Table of Contents

CHAPTER 1   INTRODUCTION

The mainboard is high-performance person computer based on the
FC-PGA Socket 370 for Celeron,Coppermine 370 CPU.

The mainboard uses the highly integrated VIA APOLLO PRO AGPset which
optimize the system bandwidth and concurrency with the implementation
of Quad port Acceleration (QPA). QPA provides 4-port concurrent arbitration of the
processor bus, graphics, PCI bus and SDRAM.

The VIA VT82C686A Chipset integrates all system control function such as
ACPI(Advanced Configuration and power interface) The ACPI provides more
Energy Saving Features for the OSPM(OS Direct Power Management)function.
This chipset also improves the IDE Transfer rate by supporting Ultra DMA 66 IDE
that Transfer data at the rate of 66MB/s,and Integrated in chip with
Audio 97 sound Codec.support AMR ,this is Super South bridge.

Accelerated Graphics Port (AGP or A.G.P.)
Typically, 3D graphics rendering requires a tremendous amount of memory,and
demands ever increasing throughput speed as well. As 3D products for the
personal computer become more and more popular, these demands will only
increase. This will cause a rise in costs for both end users and manufacturers.
Lowering these costs as well as improving performance is the primary motivation
behind AGP. By providing a massive increase in the bandwidth available between
the video card and the processor,
it will assist in relieving some of these pres-sures for quite sometime.

1.1 Mainboard Features

Processor
Support Socket 370 of Intel Celeron / Coppermine CPU

Chipset
Motherboard: VIA VT82C693A-PC133 +686A

Sound
Integrated in chip with Audio AC97 sound codec
Support Line out, Mic., Line in, Game port

Expansion Slot
1 * AGP (32 bit) slot
5 * PCI (32 bit) slots
1* ISA (16 bit) slots
1*AMR

System Memory
3 * 168 pin DIMM (for EDO / SDRAM DRAM module) up to 1.5GB(Via 693A)

BIOS
Award BIOS with ACPI, GREEN, PNP and
Trend Chipaway Virus(R) on guard protect
(Flash ROM for easy upgrade)

IDE
2 Bus Master IDE ports (up to 4 IDE devices,
including LS120MB IDE floppy)
Support Ultra DMA 33 / 66 function(VIA VT82C596B)

I/O Interface
Support PS/2 Keyboard and Mouse 2 Serial ports (COM 1 / COM 2, two 16550
high speed UART ports)
1 Parallel port (support SPP / EPP / ECP)
2 USB connectors
Support IrDA TX / RX header

ATX Double Decker for I/O connectors

POWER
ATX power connector

Other Features
Switching Voltage Regulator
Support CPU temperature warning function
Support 66~133 MHz bus clock
Peripherals boot function (support
SCSI / CD-ROM boot function)
ACPI Power Management, Soft-off control
Support Modem Ring-in and
RTC Alarm Wake-up
One WOL connector support Wake-On-Lan

Board Size
ATX form factor by 30.4cm * 19cm
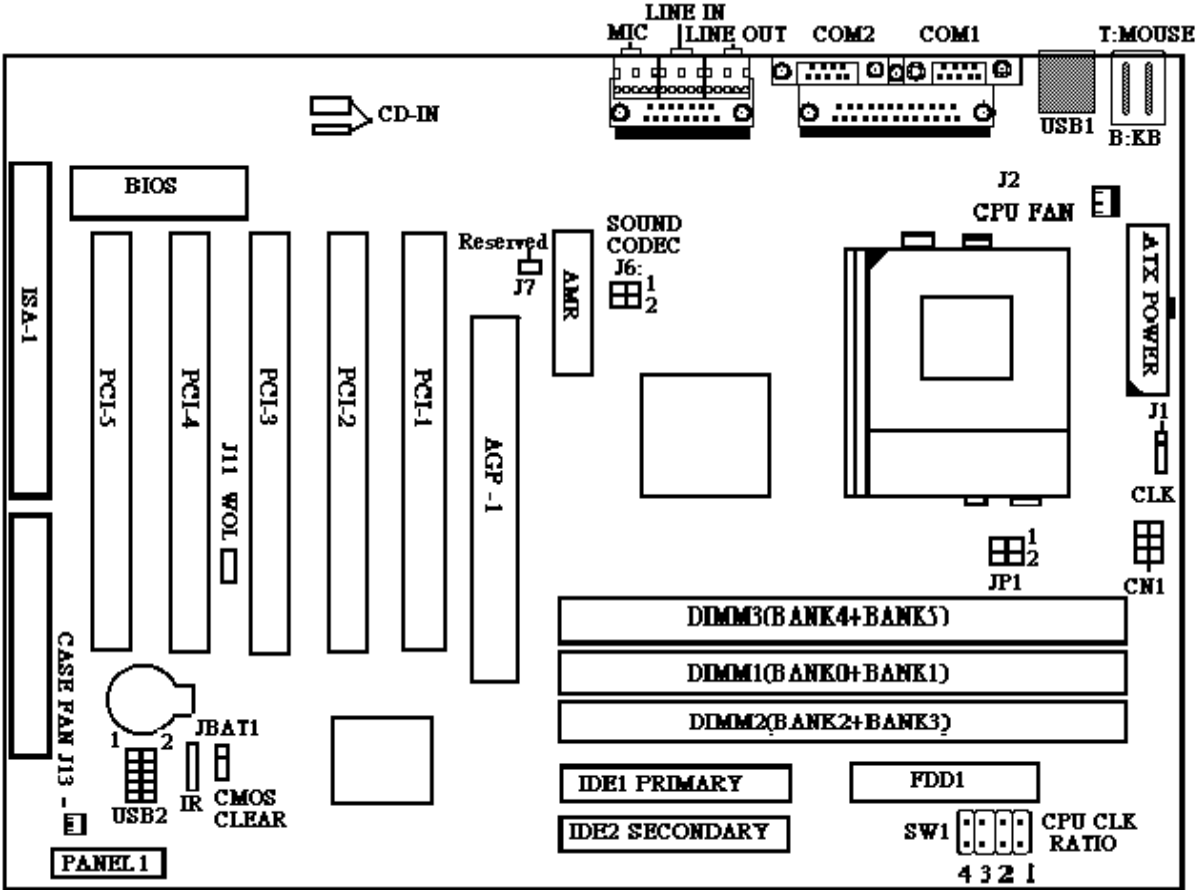4 layers PCB

2, Hardware Installation

2.1 Mainboard Layout And Connectors Jumpers View

2-2 Connectors & Jumper Setting

PANEL1:Power LED, Speaker, Atx Power Stand By Led,
ATX Power Switch, Reset, Hard disk Led.
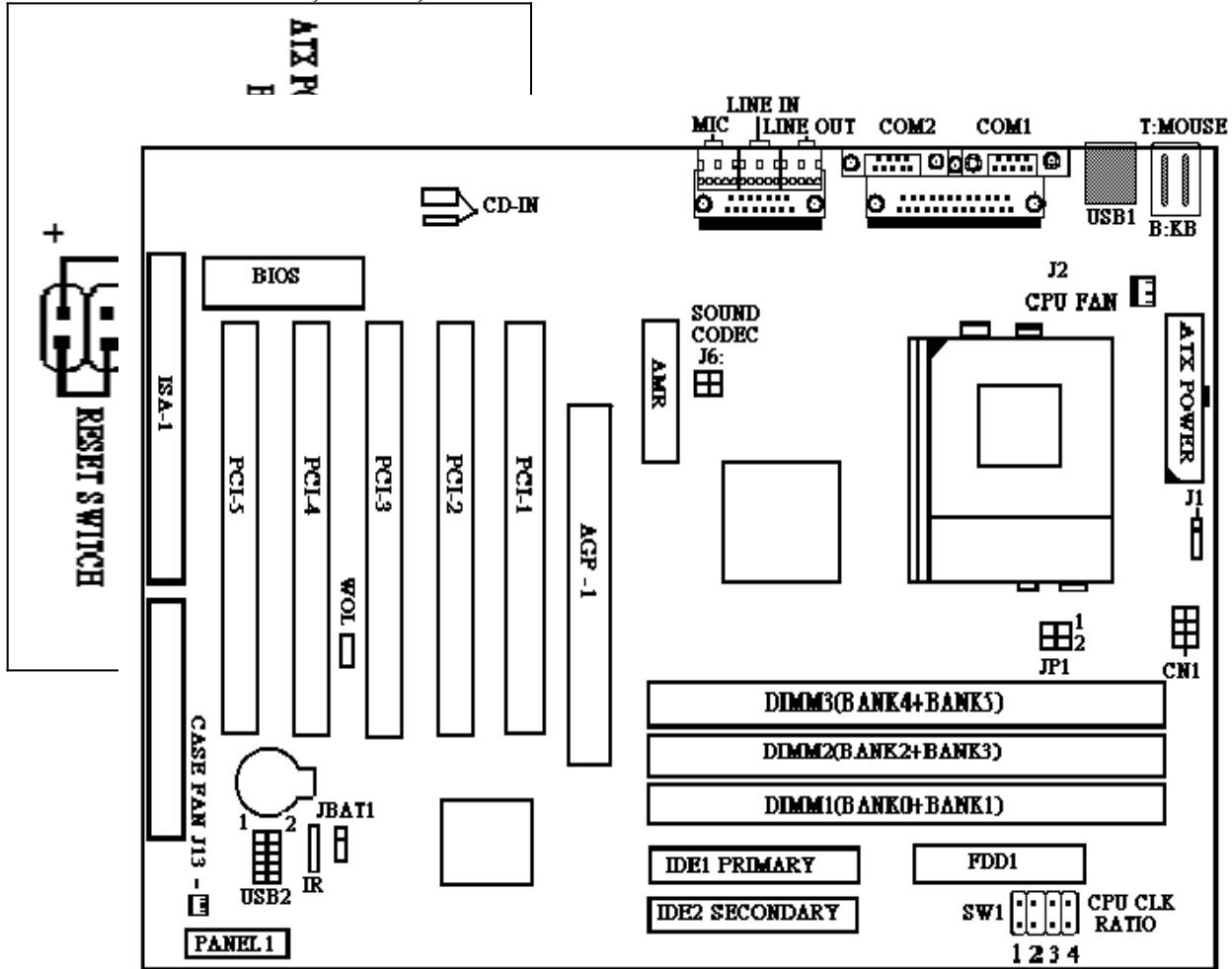
PS: ATX POWER SWITCH

1,If you turn on the computer the POWER LED will light.

