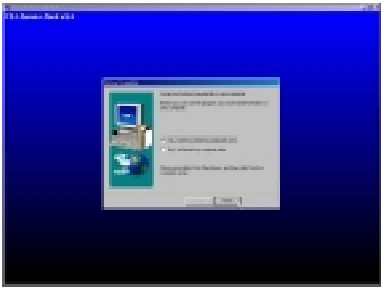
Step 11:

- Press **Next** button to continue.



Step 12:

- Select "**Install VIA AGP VxD**" in turbo mode and press **Next** button to continue.



Step 13:

- After all the setup process is finished, please restart your computer by clicking on **Finish**.

3-3 ONBOARD S3® SAVAGE4™ VGA DRIVER INSTALLATION

- We provide a simple process for user to install the S3® Savage4 VGA driver. Whichever Microsoft Windows operating system user adopts, they have similar installation below.

3-3.1 INSTALL KM133 VGA DRIVER FOR WINDOWS 95/98/SE

1. Please put the Support CD attached to motherboard into the CD-ROM drive. When appears a welcome window as left screen, then user should choose *“Install Driver”*.
2. Click on the *“VIA chipsets Driver”*.
3. Click on the *“VIA KM133 VGA Driver”* to continue.
4. Click on the *“Install VGA Driver for Win95/98/SE”*.
5. Follow the instruction on screen to complete the installation, after which please restart your PC.

3-3.2 INSTALL KM133 VGA DRIVER FOR WINDOWS NT4.0

1. Please put the Support CD attached to motherboard into the CD-ROM drive. When appears a welcome window as left screen, then user should choose *“Install Driver”*.
2. Click on the *“VIA chipsets Driver”*.
3. Click on the *“VIA KM133 VGA Driver”* to continue.
4. Click on the *“Install VGA Driver for NT4.0”*.
5. Follow the instruction on screen to complete the installation, after which please restart your PC.

3-3.3 INSTALL KM133 VGA DRIVER FOR WINDOWS ME

1. Please put the Support CD attached to motherboard into the CD-ROM drive. When appears a welcome window as left screen, then user should choose *“Install Driver”*.
2. Click on the *“VIA chipsets Driver”*.
3. Click on the *“VIA KM133 VGA Driver”* to continue.
4. Click on the *“Install VGA Driver for Windows ME”*.
5. Follow the instruction on screen to complete the installation, after which please restart your PC.

3-3.4 INSTALL KM133 VGA DRIVER WINDOWS 2000

1. Please put the Support CD attached to motherboard into the CD-ROM drive. When appears a welcome window as left screen, then user should choose *“Install Driver”*.
2. Click on the *“VIA chipsets Driver”*.
3. Click on the *“VIA KM133 VGA Driver”* to continue.
4. Click on the *“Install VGA Driver for Win2000”*.
5. Follow the instruction on screen to complete the installation, after which please restart your PC.

3-4 AC'97 AUDIO CODEC INSTALLATION

Step 1:

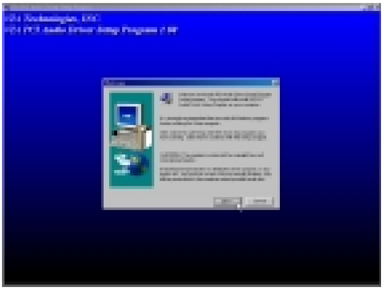
- Please put the support CD attached to motherboard into the CD-ROM drive.
- When appears a welcome window as left screen, then user should choose "**Install Driver**"

Step 2:

- Click on the "**VIA Chipset Driver**".

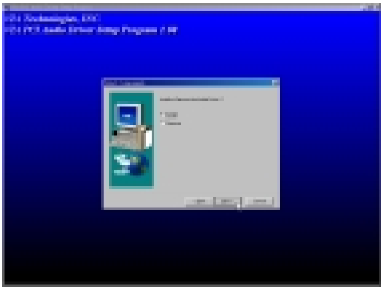
Step 3:

- Click on the "**AC'97 driver**".



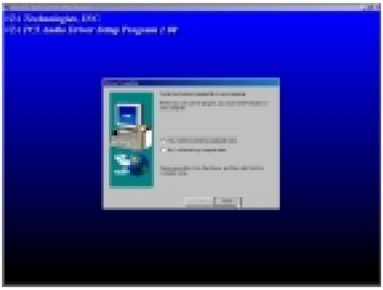
Step 4:

- Press **Next** button to continue.



Step 5:

- When asking you install or remove the audio driver, please select "**Install**" and press **Next** button to continue.



Step 6:

- It's recommended for user to restart the computer after the audio driver is finished. Please select "**Yes, I want to restart my computer now**".

3-5 HARDWARE MONITOR INSTALLATION

Step 1:

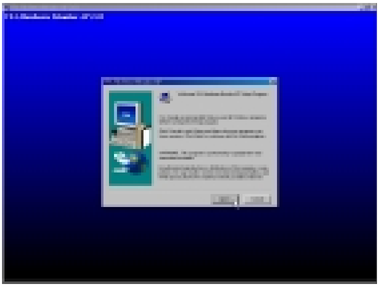
- Please put the support CD attached to motherboard into the CD-ROM drive.
- When appears a welcome window as left screen, then user should choose “**Install Driver**”

Step 2:

- Click on the “**VIA Chipset Driver**”.

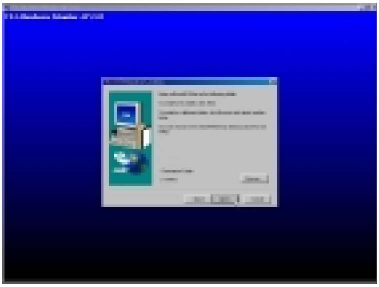
Step 3:

- Click on the “**Hardware Monitor Utility**”.



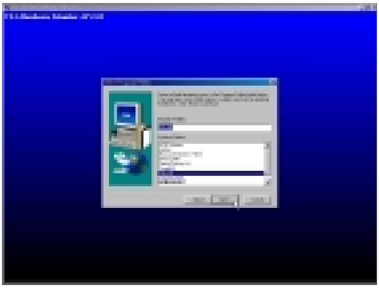
Step 4:

- Press **Next** button to continue.



Step 5:

- The default destination is **C:\VIAhm**, then press **Next** button to continue.



Step 6:

- Press **Next** button to finish the Hardware Monitor setup process.

MEMO

CHAPTER 4
BIOS SETUP

4-1 INTRODUCE THE BIOS

- BIOS stands for Basic Input Output System. It is sometimes called ROM BIOS because it is stored in a Read-Only Memory(ROM) chip on the motherboard. BIOS 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 to manage your PC hardware by means of a set of routines called BIOS Run-Time Service.

4-2 WHAT IS BIOS SETUP

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

1. Changing the hardware on 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 caching)

4-3 HOW TO RUN BIOS SETUP

- One way of running SETUP is to press a special function key or key combination during POST, before the operating system is loaded during POST, the BIOS usually displays a prompt such as:

```
Press DEL to enter SETUP
```

4-4 WHAT IS CMOS

- CMOS is a special kind of memory maintained by a battery after you turn your computer off. The BIOS uses CMOS to store the settings you selected in SETUP. The CMOS also maintains the internal clock. Every time you turn on your computer, the BIOS Looks in CMOS for the settings you selected and configures your computer accordingly. If the battery charge runs too low, the CMOS content will be lost and POST will issue a “CMOS invalid” or “CMOS checksum invalid” message. If this happens, you may have to replace the battery. After the battery is replaced, the proper settings will need to be stored in SETUP.

4-5 WHAT IS POST

- POST is an acronym for Power On Self Test. It’s a traditional name for the routines that the BIOS uses to test and initializes the devices on your system when the PC is powered on. Its meanings has grown to include anything the BIOS does before the operating system is started. Each of POST routines is assigned a POST code, an unique number which is sent to I/O port 080h before the routine is executed.

4-6 BIOS UPGRADE

- Motherboards incorporate the system BIOS in a Flash memory component. Flash BIOS allows user upgrades without the need to replace an EPROM component.

- The upgrade utility fits on a floppy diskette and provides the capability to save, verify, and update the system BIOS. The upgrade utility can be run from a hard disk drive or a network drive, but no memory managers can be installed during upgrades.

4-6.1 BEFORE UPGRADE BIOS

- It is recommended that you save a copy of the original motherboard BIOS along with a Flash EPROM Programming utility(AWDFLASH.EXE) to a bootable floppy disk in case you need to reinstall the BIOS later.

4-6.2 UPGRADE PROCESS

Note: Normally, to upgrade BIOS that is unnecessary if the system is working fine without any problem, user should upgrade the BIOS unless you experienced incompatible problem or need BIOS upgrade to create new features. However, please read all information in this section before upgrading.

"AWDFLASH.EXE" is a Flash EPROM Programming utility that up dates the BIOS by uploading a new BIOS file to the programmable flash ROM on the motherboard, This program only works in ***pure DOS environment, the utility can not be worked in win95/98, ME, NT or WINDOWS 2000 environment.***

Upgrading the system BIOS

Set 1. Pleas visit the board maker's website, download the newest BIOS file and newest award flash utility "AWDFLASH.EXE" for the motherboard. The BIOS file you downloaded will be a *. bin format.

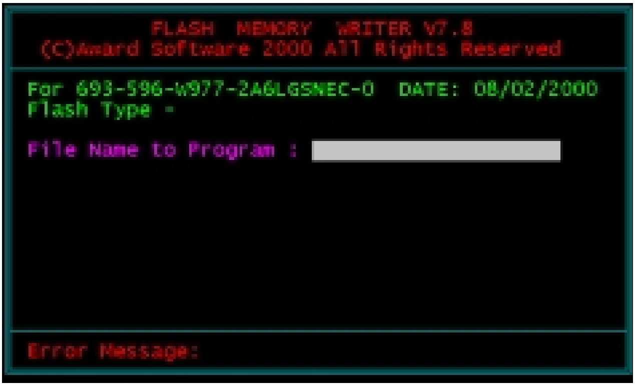
Step 2. Create a bootable diskette. Then copy the BIOS file and award flash utility "AWDFLASH.EXE" into the diskette.

Step 3. Insert the diskette into drive A, reboot you system and boot form the diskette.

Step 4. When booting is finished type **awdflash *.bin /sn/py/cc** and then press <Enter> to run BIOS upgrade program. (*.bin depends on your motherboard model and version code).

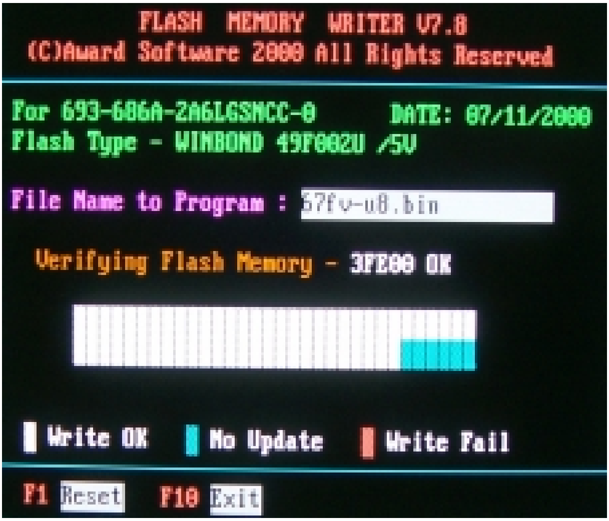
Step 5. After upgraded, please press <F1> or <F10> to exit or reset your system, ***Warning !*** If there appears ***Write Fail*** while Award "FLASH MEMORY WRITER" verifying Flash memory, just repeat the process, please DO NOT reset or turn off the system. If the award memory flash utility was not able to update the BIOS successfully, you system may not able to boot up,

Step 6. You will see a message "CMOS checksum error-Default loaded" during booting the system. Please press <Del> to run CMOS setup utility, then reload 'LOAD SETUP DEFAULTS" or **"Load Optimized Defaults"** and save this change.



```
FLASH  MEMORY  WRITER V7.8
(C)Award Software 2000 All Rights Reserved

For 693-596-W977-2A6LGSNEC-0  DATE: 08/02/2000
Flash Type -

File Name to Program :

Error Message:
```

Award Flash Memory Writer Start Screen



```
FLASH  MEMORY  WRITER V7.8
(C)Award Software 2000 All Rights Reserved

For 693-686A-2A6LGSNCC-0       DATE: 07/11/2000
Flash Type - WINBOND 49F002U /5V

File Name to Program : 57fv-u8.bin

  Verifying Flash Memory - 3FE00 OK

 Write OK    No Update    Write Fail

 F1 Reset    F10 Exit
```

Award Flash Memory Writer Complete Screen

The parameters of AWDFLASH.EXE

/sn: No original BIOS backup
/py: Program flash memory
/cc: Clear CMOS data after programming

NOTE: User can type AWDFLASH /? to get further details about parameters. Wrong usage of parameter will damage the BIOS information, so that we strongly recommend user to leave parameters away unless you realize their function.

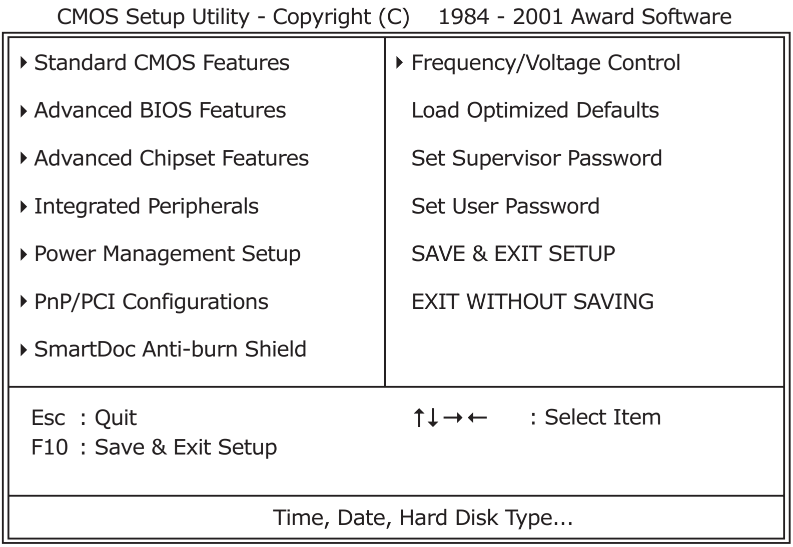
4-7 CMOS SETUP UTILITY

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

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

```
PRESS <DEL> TO ENTER SETUP
```

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



```
        CMOS Setup Utility - Copyright (C)   1984 - 2001 Award Software

 ▸ Standard CMOS Features            ▸ Frequency/Voltage Control
 ▸ Advanced BIOS Features              Load Optimized Defaults
 ▸ Advanced Chipset Features           Set Supervisor Password
 ▸ Integrated Peripherals              Set User Password
 ▸ Power Management Setup              SAVE & EXIT SETUP
 ▸ PnP/PCI Configurations              EXIT WITHOUT SAVING
 ▸ SmartDoc Anti-burn Shield

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

                      Time, Date, Hard Disk Type...
```

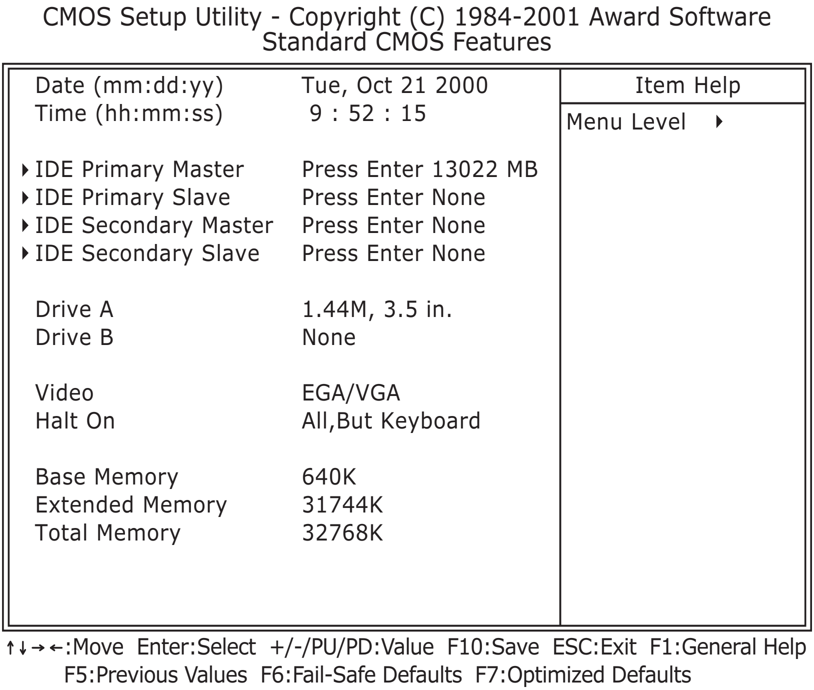
3. Using the arrows on your keyboard, select an option, and press <Enter>. Modify the system parameters to reflect the options installed in your system.
4. You may return to the Main Menu anytime by pressing <ESC>.
5. In the Main Menu, “SAVE AND EXIT SETUP” saves your changes and reboots the system,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

4-8 STANDARD CMOS SETUP

- Standard CMOS Setup allows you to record some basic system hardware configuration and set the system clock and error handling. You only need to modify the configuration values of this option when you change your system hardware configuration or the configuration stored in the CMOS memory gets lost or damaged.