2.If you shut down the computer the ATX POWER STAND BY LED will light.

PS/2 Mouse Connector & Keyboard Connector
USB1 (Universl Serial Bus) Connector
Serial Port 1 Connector , Serial Port2 Connector , Printer Port
Connector,Line in ,Line out ,MIC, Game port.
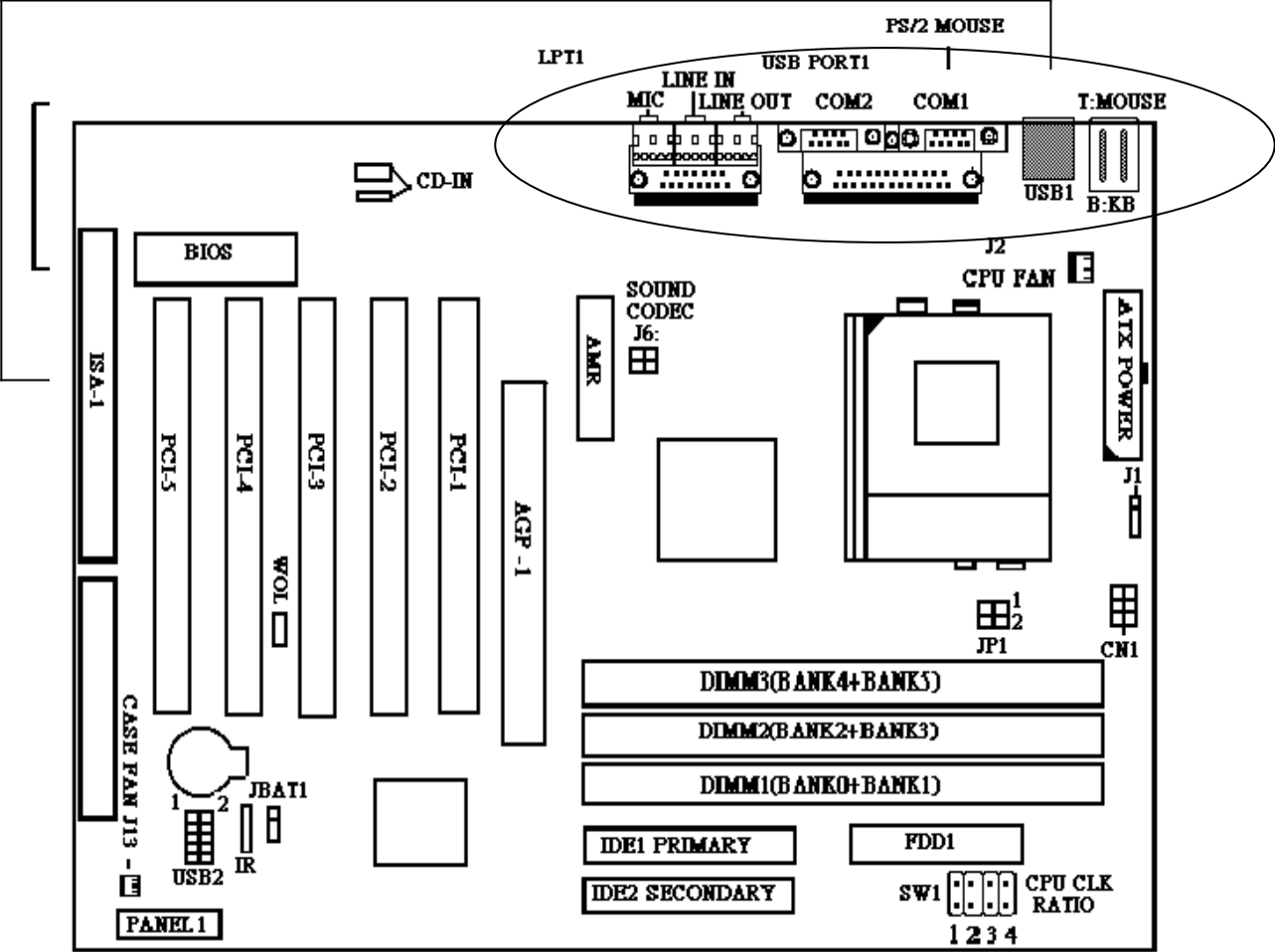
POWER1: ATX POWER SUPPLY CONNECTOR

IR FIR/CIR Connect

LAI
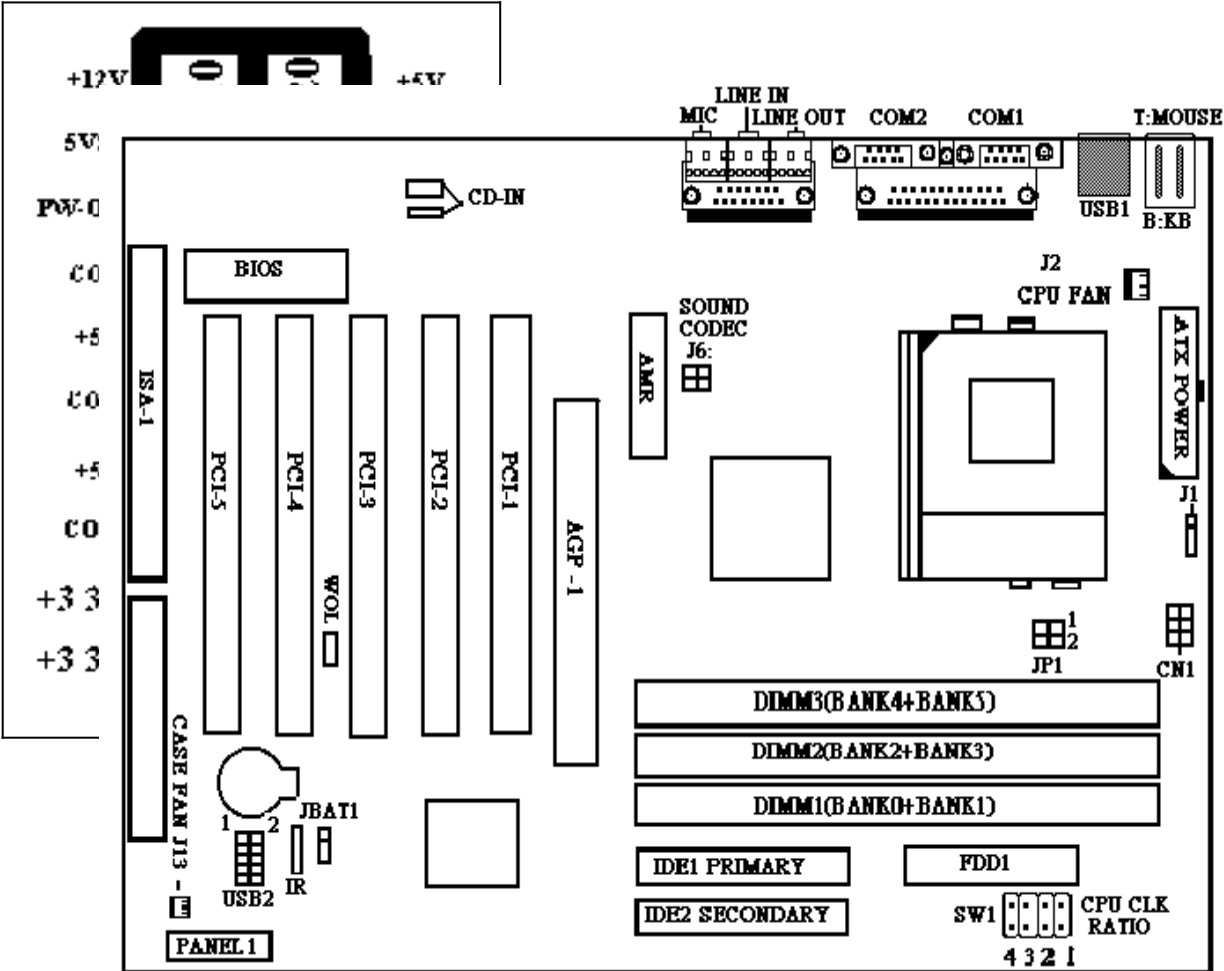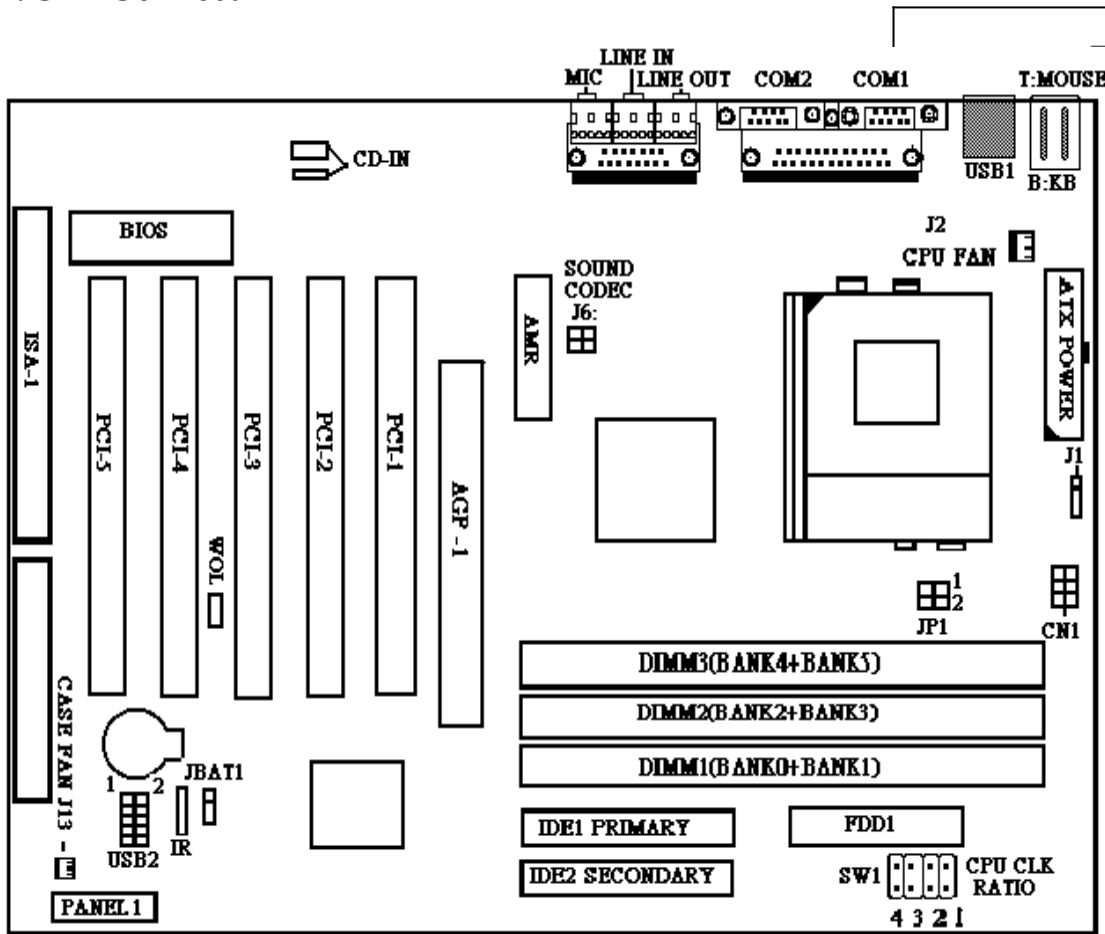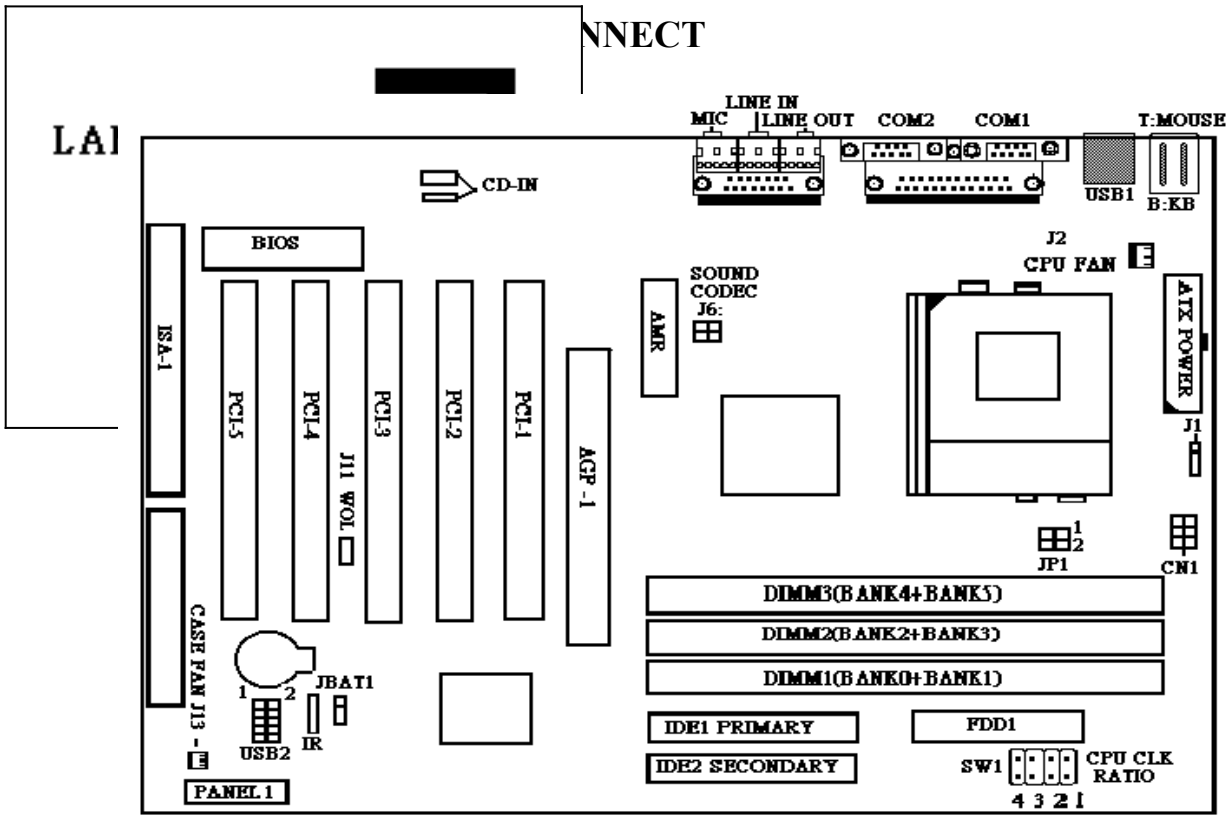
For supporting this feature,the system must have a ATX Power Supply),

that must provide at least 800mA driving ability on the

"5V standby"voltage

J2: FAN1 : CPU FAN CONNECT

+ 5V

12V

E FAN
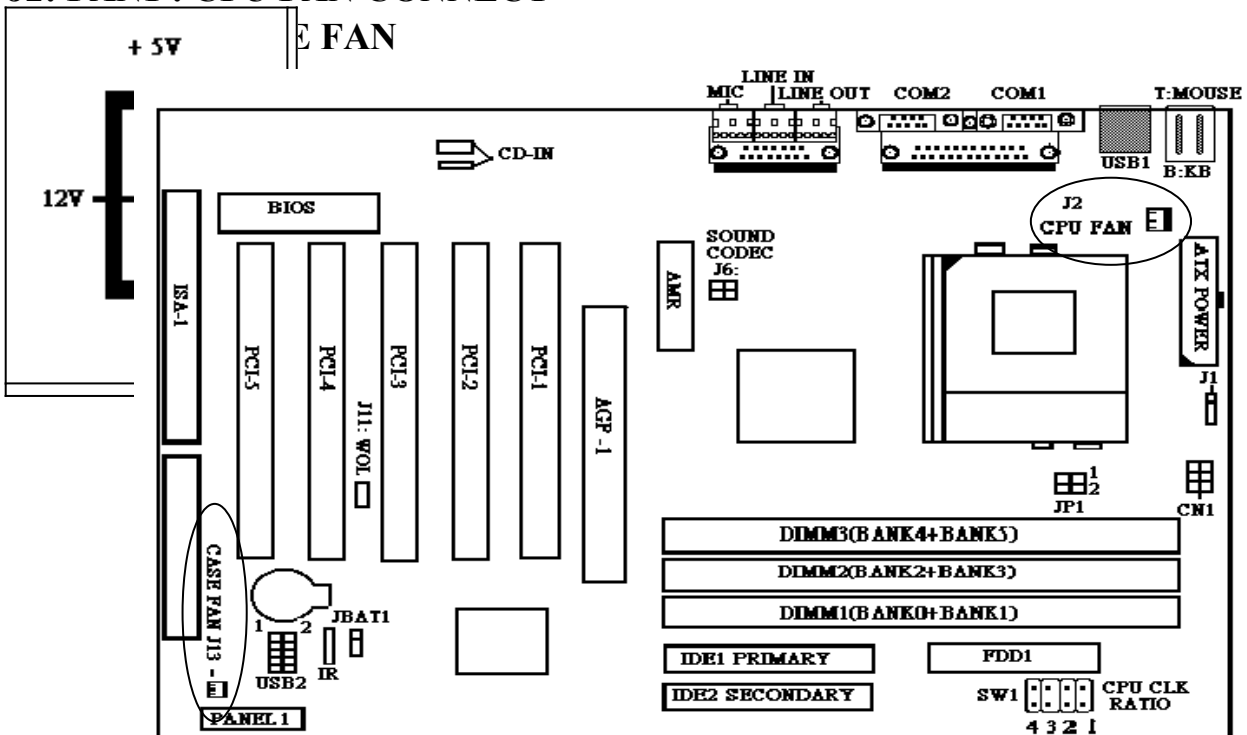
JBAT1 : CMOS CLEAR SELECT
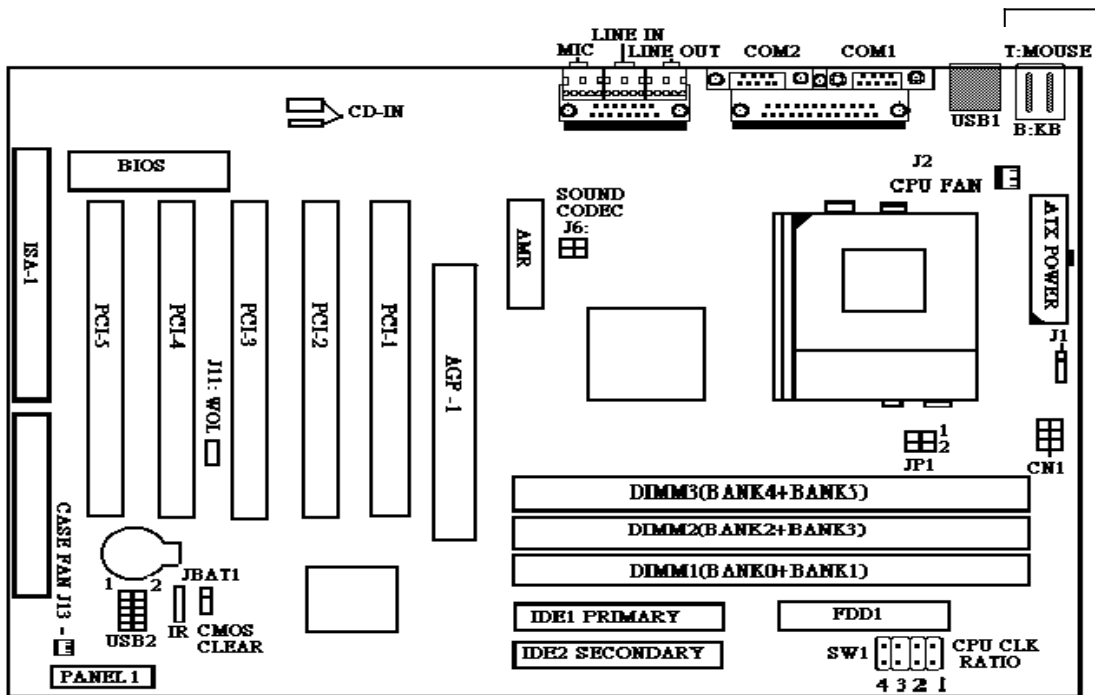
Clear CMOS: When you clear CMOS ,you got to power off(AC&DC) your computer,
And clear CMOS about 5~10 secs,and you should change Back JBAT1 to normal(default).