Run the STANDARD CMOS SETUP as following:

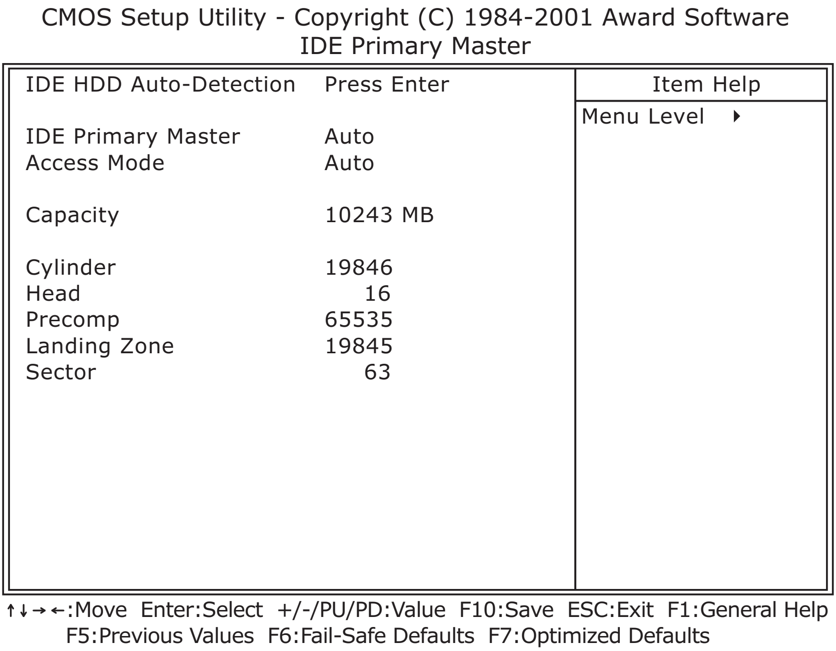
1. Choose "STANDARD CMOS SETUP" from the Main Menu and a screen with a list of option will appear:



```
        CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                          Standard CMOS Features

  Date (mm:dd:yy)        Tue, Oct 21 2000          Item Help
  Time (hh:mm:ss)         9 : 52 : 15           Menu Level    ►

 ►IDE Primary Master     Press Enter 13022 MB
 ►IDE Primary Slave      Press Enter None
 ►IDE Secondary Master   Press Enter None
 ►IDE Secondary Slave    Press Enter None

  Drive A                1.44M, 3.5 in.
  Drive B                None

  Video                  EGA/VGA
  Halt On                All,But Keyboard

  Base Memory            640K
  Extended Memory        31744K
  Total Memory           32768K

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

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

Date (mm:dd:yy)	The BIOS determines the day of the week from the other date information. This field is for information only. Press the left or right arrow key to move to the desired field (date, month, year). Press the PgUp or PgDn key to increment the setting, or type the desired value into the field.
Time (hh:mm:ss)	The time format is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Press the left or right arrow key to move to desired field. Press the PgUp or PgDn key to increment the setting, or type the desired value into the field.
Primary / Secondary Master / Slave	This field records the specifications for all non-SCSI hard disk drives installed in your system. Refer to the respective documentation on how to install the drives.
Drive A / Drive B	Set this field to the type(s) of floppy disk drive(s) installed in your system. The choices are: 360KB, 5.25in., 1.2MB, 5.25in., 720KB, 3.5in., 1.44MB, 3.5in., 2.88MB, 3.5in., None.
Video	Set this field to the type of video display card installed in the system. The choices are: Monochrome, Color 40x25, VGA / EGA, Color 80x25.
Halt On	Set this warning feature for the type of errors that will cause the system to halt. The choices are: No Errors, All, But Keyboard, All, But Diskette, All, But Disk / Key.



```
     CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                          IDE Primary Master

 IDE HDD Auto-Detection    Press Enter          |     Item Help
                                                | Menu Level   ▸
 IDE Primary Master        Auto                 |
 Access Mode               Auto                 |
                                                |
 Capacity                  10243 MB             |
                                                |
 Cylinder                  19846                |
 Head                         16                |
 Precomp                   65535                |
 Landing Zone              19845                |
 Sector                       63                |

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

3. Press <ESC> to return to the Main Menu when you finish setting up all items.

4-9 ADVANCED BIOS FEATURES

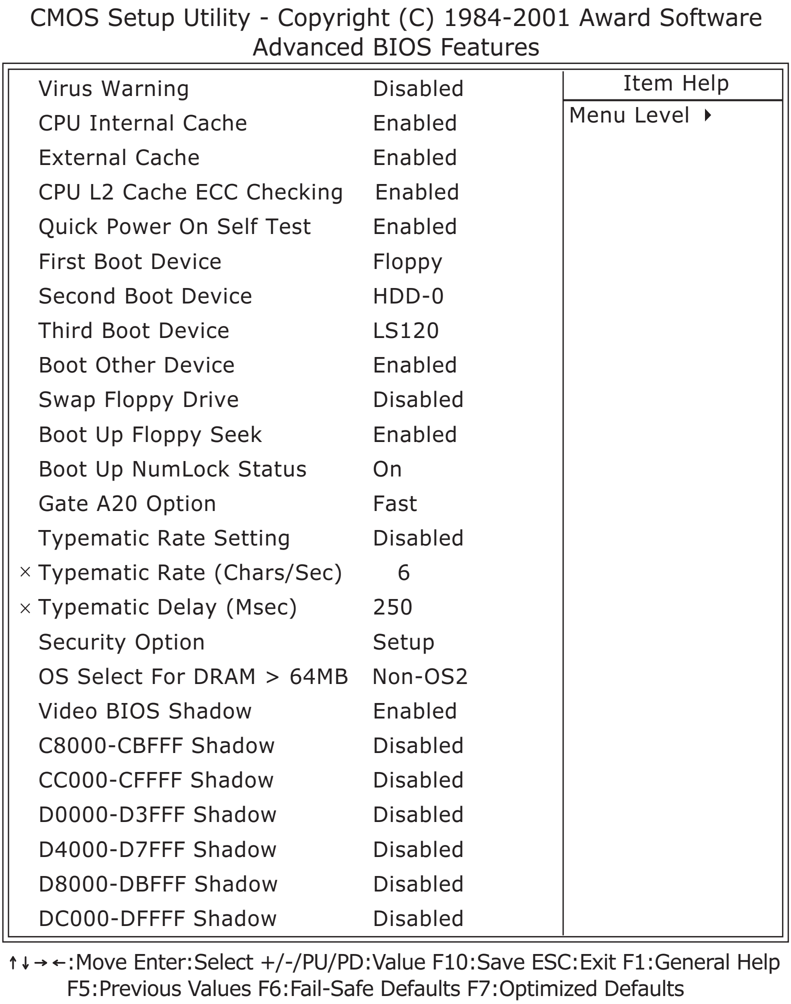
- ADVANCED BIOS FEATURES allows you to improve your system performance or set up system features according to your preference.

Run the ADVANCED BIOS FEATURES as following:

1. Choose “ADVANCED BIOS FEATURES” from the Main Menu and a screen with a list of option 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.
<F5>: Get the previous values. These values are the values with which the user started in the current session.
<F6>: Load all options with the BIOS default values.
<F7>: Load all options with the Setup default values.



```
CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                  Advanced BIOS Features

   Virus Warning                    Disabled      Item Help
   CPU Internal Cache               Enabled      Menu Level ▶
   External Cache                   Enabled
   CPU L2 Cache ECC Checking        Enabled
   Quick Power On Self Test         Enabled
   First Boot Device                Floppy
   Second Boot Device               HDD-0
   Third Boot Device                LS120
   Boot Other Device                Enabled
   Swap Floppy Drive                Disabled
   Boot Up Floppy Seek              Enabled
   Boot Up NumLock Status           On
   Gate A20 Option                  Fast
   Typematic Rate Setting           Disabled
 × Typematic Rate (Chars/Sec)         6
 × Typematic Delay (Msec)           250
   Security Option                  Setup
   OS Select For DRAM > 64MB        Non-OS2
   Video BIOS Shadow                Enabled
   C8000-CBFFF Shadow               Disabled
   CC000-CFFFF Shadow               Disabled
   D0000-D3FFF Shadow               Disabled
   D4000-D7FFF Shadow               Disabled
   D8000-DBFFF Shadow               Disabled
   DC000-DFFFF Shadow               Disabled

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

Virus Warning	Enabled: Activates automatically when the system boots up causing a warning message to appear if there is anything attempting to access the boot sector or hard disk partition table. Disabled: No warning message will appear when there is something attempting to access the boot sector or hard disk partition table.

> ***NOTE:*** ***Many diagnostic (or boot manager) programs which attempt to access the boot sector table can cause the above warning message. If you will be running such a program, we recommend that you disable the virus protection first.***

CPU Internal Cache/ External Cache	Cache memory is additional memory that is much faster than conventional DRAM (system memory). CPUs from 486-type on up contain internal cache memory, and most, but not all, modern PCs have additional (external) cache memory. When the CPU requests data, the system transfers the requested data from the main DRAM into cache memory, for even faster access by the CPU. The External Cache field may not appear if your system does not have external cache memory.
CPU L2 Cache ECC Checking	When you select *Enabled*, memory checking is enable when the external cache contains ECC SRAMs. The choice: Enabled, Disabled.
Quick Power On Self Test	Select *Enabled* to reduce the amount of time required to run the power-on self -test (POST). A quick POST skips certain steps. We recommend that you normally disable quick POST. Better to find a problem during POST than lost data during your work.
First/Second/Third/ Other Boot Device	The BIOS attempts to load the operating system from the devices in the sequence selected in these items. The choice: Floppy, LS/ZIP, HDD, SCSI, CDROM, Disabled.

Swap Floppy Drive	This field is effective only in systems with two floppy drives. Selecting Enabled assigns physical drive B logical drive A, and physical drive A to logical drive B.
Boot Up Floppy Seek	Enabled : During POST, BIOS checks the track number of the floppy disk drive to see whether it is 40 or 80 tracks. Disabled: During POST, BIOS will not check the track number of the floppy disk drive.
Boot Up NumLock Status	Toggle between On or Off to control the state of the NumLock key when the system boots. When toggled On, the numeric keypad generates numbers instead of controlling cursor operations.
Gate A20 Option	Gate A20 refers to the way the system addresses memory above 1 MB (extended memory). When set to *Fast*, the system chipset controls Gate A20. When set to *Normal*, a pin in the keyboard controller controls Gate A20. Setting Gate A20 to Fast improves system speed, particularly with OS/2 and Windows.
Typematic Rate Setting	When *Disabled*, the following two items (Typematic Rate and Typematic Delay) are irrelevant. Keystroke repeat at a rate determined by the keyboard controller in your system. When *Enabled*, you can select a typematic rate and typematic delay.
Typematic Rate (Chars / Sec)	Range between 6 and 30 characters per second. This option controls the speed of repeating keystrokes.
Typematic Delay (Msec)	Choose 250, 500, 750 and 1000. This option sets the time interval for displaying the first and the second characters.
Security Option	If you have set a password, select whether the password is required every time the System boots, or only when you enter setup.

OS Select For DRAM > 64MB	Non-OS/2 : For Non-OS/2 system. OS: For OS/2 operating system.
Video BIOS Shadow	Enabled copies Video BIOS to shadow RAM for improving performance. The choice: Enabled, Disabled.
C8000-CBFFF to DC000-DFFFF Shadow	These options are used to shadow other expansion card ROMs.

3. Press <ESC> to return to the Main Menu when you finish setting up all items.

4-10 ADVANCED CHIPSET FEATURES

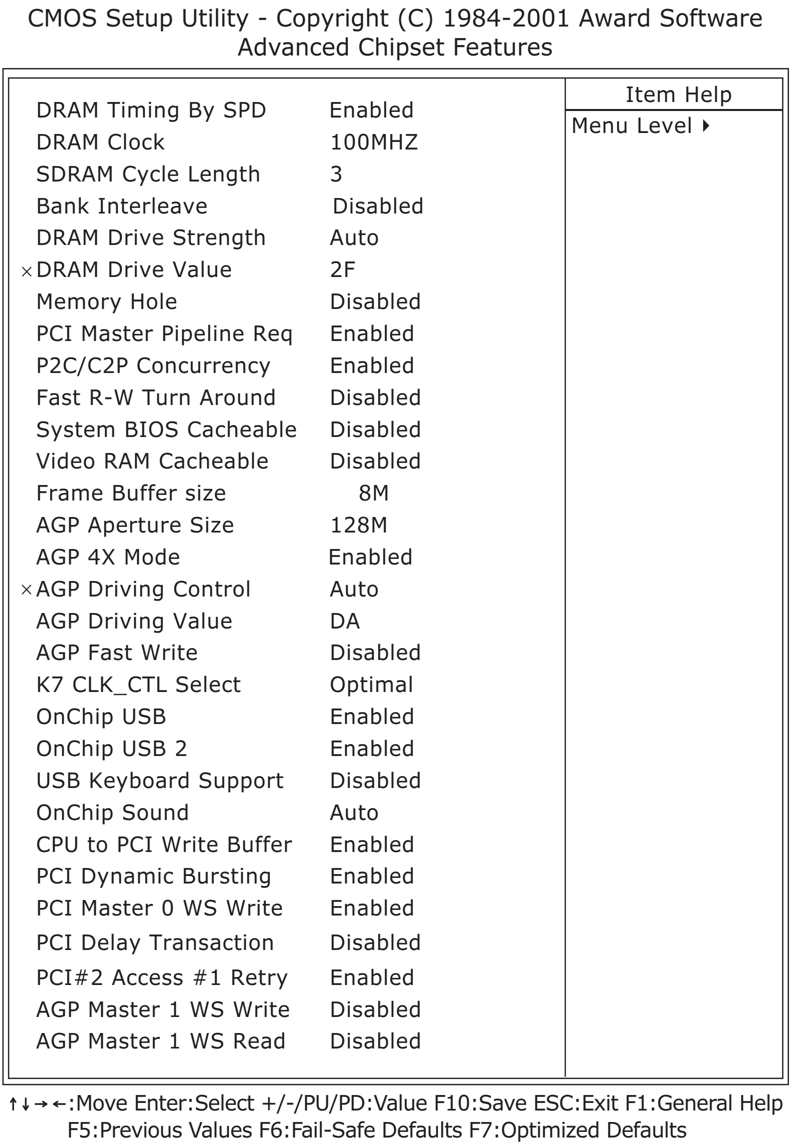
- ADVANCED CHIPSET FEATURES allows you to change the values of chipset registers. These registers control the system options.

Run the ADVANCED CHIPSET FEATURES as following:

1. Choose "ADVANCED CHIPSET FEATURES" from the Main Menu and a screen with a list of option 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.
<F5>: Get the previous values. These values are the values with which the user started in the current session.
<F6>: Load all options with the BIOS default values.
<F7>: Load all options with the Setup default values.



```
      CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                      Advanced Chipset Features

   DRAM Timing By SPD          Enabled             Item Help
   DRAM Clock                  100MHZ          Menu Level ▸
   SDRAM Cycle Length          3
   Bank Interleave             Disabled
   DRAM Drive Strength         Auto
 × DRAM Drive Value            2F
   Memory Hole                 Disabled
   PCI Master Pipeline Req     Enabled
   P2C/C2P Concurrency         Enabled
   Fast R-W Turn Around        Disabled
   System BIOS Cacheable       Disabled
   Video RAM Cacheable         Disabled
   Frame Buffer size             8M
   AGP Aperture Size           128M
   AGP 4X Mode                 Enabled
 × AGP Driving Control         Auto
   AGP Driving Value           DA
   AGP Fast Write              Disabled
   K7 CLK_CTL Select           Optimal
   OnChip USB                  Enabled
   OnChip USB 2                Enabled
   USB Keyboard Support        Disabled
   OnChip Sound                Auto
   CPU to PCI Write Buffer     Enabled
   PCI Dynamic Bursting        Enabled
   PCI Master 0 WS Write       Enabled
   PCI Delay Transaction       Disabled
   PCI#2 Access #1 Retry       Enabled
   AGP Master 1 WS Write       Disabled
   AGP Master 1 WS Read        Disabled

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

DRAM Timing by SPD	This item allows you to select DRAM Timing by SPD or not. SPD (Serial Presence Detect) you can find it located on your memory modules, BIOS reads information coded in SPD during system boot up resulting in a accurate memory operation.
DRAM Clock	This item allows you to control the DRAM speed. The choice: Host Clock, HCLK+33M.
SDRAM Cycle Length Time	You can select CAS latency time in HCLKs of 2 or 3. The system board designer should have set the values in this field, depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU.
Bank Interleave	The choice: Disabled, 2 Bank, 4 Bank.
DRAM Drive Strength	Leave this item with Auto mode. The choice: Auto, Manual.
DRAM Drive Value	When "DRAM Drive Strength" is set to "Auto", this item will be unable to be selected. We don't recommend user to adjust this item.
Memory Hole	In order to improve performance, certain space in memory is reserved for ISA cards. This memory must be mapped into the memory space below 16MB. The choice: 15M-16M, Disabled.
PCI Master Pipeline Req	Use default setting.
P2C/C2P Concurrency	This item allows you to enable/disable the PCI to CPU, CPU to PCI concurrency. The choice: Enabled, Disabled.
Fast R-W Turn Around	This item controls the DRAM timing. It allows you to enable / disable the fast read / write turn around. The choice: Enabled, Disabled.