USB2 CONNECT

#	Assignment
	+ 5V DC
	DATA -
	DATA +
	Ground
	Ground
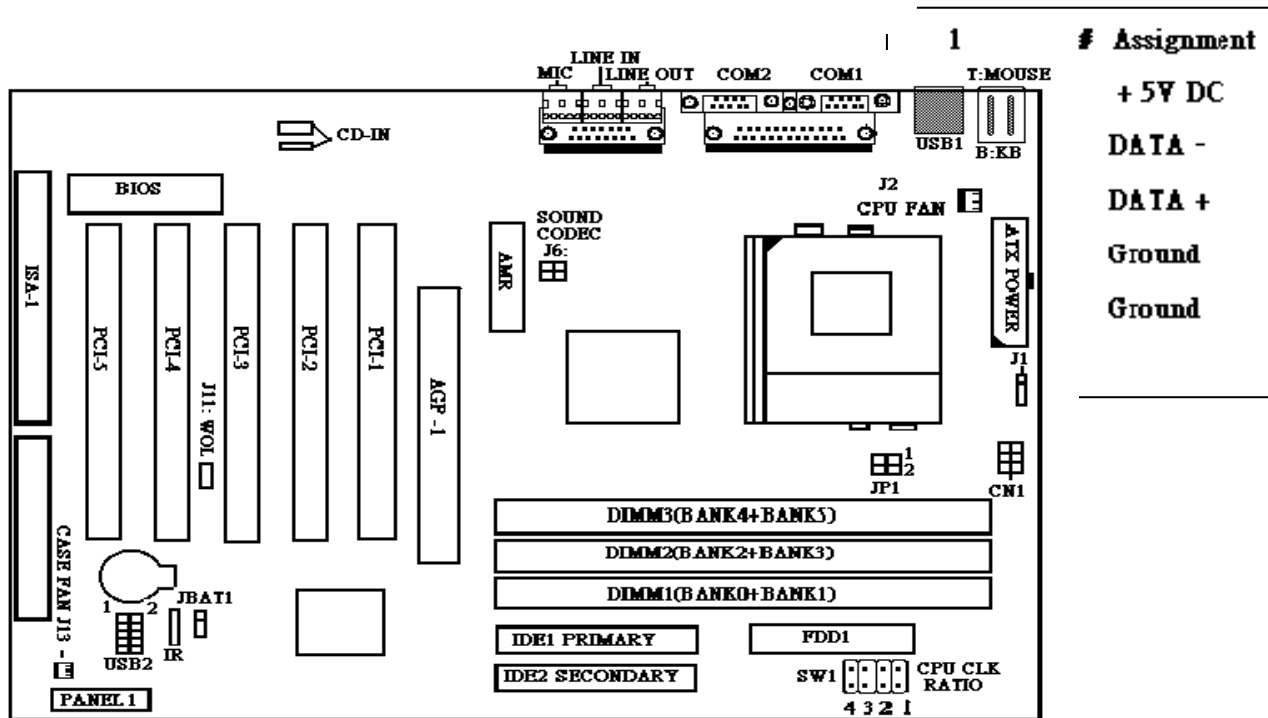
USB CABLE COLOR 1---RED, 2----WHITE, 3-----GREEN,
        4---BLACK, 5-----BLACK.

ELECT

R L

CD-IN

MIC LINE IN LINE OUT COM2 COM1 T:MOUSE

USB1 B:KB

BIOS

SOUND CODEC J6: 1 2

AMR

J2 CPU FAN

ISA-1

PCI-5 PCI-4 PCI-3 PCI-2 PCI-1

J11: WOL

AGP-1

ATX POWER

J1

1 2 JP1

CN1

DIMM3(BANK4+BANK5)

DIMM2(BANK2+BANK3)

DIMM1(BANK0+BANK1)

1 2 JBAT1

CASE FAN J13 -

USB2 IR

IDE1 PRIMARY

IDE2 SECONDARY

FDD1

SW1 CPU CLK RATIO

4 3 2 1

PANEL1

SOUND HARDWARE CONNECT

G R

L

L

CD-IN

MIC LINE IN LINE OUT COM2 COM1 T:MOUSE

USB1 B:KB

BIOS

SOUND CODEC J6: 1 2

AMR

J2 CPU FAN

ISA-1

PCI-5 PCI-4 PCI-3 PCI-2 PCI-1

J11: WOL

AGP-1

ATX POWER

J1

1 2 JP1

CN1

DIMM3(BANK4+BANK5)

DIMM2(BANK2+BANK3)

DIMM1(BANK0+BANK1)

1 2 JBAT1

CASE FAN J13 -

USB2 IR

IDE1 PRIMARY

IDE2 SECONDARY

FDD1

SW1 CPU CLK RATIO

4 3 2 1

PANEL1

2-3 INSTALL CPU

(1) INTEL CELERON /COPPERMINE CPU
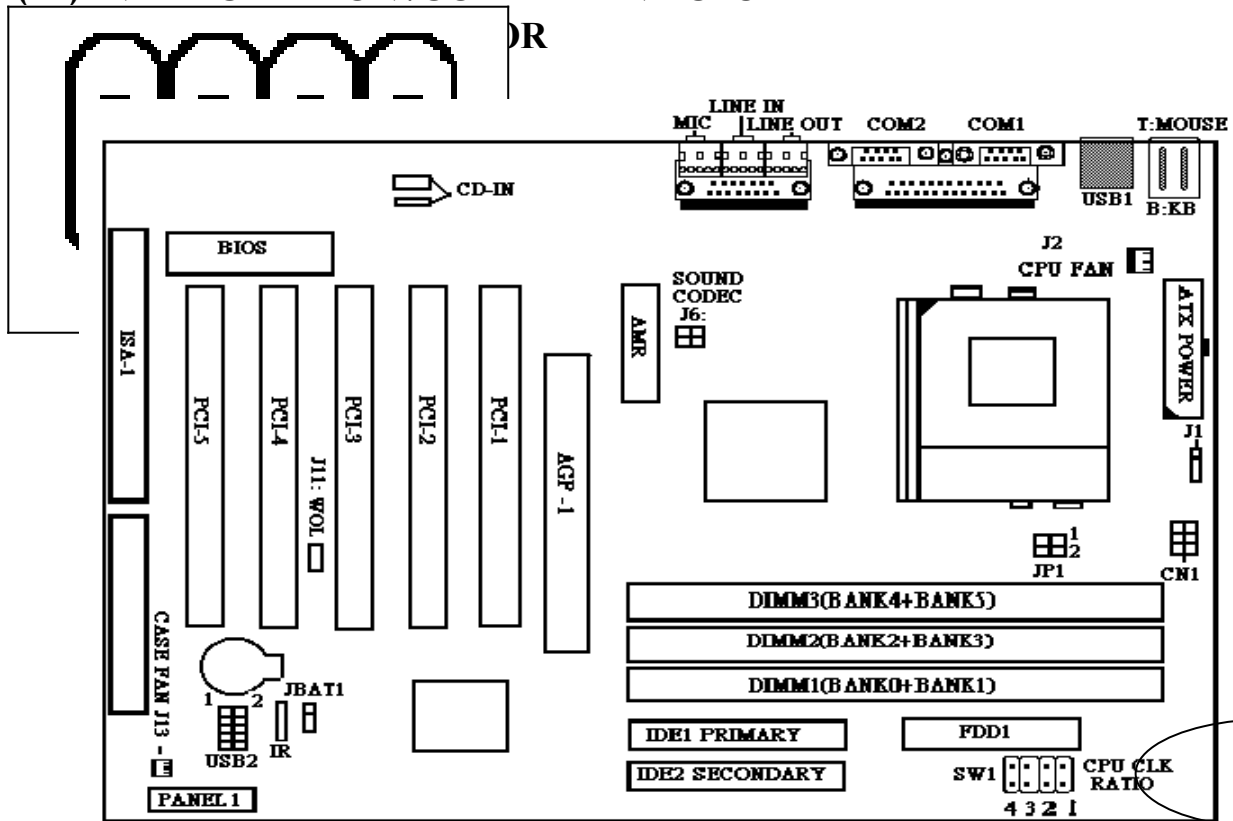
	CPU	SW 1	CPU	SW 1	CPU	SW 1
RATIO	4 3 2 1	RATIO	4 3 2 1	RATIO	4 3 2 1	
3X		5X		7X	
3.5X		5.5X		7. 5X	
4X		6X		8X	
4.5X		6.5X			

(2). CPU CLK SETTING FOR AUTO DETECT AND MANUAL
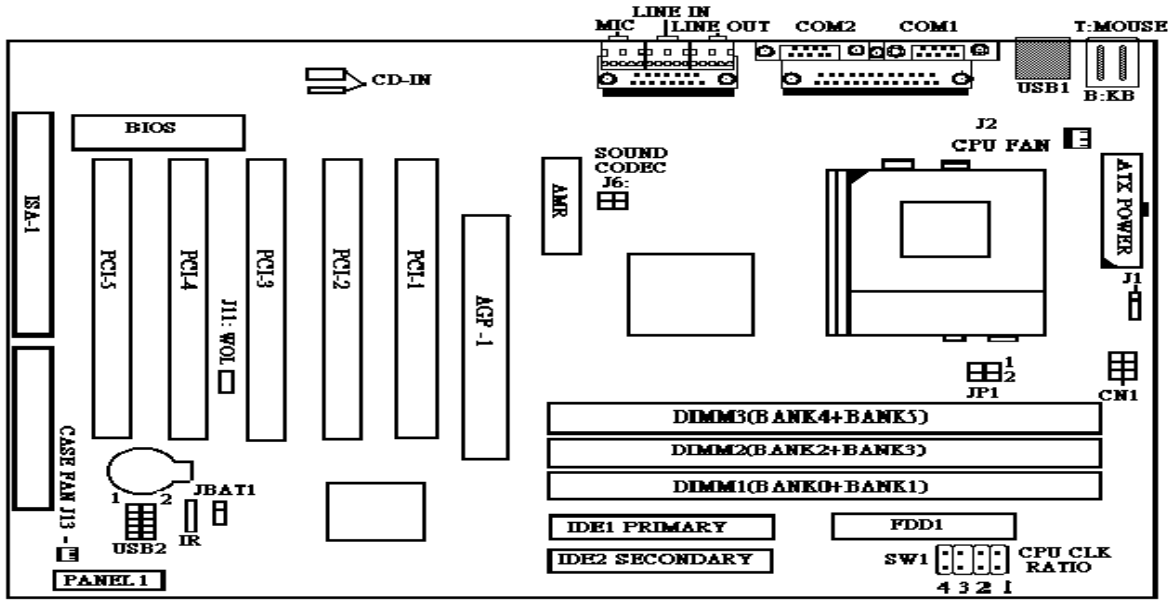
CLK TYPE	J1	CN1	JP1	BUS CLK	J1	CN1	JP1	BUS CLK
MANUAL				66 MHZ				115
MANUAL				75				120
MANUAL				83				124
MANUAL				100				133
MANUAL				103				140
MANUAL				110				150
MANUAL				112	Cyrix 370	JP1		66/100

AUTO DETECT			66/100 /133		133

Warning:

VIA 693A bus clock is setted as 133MHZ

over 133MHZ setting, We don't promise the system to work stable.

(3)AUTO DETECT (66/100/133 MHZ)CLK
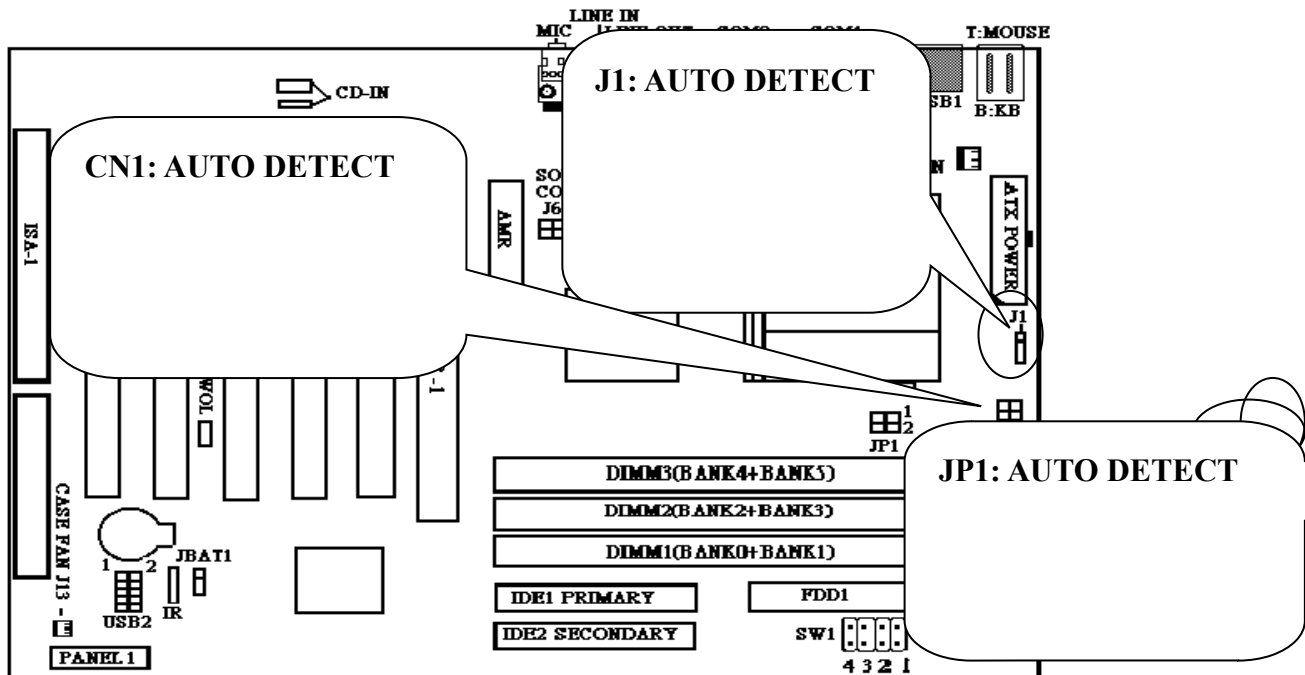
*The M/B Design Auto-Detect CPU

   BUS CLK 66 & 100 &133 MHZ Frequency, No Jumper Needed For Setting .

*For 100 MHZ BUS CLK . We Suggests Using " PC – 100 " SDRAM SPEC .

   For 133 MHz BUS CLK,We suggests Using "PC-133"SDRAM SPEC.

   For Better Reliability . We Suggests Using SPD (Serial Port Data) SDRAM

*If you want use manual over clk ,please refer page 14.

(4),QUICK INSTALL CELERON AND COPPERMINE CPU

<1>CELERON(REFERENCE)

Product Name	BUS CLK (MHZ)	Ratio	SW1 4 3 2 1	Product Name	BUS CLK (MHZ)	Ratio	SW1 4 3 2 1
CELERON 233	66	3.5X		CELERON 400	66	6X	
CELERON 266	66	4X		CELERON 433	66	6.5X	
CELERON 300	66	4.5X		CELERON 466	66	7X	
CELERON 333	66	5X		CELERON 500	66	7.5X	
CELERON 366	66	5.5X		CELERON 533	66	8X	

<2> COPPERMINE(REFERENCE)

Product Name	BUS CLK (MHZ)	Ratio	SW1 4 3 2 1	Product Name	BUS CLK (MHZ)	Ratio	SW1 4 3 2 1
500E	100	5X		533EB	133	4X	
550E	100	5.5X		600EB	133	4.5X	
600E	100	6X		667B	133	5X	
650	100	6.5X		733B	133	5.5X	
700	100	7X		800B (Future)	133	6X	
750	100	7.5X		867B (Future)	133	6.5X	
800 (Future)	100	8X		933B (Future)	133	7X	
				1GB (Future)	133	7.5X	

"B"------133MHz System Bus Frequency

"E"------Processor with "Advanced Transfer Cache

Note: The Above quick install CPU only for reference.

(5) The Freqency table for PCI AND AGP

BUS CLK (MHZ)	PCI (MHZ)	AGP(MHZ)
66	33.4	66
75	37.5	75
83	41.65	83 *
100	33.3	66
103	34.3	68.6 *
110	36.67	110 *
112	37.33	74.6 *
115	38.33	115 *
120	40.00	120 *
124	31.00	82.6 *
133	31.00	66(VIA)
140	35.00	93.3 *
150	37.50	100 *

We don't suggest use the mark(*) BUS CLK, the AGP CLK too high.