System BIOS Cacheable	Choose Enabled or Disabled. When enabled, the access to the system BIOS ROM addressed at F0000H - FFFFFH is cached.
Video RAM Cacheable	Choose Enabled or Disabled. When enabled, the access to the VGA RAM addressed is cached.
Frame Buffer size	This option allows you select memory size shared to on-chip graphics.
AGP Aperture Size	Choose 4, 8, 16, 32, 64, 128 or 256 MB. Memory mapped and graphics data structures can reside in a Graphics Aperture. This area is like a linear buffer. BIOS will automatically report the starting address of this buffer to the O.S.
AGP Driving Control	This item allows you to adjust the AGP driving force. Choose Manual to key in a AGP Driving Value in the next selection. This field is recommended to set in Auto for avoiding any error in your system. The choice: Manual, Auto.
AGP Driving Value	This item allows you to adjust the AGP driving force. The choice: Min=0000 ~ Max=00FF.
AGP Fast Write	This item will enable the AGP model into fast write mode.
K7 CLK_CTL Select	Use this item to specify the clock control for ramp rate. Select default for a defaulted time value, and optimal for optimum time value which depends on different CPU ratio. The choice: Enabled, Disabled.
OnChip USB/USB2	This should be enabled if our system has a USB installed on the system board and you wish to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature. The choice: Enabled, Disabled.
USB Keyboard Support	Enabled: Enable function when the USB keyboard is being used. Disabled: When the AT keyboard is being used, choose disabled.

OnChip Sound	Enabled: Turn on AC'97 codec chip controller. Disabled: Turn off AC'97 codec chip controller or user can plug external add-on sound card.
CPU to PCI Write Buffer	When this field is Enabled, writes from the CPU to the PCI bus are buffered, to compensate for the speed differences between the CPU and the PCI bus. When Disabled, the writes are not buffered and the CPU must wait until the write is complete before starting another write cycle. The choice: Enabled, Disabled.
PCI Dynamic Bursting	When Enabled, every write transaction goes to the write buffer. Burstable transactions then burst on the PCI bus and nonburstable transactions don't. The choice: Enabled, Disabled.
PCI Master 0 WS Write	When Enabled, writes to the PCI bus are executed with zero wait states. The choice: Enabled, Disabled.
Memory Parity/ECC Check	This item enabled to detect the memory parity and Error Checking & Correcting. The choice: Enabled, Disabled.
PCI Delay Transaction	Leave this field at default
PCI #2 Access #1 Retry	Leave this field at default
AGP Master 1 ws write	Leave this field at default
AGP Master 1 ws read	Leave this field at default

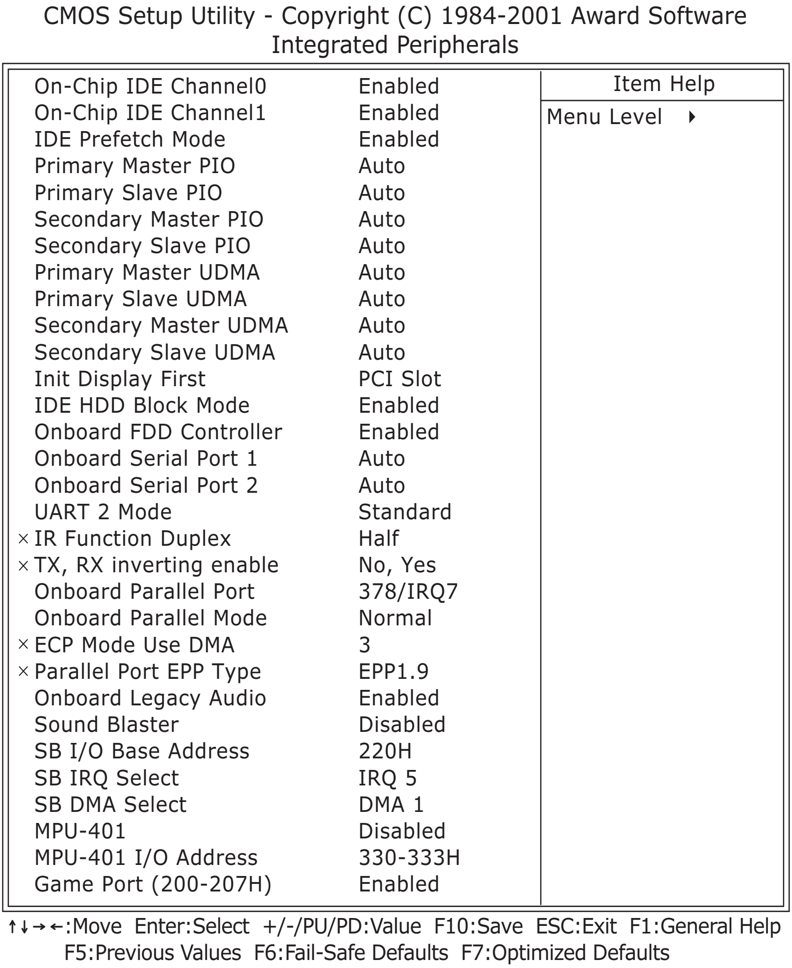
3. Press <ESC> to return to the Main Menu when you finish setting up all items.

4-11 INTEGRATED PERIPHERALS

- INTEGRATED PERIPHERALS option allows you to get some informations inside your system when it is working.

Run the INTEGRATED PERIPHERALS as following:

1. Choose “INTEGRATED PERIPHERALS” from the Main Menu and a screen with a list of option will appear:



```
      CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                        Integrated Peripherals

   On-Chip IDE Channel0          Enabled          |      Item Help
   On-Chip IDE Channel1          Enabled          | Menu Level   ▶
   IDE Prefetch Mode             Enabled          |
   Primary Master PIO            Auto             |
   Primary Slave PIO             Auto             |
   Secondary Master PIO          Auto             |
   Secondary Slave PIO           Auto             |
   Primary Master UDMA           Auto             |
   Primary Slave UDMA            Auto             |
   Secondary Master UDMA         Auto             |
   Secondary Slave UDMA          Auto             |
   Init Display First            PCI Slot         |
   IDE HDD Block Mode            Enabled          |
   Onboard FDD Controller        Enabled          |
   Onboard Serial Port 1         Auto             |
   Onboard Serial Port 2         Auto             |
   UART 2 Mode                   Standard         |
 × IR Function Duplex            Half             |
 × TX, RX inverting enable       No, Yes          |
   Onboard Parallel Port         378/IRQ7         |
   Onboard Parallel Mode         Normal           |
 × ECP Mode Use DMA              3                |
 × Parallel Port EPP Type        EPP1.9           |
   Onboard Legacy Audio          Enabled          |
   Sound Blaster                 Disabled         |
   SB I/O Base Address           220H             |
   SB IRQ Select                 IRQ 5            |
   SB DMA Select                 DMA 1            |
   MPU-401                       Disabled         |
   MPU-401 I/O Address           330-333H         |
   Game Port (200-207H)          Enabled          |

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

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

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

On-Chip IDE Channel0/1	The chipset contains a PCI IDE interface with support from two IDE channels. Select Enabled to activate the first and/or the second IDE interface. Select Disabled to deactivate an interface if you install a primary and/or second add-on IDE interface. The choice: Enabled, Disabled.
IDE Prefetch Mode	The onboard IDE drive interfaces supports IDE prefetching for faster drive accesses. If you install a primary and/or secondary add-in IDE interfaces, set this field to Disabled if the interface does not support prefetching. The choice: Enabled, Disabled.
Primary Master / Slave PIO **Secondary Master / Slave PIO**	Choose Auto or Mode 0~4. The BIOS will detect the HDD mode type automatically when you choose Auto. You need to set to a lower mode than Auto when your hard disk becomes unstable. The choice: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.
Primary Master / Slave UDMA **Secondary Master / Slave UDMA**	Ultra DMA/66 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA drive and your system software both support Ultra DMA/66, select Auto to enable BIOS support. The choice: Auto, Disabled.

Init Display First	This option allows you to decide to activate PCI Slot or AGP first. The choice: PCI Slot, AGP.
IDE HDD Block Mode	Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/write per sector the drive can support. The choice: Enabled, Disabled.
Onboard FDC Controller	Select Enabled if your system has a floppy drive controller (FDC) installed on the system board and you want to use it. If you install add-in FDC or the system has no floppy drive, select Disabled in this field. The choice: Enabled, Disabled.
Onboard Serial Port 1 / Port2	Select an address and corresponding interrupt for the first and second serial ports. The choice: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.
UART 2 Mode	This item allows you to select which mode for the Onboard Serial Port 2. The choice: Standard, HPSIR, ASKIR
IR Function Duplex	This item allows you to select the IR half / full duplex function. The choice: Half, Full.
TX, RX inverting enable	This item allows you to enable the TX, RX inverting which depends on different H/W requirement. This field is not recommended to change its default setting for avoiding any error in your system. The choice: “No, No”, “No, Yes”, “Yes, No”, “Yes, Yes”.
Onboard Parallel Port	This item allows you to determine onboard parallel port controller I/O address setting. The choice: 378H/IRQ7, 278H/IRQ5, 3BC/IRQ7, Disabled.

Parallel Port Mode	Select an operating mode for the onboard parallel (printer) port. Select Normal, Compatible, or SPP unless you are certain your hardware and software both support one of the other available modes. The choice: SPP, EPP, ECP, ECP + EPP.
ECP Mode Use DMA	Select a DMA channel for the parallel port for use during ECP mode. The choice: 3, 1.
Parallel Port EPP Type	Select EPP port type 1.7 or 1.9 The choice: EPP1.7, 1.9.
Onboard Legacy Audio	This field controls the onboard audio. • Sound Blaster • SB I/O Base Address • SB IRQ Select • SB DMA Select • MPU-401 • MPU-401 I/O Address • Game Port (200-207H)

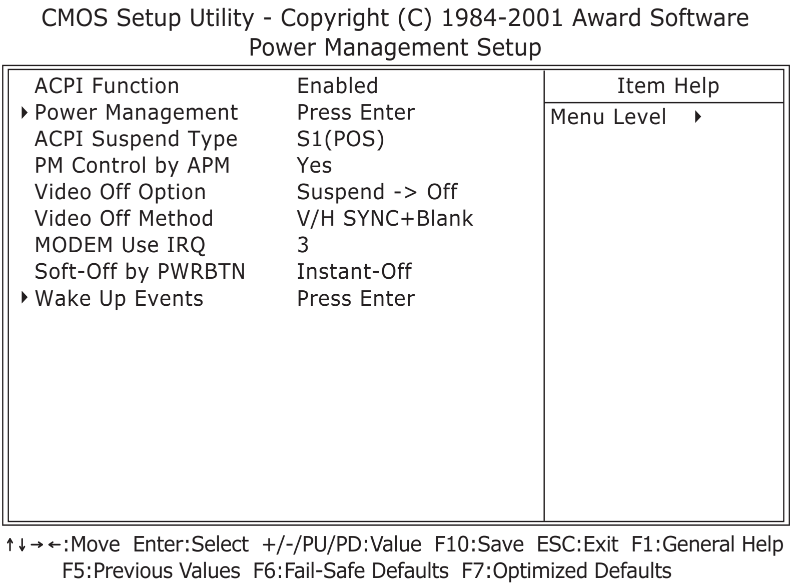
3. Press <ESC> to return to the Main Menu when you finish setting up all items.

4-12 POWER MANAGEMENT SETUP

- POWER MANAGEMENT SETUP allows you to set the system's power saving functions.

Run the POWER MANAGEMENT SETUP as following:

1. Choose "POWER MANAGEMENT SETUP" from the Main Menu and a screen with a list of option will appear:



```
  CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                    Power Management Setup

   ACPI Function            Enabled              |    Item Help
 ▸ Power Management         Press Enter          | Menu Level   ▸
   ACPI Suspend Type        S1(POS)              |
   PM Control by APM        Yes                  |
   Video Off Option         Suspend -> Off       |
   Video Off Method         V/H SYNC+Blank       |
   MODEM Use IRQ            3                    |
   Soft-Off by PWRBTN       Instant-Off          |
 ▸ Wake Up Events           Press Enter          |

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

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

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

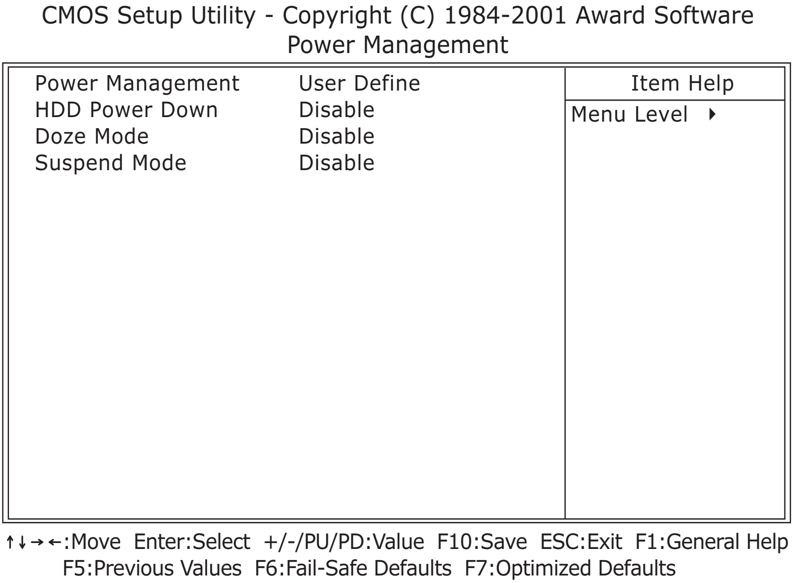
<F5>: Get the previous values. These values are the values with which the user started in the current session.

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

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

ACPI Function	Enabled: Turn on ACPI function. Disabled: Turn off ACPI function.

- Press <Enter> on the Power Management item, then there is a list of it appears for you to choose further setting.



```
CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                    Power Management

  Power Management        User Define        Item Help
  HDD Power Down          Disable           Menu Level  ▸
  Doze Mode               Disable
  Suspend Mode            Disable

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

Power Management	This category allows you to select the type (or degree) of power saving and is directly related to the following modes:
HDD Power Down	When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.
Doze Mode	When enabled and after the set time of system inactivity, the CPU clock will run at slower speed while all other devices still operate at full speed.
Suspend Mode	When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

ACPI Suspend Type This item will allow you to select the ACPI suspend type. You can select S3(STR) for suspending to DRAM or S1(POS) for power on suspend under Windows 98 ACPI mode.
The choice: S1(POS), S3(STR).

PM Control by APM When enabled, an Advanced Power Management device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock, If Advanced Power Management (APM) is installed on your system, selecting Yes gives better power savings. If the Max. Saving is not enabled, this will be present to No.

Video Off Option When enabled, this feature allows the VGA adapter to operate in a power saving mode.

Always On	Monitor will remain on during power saving modes.
Suspend --> Off	Monitor blanked when the systems enters the Suspend mode.
Susp, Stby --> Off	Monitor blanked when the system enters either Suspend or Standby modes.

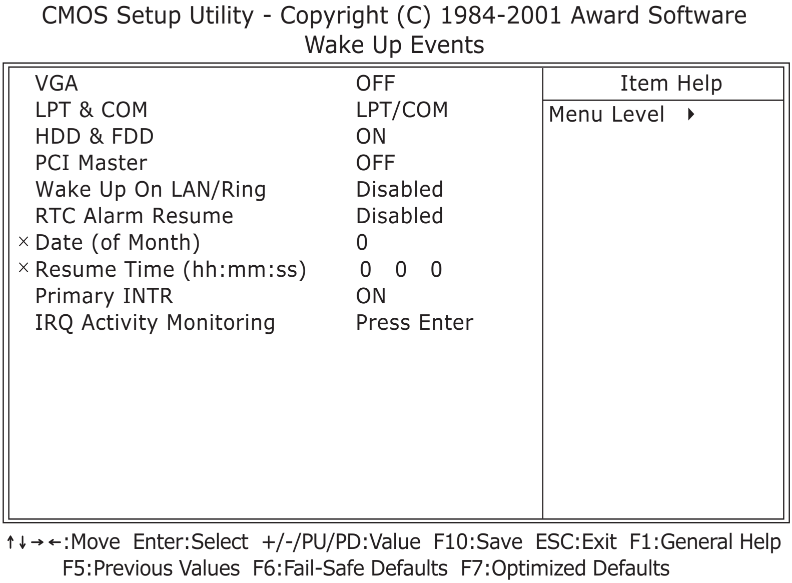
Video Off Method This determines the manner in which the monitor is blanked.

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

MODEM Use IRQ This determines the IRQ in which the MODEM can use.
The choice: 3, 4, 5, 7, 9, 10, 11, NA.

Soft-Off by PWRBTN	Instant-Off: Turn off the system power at once after pushing the power button. Delay 4 Sec: Turn off the system power 4 seconds after pushing the power button. (to meet PC97/98 spec)

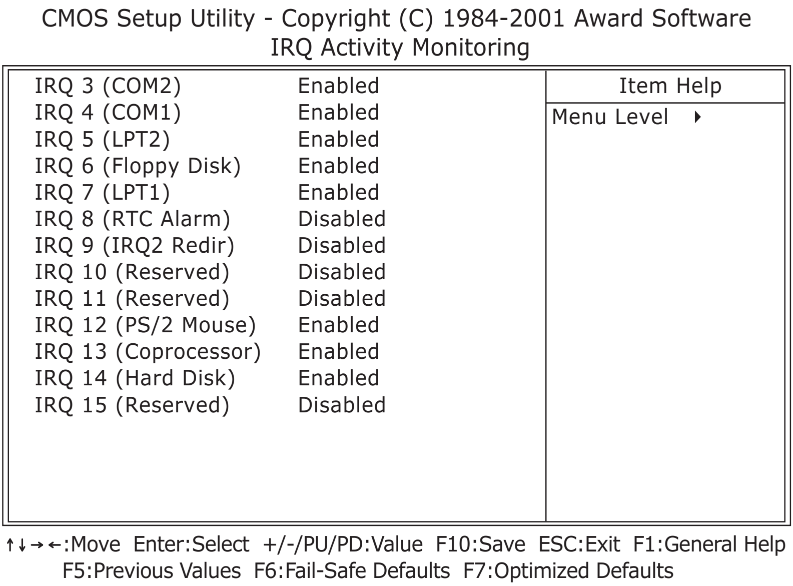
- Press <Enter> on the Wake Up Events item, then there is a list of it appears for you to choose further setting.