2-4 INSTALL MEMORY

(1) PCB LAYOUT AND RELEVANT POSITIONS FOR DIMM X 3
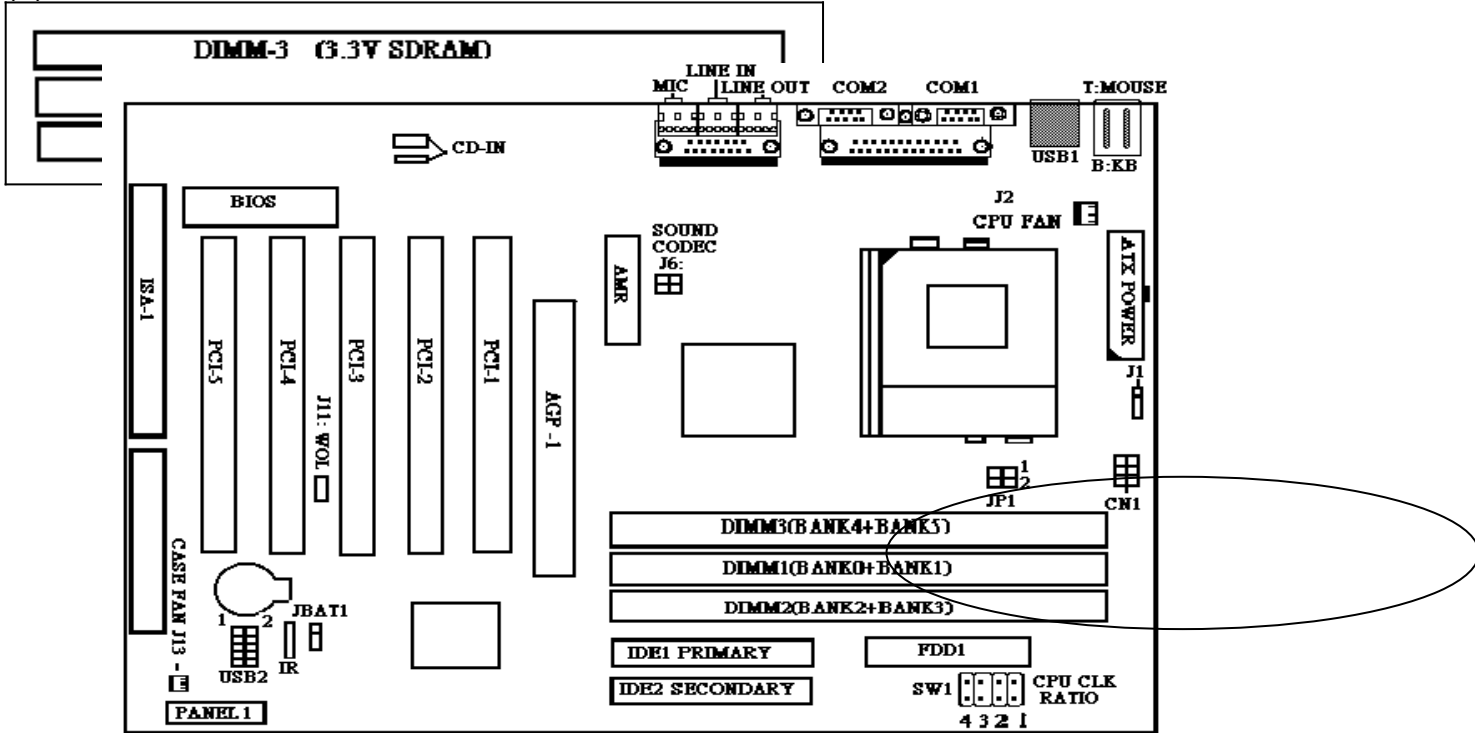
(2) The Supports Different Type Of Settings For The System Memory . There Is No Jumper Nor Connect Needed For Memory Configuration . Following Figures Provides All Possible Memory Combinations

SDRAM			STATUS
BANK0	BANK1	BANK2	
DIMM1	DIMM2	DIMM3	
INSTALLED	NONE	NONE	OK
NONE	INSTALLED	NONE	OK
NONE	NONE	INSTALLED	OK
INSTALLED	INSTALLED	NONE	OK
NONE	INSTALLED	INSTALLED	OK
INSTALLED	NONE	INSTALLED	OK
INSTALLED	INSTALLED	INSTALLED	OK

NOTE :

1 . SDRAM Module Specification : 3.3 V Only .

2 . For 133 MHZ BUS CLK . We Suggests Using " PC – 133 " SDRAM SPEC .

3 . For Better Reliability . We Suggests Using SPD (Serial Port Data) SDRAM SPEC .

2-5.Hardware Monitor for Win95/98/2000 AND WinNT.

When you install the Hardware Monitor driver and you will appear as follows: VIA Hardware Monitor System

Temperature		
CPU Over-Heat Temp.	50 (Celsius)	■ Celsius ☐ Fahrenheit
CPU Hysterisis Temp.	40	
CPU Current Temp.	14	
System Over-Heat Temp.	50	
System Hysteresis	40	
System Current Temp.	16	

Voltage (V)	Fan Speed(RPM)
Vcore Value=2.03	CPU Fan: 5080 System Fan: 0
2.5V Value=2.49	
3.3V Value=3.37	CPU Fan RPM 0
5V Value=5.03	System Fan RPM 0
12V Value=11.83	Polling Interval 5 secs
Range 125%… 75%	

UPDATE W/O SAVE

UPDATE AND SAVE

DEFAULT SETTING

USER SETTING

CLOSE

MiniMize

ALARM
CPU Over Heat

☐ CPU Hysteresis Low

☐ System Over Heat

☐ System Hysteresis Low

☐ Voltage Abnormal

☐ CPU Fan Low

☐ System Fan Low

SUBJECT : Y2K

AWARD Announcement

Award BIOS Supports Year 2000 and Beyond
Award Software International Inc. is pleased to announce
that its BIOS software automatically solves
The changeover to the year 2000 ,all Award BIOSes with the
date code July 07,1995,and beyond can now support all dates
to year 2079.
For Award BIOSes with earlier release dates,the user may
either simply re-set the system date manually or use a free
utility that will be available from a award at the end of this
year,We will continue our best efforts to provide customers
the technical support they need .if we can be of any service or
if you have any further questions about this
announcement,please do not hesitate to call us. Thank you so
much for your support of Award.

This announcement in the
Award web-site www.award.com.tw/news/oct1_96.htm
If you have any Y2k problem,you can visit the
Award web_site www.Award.com.tw

3.1 Main Menu

Once you enter the Award BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

<div align="center">

ROM PCI/ISA BIOS
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

</div>

STANDARD CMOS SETUP	CPU SPEED SETTING
BIOS FEATURES SETUP	INTEGRATED PERIPHERALS
CHIPSET FEATURES SETUP	SUPERVISOR PASSWORD
POWER MANAGEMENT SETUP	USER PASSWORD
PNP/PCI CONFIGURATION SETUP	IDE HDD AUTO DETECTION
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
Esc : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type…	

Note that a brief description of each highlighted selection appears at the bottom of the screen.

Setup Items

The main menu includes the following main setup categories. Recall that some systems may not include all entries.

Standard CMOS Setup

This setup page includes all the items in a standard, AT-compatible BIOS.

BIOS Features

This setup page includes all the items of Award special enhanced features.

Super/User Password Setting

Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

Chipset Features Setup

This setup page includes all the items of chipset special features.

Power Management Setup

This entry only appears if your system supports Power Management, "Green PC", standards.

PNP/PCI Configuration Setup

This entry appears if your system supports PNP/PCI.

Load BIOS Defaults

The BIOS defaults have been set by the manufacturer and represent settings which provide the minimum requirements for your system to operate.

Load Setup Defaults

The chipset defaults are settings which provide for maximum system performance. While Award has designed the custom BIOS to maximize performance, the manufacturer has the right to change these defaults to meet their needs.

CPU Speed Setting

This entry appears the current system temperature,CPU temperature, Fan Speed, Shutdown temperature,and the Voltage. Set the CPU internal freqency.

Integrated Peripherals

This section page includes all the items of IDE hard drive and Programmed Input/ Output features.

IDE HDD Auto Detection

Automatically detect and configure hard disk parameters. The Award BIOS includes this ability in the event you are uncertain of your hard disk's parameters.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Save

Abandon all CMOS value changes and exit setup.

3.2 Standard CMOS Setup

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

ROM PCI/ISA BIOS
STANDARD CMOS SETUP
AWARD SOFTWARE. INC.

Date (mm:dd:yy) : Thu, Jun 4 1998

Time (hh:mm:ss) : 14 : 11 : 1

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDE	SECTOR	MODE
Primary Master :	Auto	0	0	0	0	0	0	AUTO
Primary Slave :	Auto	0	0	0	0	0	0	AUTO
Secondary :	Auto	0	0	0	0	0	0	AUTO
Master :	Auto	0	0	0	0	0	0	AUTO
Secondary								
Slave								

Drive A   : 1.44M, 3.5 in.
Drive B   : None
Floppy 3 Mode Support : Disabled

Base Memory :   640K
Extended Memory : 261120K
Video   : EGA/VGA   Other Memory :   384K
Halt On   : All ,But Keyboard   Total Memory : 262144K

ESC   : Quit   ↑↓→← : Select Item   PU/PD/+/- : Modify
F1   : Help   (Shift) F2 : Change Color

Date

The date format is <day>, <date> <month> <year>. Press<F3> to show the calendar.

day	The day, from Sun to Sat, determined by the BIOS and is display-only
date	The date, from 1 to 31 (or the maximum allowed in the month)
month	The month, Jan through Dec.
year	The year, from 1900 through 2099

Time

The time format is <hour><minute><second>. The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:

Daylight saving

The category adds one hour to the clock when daylight-saving time begins. It also subtracts one hour when standard time returns

Enabled	Enabled daylight-saving
Disabled	Disabled daylight-saving

Primary Master/ Primary Slave/Secondary Master/ Secondary Slave

The categories identify the types of 2 channels that have been installed in the computer. There are 45 predefined types and 4 user definable types are for Enhanced IDE BIOS. Type 1 to Type 45 are predefined. Type user is user-definable.

Press PgUp or PgDn to select a numbered hard disk type or type the number and press <Enter>. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk drive type is not matched or listed, you can use Type "User" to define your own drive type manually.

If you select Type "User', you will need to know the information listed below. Enter the information directly from the keyboard and press <Enter>. This information should be included in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is ESDI, the selection shall be "Type 1".
If the controller of HDD interface is SCSI, the selection shall be "None".
If you select Type "Auto", BIOS will Auto-Detect the HDD & CD-ROM Drive at the POST stage and showing the IDE for HDD & CD-ROM Drive.

TYPE	drive type
CYLS	number of cylinders
HEADS	number of heads
PRECOMP	write precom
LANDZONE	landing zone
SECTORS	number of sectors
MODE	mode type

If a hard disk has not been installed select NONE and press <Enter>.

Drive A Type/ Drive B Type

The category identifies the types of floppy disk drive A or drive B that have been installed in the computer.

None	No floppy drive installed
360K, 5.25 in	5-1/4 inch PC-type standard drive; 360 kilobyte capacity
1.2M, 5.25 in	5-1/4 inch AT-type high-density drive; 1.2 megabyte capacity
720M, 3.5 in	3-1/2 inch double-sided drive; 720 kilobyte capacity
1.44M, 3.5 in	3-1/2 inch double-sided drive; 1.44 megabyte capacity
2.88M, 3.5 in	3-1/2 inch double-sided drive; 2.88 megabyte capacity

Video

The category selects the type of video adapter used for the primary system monitor. Although secondary monitors are supported, you do not have to select the type in Setup.

EGA/VGA	Enhanced Graphics Adapter/Video Graphics Array, For EGA, VGA, SEGA, SVGA, or PGA monitor adapters.
CGA 40	Color Graphics Adapter, power up in 40 column mode
CGA 80	Color Graphics Adapter, power up in 80 column mode
MONO	Monochrome adapter, includes high resolution monochrome adapters

Error Halt

The category determines whether the computer will stop if an error is detected during power up.

No errors	Whenever the BIOS detects a non-fatal error the system will be stopped and you will be prompted.
All errors	The system boot will not be stopped for any error that may be detected.
All, But Keyboard	The system boot will not stop for a keyboard error, it will stop for all other errors.
All, But Diskette	The system boot will not stop for a disk error; it will stop for all other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error; it will stop for all other errors.

Memory

The category is display-only which is determined by POST (Power on Self Test) of the BIOS.

Base Memory

The POST will determine the amount of base (or conventional) memory installed in the system. The value of the base memory is typically 512K for systems with 512K memory installed on the motherboard, or 640K for system with 640K or more memory installed on the motherboard.

Extended Memory

The BIOS determines how much extended memory is present during the POST. This is the amount of memory located above 1MB in the CPU'S memory address map.

Other Memory

This refers to the memory located in the 640K to 1024K address space. This is memory that can be used for different applications. DOS uses this area to load device drivers in an effort to keep as much base memory free for application programs. The BIOS is the most frequent user of this RAM area since this is where it shadows RAM.

3.3 BIOS Features Setup

This section allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing and security.

```
                            ROM PCI/ISA BIOS
                          BIOS FEATURES SETUP
                         AWARD SOFTWARE. INC.
```

Anti Virus Protection :	: Enabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
CPU L2 Cache ECC Checking	: Enabled	D0000-D3FFF Shadow	: Disabled
Processor Number Feature	: Enabled	D4000-D7FFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D8000-DBFFF Shadow	: Disabled
Boot Sequence	: C, A, SCSI	DC000-DFFFF Shadow	: Disabled
Swap Floppy Drive	: Disabled		
Boot Up Floppy Seek	: Enabled		
Boot Up NumLock Status	: On		
Gate A20 Option	: Fast		
Memory Parity/ECC Check	: Disabled		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6	ESC : Quit	
Typematic Delay (Msec)	: 250	F1 : Help	↑↓→: Select Item
Security Option	: Setup	F5 : Old Values	PU/PD/+/- : Modify
PCI/VGA Palett Snoop	: Disabled	F6 : Load BIOS Defaults	(Shift) F2 : Color
OS Select For DRAM > 64MB	: Non-OS2	F7 : Load Setup Defaults	

Anti-Virus Protection (Trend Chipaway Virus ® on Guard)

When this item is enabled, the Award BIOS will monitor the boot sector and partition table of the hard disk drive for any attempt at modification. If an attempt is made, the BIOS will halt the system and the following error message will appear. Afterwards, if necessary, you will be able to run an antivirus program to locate and remove the problem before any damage is done.

!WARNING!

Disk boot sector is to be modified

Type "Y" to accept write or "N" to abort write

Enabled	Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.
Disabled	No warning message will appear when anything attempts to access the boot sector or hard disk partition table.

NOTE:

Many disk diagnostic 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 first disable Virus Protection beforeband.

CPU Internal Cache/External Cache

These two categories speed up memory access. However, it depends on CPU/chipset design. The default value is enable.

Enabled	Enabled cache
Disabled	Disable cache

Processor Number Feature

This item allows you to select Disabled,Enabled.the default setup is Enabled.

Quick Power On Self Test

This category speeds up Power On Self Test (POST) after you power up the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

Enabled	Enable quick POST
Disabled	Normal POST

Boot Sequence

The category determines which drive to search first for the disk operating system (i.e., DOS). Default value is C,A,SCSI.

C,A,SCSI	System will first search for hard disk drive then floppy disk drive.and then SCSI drive.
A,C,SCSI	System will first search for floppy disk drive then hard disk drive.and then SCSI drive.
CDROM, C,A	System will first search for CDROM drive, then hard disk drive and then floppy disk drive.
C, CDROM, A	System will first search for hard disk drive, then CDROM drive, and then floppy disk drive.
SCSI,A,C	System will first search for SCSI drive,then floppy disk drive And then hard disk drive.

LS/ZIP,C	System will first search for LS/ZIP,then hard disk drive.

Swap Floppy Drive

This item allows you to determine whether enable the swap floppy drive or not.
The choice: Enabled/Disabled.

Boot Up Floppy Seek

During POST, BIOS will determine if the floppy disk drive installed is 40 or
80tracks. 360K type is 40 tracks while 760K, 1.2M and 1.44M are all 80 tracks.

Enabled	BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drive type as they are all 80 tracks.
Disabled	BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360K.

Boot Up NumLock Status

This allows you to determine the default state of the numeric keypad. By default,
the system boots up with NumLock on.

On	Keypad is number keys
Off	Keypad is arrow keys

Gate A20 Option

This entry allows you to select how the gate A20 is handled. The gate A20 is a
device used to address memory above 1 Mbytes. Initially, the gate A20 was handled
via a pin on the keyboard. Today, while keyboards still provide this support, it is
more common, and much faster, for the system chipset to provide support for gate
A20.

Normal	keyboard
Fast	chipset

Memory Parity/ECC Check

This item allows you to select Enabled, Disabled. The default is Disabled.
Enabled adds a parity check to the boot-up memory tests,select Enabled only
If the system Dram contains parity.

Typematic Rate Setting

This determines if the typematic rate is to be used. When disabled, continually holding down a key on your keyboard will generate only one instance. In other words, the BIOS will only report that the key is down.

When the typematic rate is enabled, the BIOS will report as before, but it will then wait a moment, and , if the key is still down, it will begin the report that the key has been depressed repeatedly. For example, you would use such a feature to accelerate cursor movements with the arrow keys

Enabled	Enabled typematic rate
Disabled	Disable typematic rate

Typematic Rate (Chars/Sec)

When the typematic rate is enabled, this selection allows you select the rate at which the keys are accelerated.

6	6 characters per second
8	8 characters per second
10	10 characters per second
12	12 characters per second
15	15 characters per second
20	20 characters per second
24	24 characters per second
30	30 characters per second

Typematic Delay (Msec)

When the typematic rate is enabled, this selection allows you to select the delay between when the key was first depressed and when the acceleration begins.

250	250 msec
500	500 msec
750	750 msec
1000	1000 msec

Security Option

This category allows you to limit access to the system and Setup, or just to Setup.

System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

Note: To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

OS Select for DRAM > 64

This item allows you to access the memory that over 64MB in OS/2.

The choice: Non-OS2, OS2.

PCI/ VGA Palette Snoop

It determines whether the MPEG ISA/VESA VGA Cards can work with PCI/VGA or not.

Enabled	When PCI/VGA working with MPEG ISA/VESA VGA Card.
Disabled	When PCI/VGA not working with MPEG ISA/VESA VGA Card.

Video BIOS Shadow

Determines whether video BIOS will be copied to RAM. However, it is optional depending on chipset design. Video Shadow will increase the video speed.

Enabled	Video shadow is enabled
Disabled	Video shadow is disabled

C8000-CBFFF Shadow/DC000-DFFFF Shadow

These categories determine whether option ROMs will be copied to RAM.
An example of such option ROM would be support of on-board SCSI.

Enabled	Optional shadow is enabled
Disabled	Optional shadow is Disabled

3.4 Supervisor/User Password Setting

You can set either supervisor or user password, or both of then. The differences between are:

supervisor password: can enter and change the options of the setup menus.
user password: just can enter but do not have the right to change the options of the setup menus.

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disabled a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.
You determine when the password is required within the BIOS Features Setup Menu and its Security option (see Section 4). If the Security option is set to "System", the password will be required both at boot and at entry to Setup. If set to "Setup",

prompting only occurs when trying to enter Setup.

3.5 Chipset Features Setup & Integrated Peripherals

ROM PCI/ISA BIOS(2A6LGF9E)
CHIPSET FEATURES SETUP
AWARD SOFTWARE. INC.