```
     CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                          Wake Up Events
   VGA                           OFF             |     Item Help
   LPT & COM                     LPT/COM         | Menu Level   ▶
   HDD & FDD                     ON              |
   PCI Master                    OFF             |
   Wake Up On LAN/Ring           Disabled        |
   RTC Alarm Resume              Disabled        |
 × Date (of Month)               0               |
 × Resume Time (hh:mm:ss)         0  0  0        |
   Primary INTR                  ON              |
   IRQ Activity Monitoring       Press Enter     |

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

VGA	When Enabled, you can set the VGA awakens the system
LPT & COM	When On of LPT & COM, any activity from one of the listed system peripheral devices or IRQs wakes up the system.

HDD & FDD	When On of HDD & FDD, any activity from one of the listed system peripheral devices wakes up the system.
PCI Master	When On of PCI Master, any activity from one of the listed system peripheral devices wakes up the system.
Wake Up On LAN/Ring	An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state. The choice: Enabled, Disabled.
RTC Alarm Resume	When Enabled, you can set the data and time at the which the RTC (Real Time Clock) alarm awakens the system from suspend mode. The choice: Disabled (default), Enabled.
Date (of Month)	Set a certain date when RTC Alarm Resume option is Enabled to awaken the system. This option is concurrent with Resume Time option.
Resume Time (hh:mm:ss)	Set a certain time when RTC Alarm Resume option is Enabled to awaken the system. This option is concurrent with Date option.
Primary INTR	Leave this field at default
IRQS Activity Monitoring	The following is a list of IRQ's (Interrupt ReQuests), which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service. When set On, activity will neither prevent the system from going into a power management mode nor awaken it.



```
CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                  IRQ Activity Monitoring

IRQ 3 (COM2)            Enabled            Item Help
IRQ 4 (COM1)            Enabled         Menu Level   ▸
IRQ 5 (LPT2)            Enabled
IRQ 6 (Floppy Disk)     Enabled
IRQ 7 (LPT1)            Enabled
IRQ 8 (RTC Alarm)       Disabled
IRQ 9 (IRQ2 Redir)      Disabled
IRQ 10 (Reserved)       Disabled
IRQ 11 (Reserved)       Disabled
IRQ 12 (PS/2 Mouse)     Enabled
IRQ 13 (Coprocessor)    Enabled
IRQ 14 (Hard Disk)      Enabled
IRQ 15 (Reserved)       Disabled

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

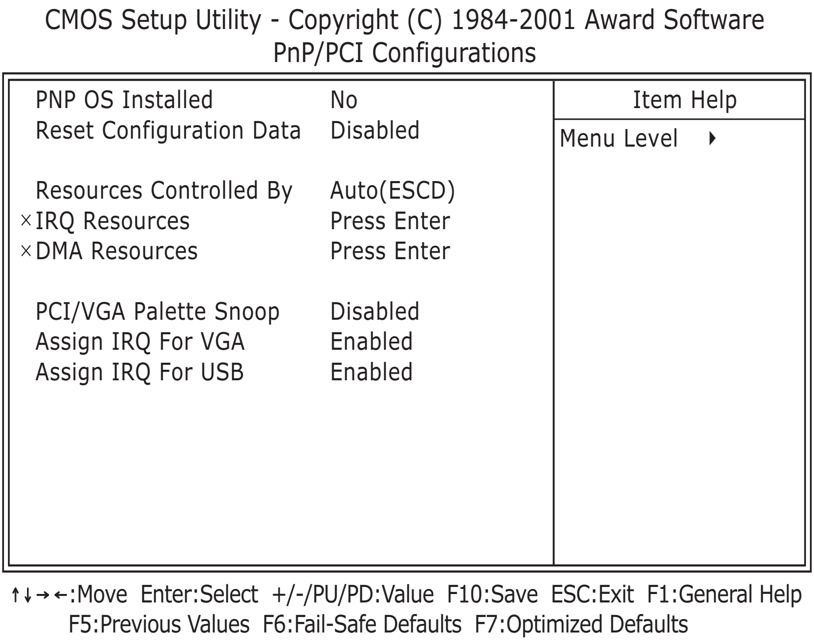
3. Press <ESC> to return to the Main Menu when you finish setting up all items.

4-13 PNP / PCI CONFIGURATION

- PNP/PCI CONFIGURATION allows you to set the system's power saving functions.

Run the PNP/PCI CONFIGURATION as following:

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



```
      CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                        PnP/PCI Configurations

  PNP OS Installed           No                 Item Help
  Reset Configuration Data   Disabled       Menu Level   ►

  Resources Controlled By    Auto(ESCD)
 ×IRQ Resources              Press Enter
 ×DMA Resources              Press Enter

  PCI/VGA Palette Snoop      Disabled
  Assign IRQ For VGA         Enabled
  Assign IRQ For USB         Enabled

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

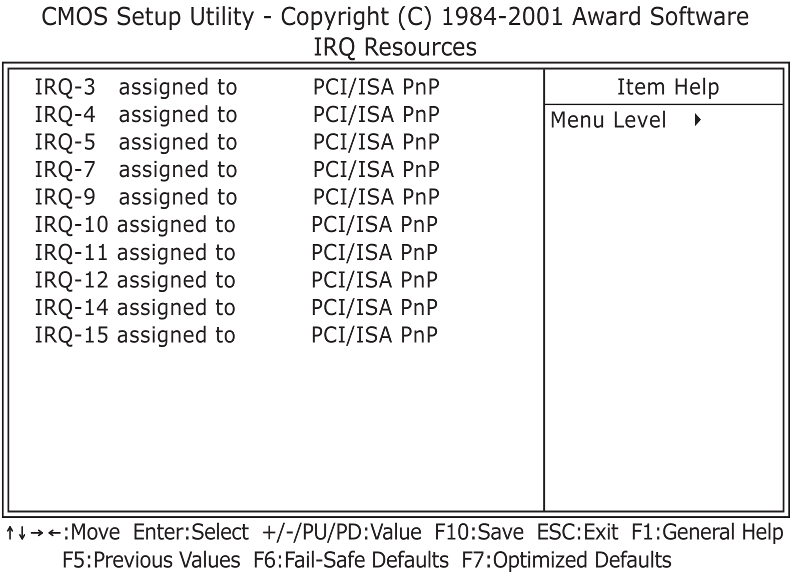
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

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

PNP OS Installed	Yes: OS supports Plug and Play function. No: OS doesn't support Plug and Play function.

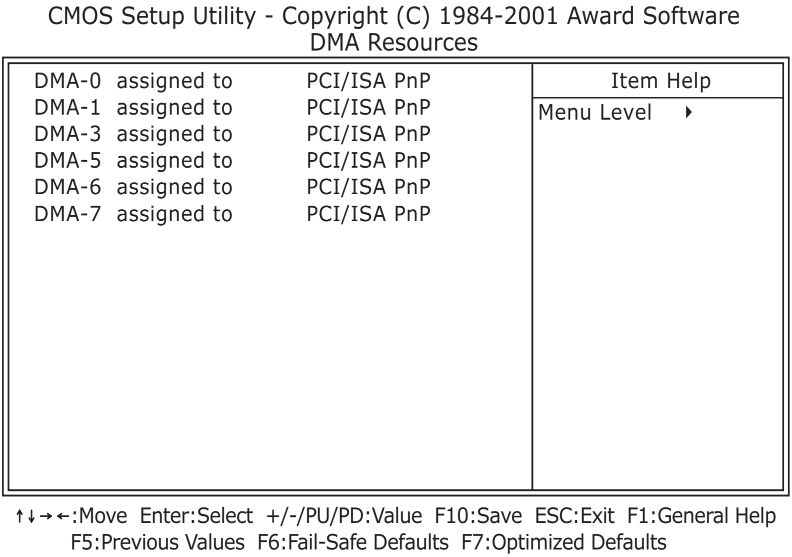
> ***NOTE:*** ***BIOS will automatically disable all PNP resources except the boot device card when you select Yes on Non-PNP operating system.***

Reset Configuration Data	Choose Enabled or Disabled. Disabled **retains** PNP configuration data in BIOS and Enabled **resets** the PNP configuration data in BIOS.
Resource Controlled By	Choose Manual or Auto. The BIOS checks the IRQ / DMA channel number on the ISA and PCI card manually if you choose Manual and the IRQ / DMA channel number will be checked automatically if you choose Auto.
IRQ Resources	Press Enter. Please refer to the below list.



```
CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                       IRQ Resources

  IRQ-3   assigned to          PCI/ISA PnP          Item Help
  IRQ-4   assigned to          PCI/ISA PnP       Menu Level   ▶
  IRQ-5   assigned to          PCI/ISA PnP
  IRQ-7   assigned to          PCI/ISA PnP
  IRQ-9   assigned to          PCI/ISA PnP
  IRQ-10 assigned to           PCI/ISA PnP
  IRQ-11 assigned to           PCI/ISA PnP
  IRQ-12 assigned to           PCI/ISA PnP
  IRQ-14 assigned to           PCI/ISA PnP
  IRQ-15 assigned to           PCI/ISA PnP

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

DMA Resources	Press Enter. Please refer to the below list.



```
          CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                                DMA Resources
 DMA-0  assigned to        PCI/ISA PnP          Item Help
 DMA-1  assigned to        PCI/ISA PnP     Menu Level    ▸
 DMA-3  assigned to        PCI/ISA PnP
 DMA-5  assigned to        PCI/ISA PnP
 DMA-6  assigned to        PCI/ISA PnP
 DMA-7  assigned to        PCI/ISA PnP

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

PCI/VGA Palette Snoop	Leave this field at Disabled. The choice: Enabled, Disabled.
Assign IRQ for VGA	Enabled: Add one IRQ to VGA controller. Disabled: Remove IRQ from USB controller. The system will have extra IRQ for other devices but the VGA controller will still not be disabled. (only IRQ was removed)
Assign IRQ for USB	Enabled: Add one IRQ to USB controller. Disabled: Remove IRQ from USB controller. The system will have extra IRQ for other devices but the USB controller will still not be disabled. (only IRQ was removed)

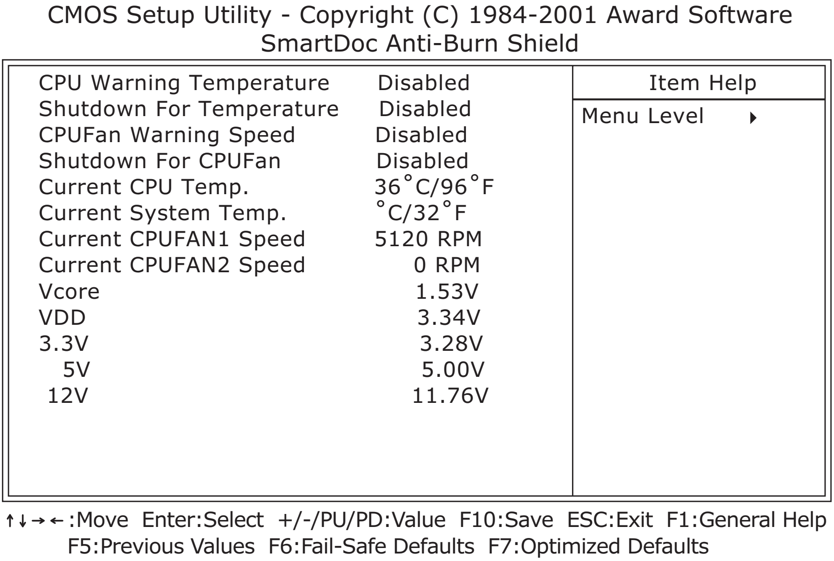
3. Press <ESC> to return to the Main Menu when you finish setting up all items.

4-14 SMARTDOC ANTI-BURN SHIELD

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

Run the “SMARTDOC ANTI-BURN SHIELD” as following:

1. Choose “SMARTDOC ANTI-BURN SHIELD” from the Main Menu and a screen with a list of option will appear:



```
   CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                     SmartDoc Anti-Burn Shield

  CPU Warning Temperature      Disabled      |      Item Help
  Shutdown For Temperature     Disabled      |
  CPUFan Warning Speed         Disabled      | Menu Level    ▸
  Shutdown For CPUFan          Disabled      |
  Current CPU Temp.            36°C/96°F     |
  Current System Temp.         °C/32°F       |
  Current CPUFAN1 Speed        5120 RPM      |
  Current CPUFAN2 Speed           0 RPM      |
  Vcore                           1.53V      |
  VDD                             3.34V      |
  3.3V                            3.28V      |
    5V                            5.00V      |
   12V                           11.76V      |

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

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

CPU Warning Temp.	User can select CPU warning temperature in this field, when CPU Temperature is higher than value you selected in this field, the BIOS will send out sequence of beeps sound or send out a message “your CPU temperature **is too high**” to warning you.
Shutdown For Temp.	This feature preventing your CPU damaged by over heat, if the CPU’s temperature higher than “CPU warning temperature” that you selected in this field, the BIOS will shut down your system within 3 seconds.
CPUFan Warning Speed	This feature preventing CPU cooling stops function or not functions normally, when CPU cooling fan speed lower than value you selected in this field, the BIOS will send out sequence of beeps sound or send out a message “**Your CPU FAN speed is too slow**” to warning you.
Shutdown For CPUFan	This feature also preventing your CPU damaged by over heat, but the different between features “**Shutdown For Temperature**” and “**Shutdown For CPUFan**” is that BIOS detects CPU cooling fan speed not CPU Temperature in this field, when CPU FAN speed lower than the value that you selected in this field, the BIOS will shutdown your system within 3 seconds.

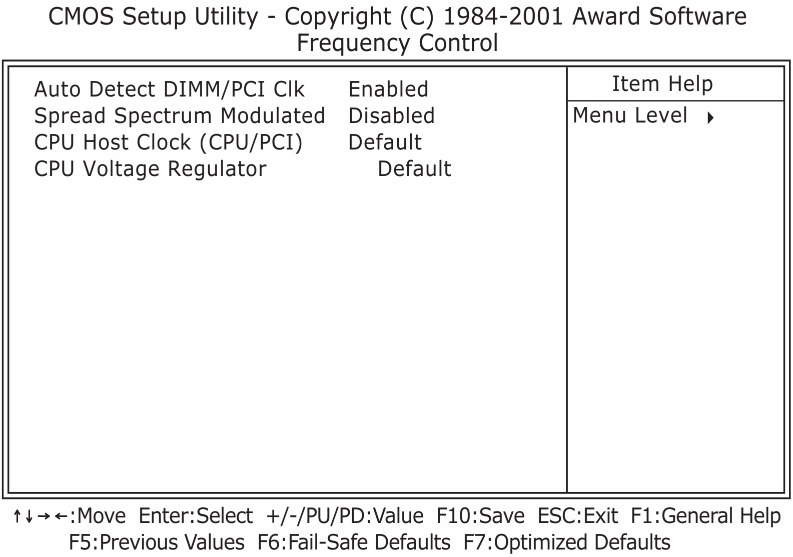
Warning!!! *Do not enable feature “Shutdown For CPUFan” without CPU cooling fan connecting to onboard fan connector* ***FAN1****; otherwise, your system will not power on.*

Current CPU Temp.	Shows current CPU temperature.
Current System Temp.	Shows current system temperature.
Current CPUFAN1 Speed	Shows current CPUFAN1 speed. The fan must provide rotary pulse. (Normally these types of fan have a three-wire connector)

Current CPUFAN2 Speed	Shows current CPUFAN2 speed. The fan must provide rotary pulse. (Normally these types of fan have a three-wire connector)
Vcore/VDD/3.3V/5V/12V	Show power supply actual voltage value.

- Press <ESC> to return to the Main Menu when you finish setting up all items.

4-15 FREQUENCY/VOLTAGE CONTROL



```
CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                     Frequency Control

Auto Detect DIMM/PCI Clk     Enabled          Item Help
Spread Spectrum Modulated    Disabled         Menu Level  ▸
CPU Host Clock (CPU/PCI)     Default
CPU Voltage Regulator           Default

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

Redstorm Overclocking Tech	Please press <Enter> to start *RED STORM OVERCLOCKING TECH*, this option helps user an easy way to overclocking, it will increase CPU external clock automatically, when CPU external clock increasing to unacceptable value, BIOS will restart your system, then running at acceptable CPU external clock.
Auto Detect DIMM/PCI CLK	This item allows you to enable/disable detect DIMM/PCI Clock. The choice: Enabled, Disabled.
Spread Spectrum Modulated	This item allows you to enable/disable the spread spectrum modulate. The choice: Enabled, Disabled.
CPU Host Clock (CPU/PCI)	This item allows you to select CPU/PCI frequency. The choice: Default, 100/33MHz, 103/34MHz, 105/35MHz, 112/37MHz, 115/38MHz, 120/40MHz, 124/41MHz.

CPU Voltage Regulator This item allows user to adjust the CPU Vcore voltage. The instant damage of CPU is due to the wrong Vcore voltage setting, so that we recommend that user should leave this item with Default setting unless you know how to adjust it.

- Press <ESC> to return to the Main Menu when you finish setting up all items.

4-16 LOAD OPTIMIZED DEFAULTS

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

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

Pressing "Y" loads the BIOS default values that are factory settings for optimal performance system operations.

4-17 SET SUPERVISOR / USER PASSWORD

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

1. Choose “Change Password” in the Main Menu and press <Enter>. The following message appears:

```
"Enter Password :  "
```

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

```
"Confirm Password :  "
```

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

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

4-18 SAVE & EXIT SETUP

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

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

Press <Enter> key to save the configuration changes.

4-19 EXIT WITHOUT SAVING

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

```
"Quit Without Saving (Y/N) ?  N "
```

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

MEMO

MEMO