Bank 0/1 DRAM Timing	: SDRAM 10ns	
Bank 2/3 DRAM Timing	: SDRAM 10ns	
Bank 4/5 DRAM Timing	: SDRAM 10ns	
SDRAM Cycle Length	: 3	
DRAM Clock	: Host CLK	
Memory Hole	: Disabled	
Read Around Write	: Disabled	
Concurrent PCI/Host	: Disabled	
System BIOS Cacheable	: Disabled	
Video BIOS Cacheable	: Disabled	
Video RAM Cacheable	: Disabled	
AGP Aperture Size (MB)	: 64MB	
AGP 2X Mode	: Enabled	
Onchip USB	: Enabled	
USB Keyboard Support	: Disabled	
Onchip Sound	: Enabled	
Onchip Modem	: Disabled	
	ESC : Quit	↑↓→← : Select Item
	F1 : Help	PU/PD/+/- : Modify
	F5 : Old Values	(Shift) F2 : Color
	F6 : Load BIOS Defaults	
	F7 : Load Setup Defaults	

Bank 0/1 DRAM Timing

This item allows you to select SDRAM 10 ns,8 ns,Normal,Medium,Fast,Turbo.
The default is SDRAM 10 ns.

Bank 2/3 DRAM Timing

This item allows you to select SDRAM 10 ns,8 ns,Normal,Medium,Fast,Turbo.
The default is SDRAM 10 ns.

Bank 4/5 DRAM Timing

This item allows you to select SDRAM 10 ns,8 ns,Normal,Medium,Fast,Turbo. The default is SDRAM 10 ns.

SDRAM Cycle Length

This item allows you to select 3,2. The default setup is 3.

DRAM Clock

This item allows you to select Host CLK,,HCLK-33MHz. The default setup is Host CLK.

Memory Hole

Some special add-on cards require a 1MB address space between 15 and 16MB. The documentation for this type of card should prompt you if it need this. The default setting is Disabled.

Read Around write

This item allows you to select Disabled,Enabled.the default setup is Disabled.

Concurrent PCI/Host

This item allows you to select Disabled,Enabled.the default setup is Disabled.

System BIOS Cacheable

This item allows you to select Enabled, Disabled. The default is Disabled.

Video BIOS Cacheable

This item allows you to select Enabled, Disabled. The default is Disabled.

Video RAM Cacheable

This item allows you to select Enabled, Disabled. The default is Disabled.

AGP Aperture Size (MB)

This item sets the maximum amount of system memory that an AGP card will use to store 3D texture mapping data. The larger aperture makes the better performance of the 3D function. The settings range from 4MB to 128MB.
The default setting is "64MB".

AGP-2X Mode

This item allows you to select Enabled, Disabled. The default is Enabled.

Onchip USB

This item allows you to select Enabled, Disabled. The default is Enabled.

Onchip Sound

Turn on/off onchip sound device.the default value is Auto.
This item allows you to control the onboard AC 97 audio.

Onchip Modem

Turn on/off onchip software modem device, the default value is Auto.
This item allows youto control the onboard MC 97 Modem.
The Choice: Auto, Disabled.

USB Keyboard Support

If you have USB keyboard, you must be enable this item.
The default is Disabled.

Integrated Peripherals

```
                    ROM PCI/ISA BIOS(2A6LGF9E)
                    INTEGRATED PERIPHERALS
                       AWARD SOFTWARE, INC.
┌─────────────────────────────────────┬──────────────────────────────────────┐
│ OnChip IDE Channel0       : Enabled  │ Onboard Parallel Mode     :Normal    │
│ OnChip IDE Channel1       : Enabled  │ Onboard Legacy          :Enabled     │
│ IDE Prefetch Mode         : Enabled  │ Sound Blaster          :Enabled      │
│ IDE Primary Master PIO    : Auto     │ SB I/O Base address        :220H     │
│ IDE Primary Slave PIO     : Auto     │ SB IRQ Select            :IRQ5       │
│ IDE Secondary Master PIO  : Auto     │ SB DMA Select            :DMA1       │
│ IDE Secondary Slave PIO   : Auto     │ MPU-401            : Enabled         │
│ IDE Primary Master UDMA   : Auto     │ MPU-401 I/O Address     : 300-333H Game│
│ IDE Primary Slave UDMA    : Auto     │ Port(200-207H)       :Enabled        │
│ IDE Secondary Master UDMA : Auto     │                                      │
│ IDE Secondary Slave UDMA  : Auto     │                                      │
│ Init Display First        : PCI Slot │                                      │
│                                      │                                      │
│                                      ├──────────────────────────────────────┤
│ Onboard FDC Controller    :Enabled   │ ESC : Quit      ↑↓→← : Select Item   │
│ Onboard Serial Port 1     : Auto     │ F1 : Help       PU/PD/+/- : Modify   │
│ Onboard Serial Port 2     : Auto     │ F5 : Old Values  (Shift) F2 : Color  │
│ Uart 2 Mode               : Standard │ F6 : Load BIOS                       │
│                                      │ F7 : Load Setup                      │
└─────────────────────────────────────┴──────────────────────────────────────┘
```

OnChip IDE Channel 0

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the primary IDE interface. Select Disabled to deactivate this interface

The choice: Enabled, Disabled.The default is Enalbed

OnChip IDE Channel 1

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the secondary IDE interface. Select Disabled to deactivate this

interface
The choice: Enabled, Disabled. The default is Enalbed.

IDE Prefetch Mode
This item allows you to select Enabled, Disabled. The default is Enabled.
Enable prefetching for IDE drive interfaces that support its
faster drive accesses. If you are getting disk drive errors, change the setting to
omit the drive interface where the errors occur. Depending on the configuration
of your IDE subsystem, this field may not appear, and it does not appear when the
Internal PCI/IDE field, above, is Disabled.

IDE PIO
IDE hard drive controllers can support up to two separate hard drives. These drives
have a master / slave relationship which are determined by the cabling configuration
used to attach them to the controller. Your system supports two IDE controllers-a
primary and a secondary-so you have to ability to install up to four separate hard
disks. PIO means Programmed Input / Output. Rather than have the BIOS issue a
series of commands to effect a transfer to or from the disk drive, PIO allows
the BIOS to tell the controller what it wants and then let the controller and
the CPU perform the complete task by themselves. This simpler and more efficient
(and faster).
Your system supports five modes, numbered from 0 (default) to 4, which
primarily differ in timing. When *Auto* is selected, the BIOS will select the
best available mode. This is true for the next four setup items.

1,IDE Primary Master PIO
2**,**IDE Primary Slave PIO
3,IDE Secondary Master PIO
4,IDE Secondary Slave PIO

INIT DISPLAY FIRST
When you have the Agp card and PCI card at the same time., you can choice the PCI
card or AGP card display first.

ONBOARD SERIAL PORT1 AND PORT2
The system default value serial port1 is Auto.
The system default value serial port2 is Auto.

UART 2 MODE SELECT

This item allows you to determine which Infra Red (IR) function
of onboard I/O chip.

The Choice: Standard, ASKIR, HPSIR.

ON BOARD PARALLEL Mode

The system default value parallel mode is Normal

Normal: Standard mode. IBM PC/AT Compatible bidirectional parallel port.

EPP: Enhanced Parallel Port mode.

ECP: Extended Capabilities Port mode.

EPP+ECP: ECP Mode & EPP Mode.

Onboard Legacy Audio: Legacy Audio enabled/disabled.

Sound Blaster: Sound Blaster compatible device enabled/disabled.the default
Value is Enabled.

SB I/O Base Address: Sound Blaster I/O resource selection.

SB IRQ Select: Legacy audio device IRQ selection.

SB DMA Select: Sound Blaster DMA channel selection.

MPU-401: MPU-401 function enabled/disabled.the default value is Enabled.

MPU-401 I/O Address: Built-in MPU-401 compatible MIDI I/O port selection:

300-303H

310-313H

320-323H

330-333H (default)

Game Port (200-207H): Built-in joystick port support disabled/enabled(default)

3.6 Setup Power Management

The Power Management Setup allows you to configure you system to most effectively save energy while operating in a manner consistent with your own style of computer use.

ROM PCI/ISA BIOS
POWER MANAGEMENT SETUP
AWARD SOFTWARE. INC.

ACPI function	: Enabled	Primary INTR	:On
Power Management	: User Define	IRQ3 (COM2)	:Primary
PM Control by APM	: Yes	IRQ4 (COM1)	:Primary
Video Off After	: Suspend	IRQ5 (LPT2)	:Primary
Video Off Method	: V/H	IRQ6 (Floppy Disk)	:Primary
MODEM Use IRQ	SYNC+Blank	IRQ7 (LPT1)	:Primary
Soft-off By PWR-BTTN	: 3	IRQ8 (RTC Alarm)	:Disabled
HDD Power Down	: Instant off	IRQ9 (IRQ2 Redir)	:Secondary
Doze Mode	: Disabled	IRQ10 (Reserved)	:Secondary
Suspend Mode	: Disabled	IRQ11 (Reserved)	:Secondary
PM-Events	: Disabled	IRQ12 (Reserved)	:Primary
VGA	: Off	IRQ13 (Coprocessor)	:Primary
LPT&COM	:LPT/COM	IRQ14 (Hard Disk)	:Primary
HDD&FDD	:On	IRQ15 (Reserved)	:Disalbed
DMA/Master	:Off		
Modem/Ring Resume	:Disabled		
RTC Alarm Resume	:Disabled		
GPI Resume	:Disabled		
		ESC : Quit	↑↓→←: Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift) F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

Power Management

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

1. Doze Mode   3. Suspend Mode
2. Standby Mode   4. HDD Power Down

There are four selections for Power Management, three of which have fixed mode settings

Disable (default)	No power management. Disables all four modes
Min. Power Saving	Minimum power management. Doze Mode = 1hr. Standby Mode = 1 hr., Suspend Mode = 1 hr., and HDD Power Down = 15 min.
Max. Power Saving	Maximum power management -**ONLY AVAILABLE FOR SL CPU'S.** Doze Mode = 1 min., Standby Mode = 1 min., Suspend Mode = 1 min., and HDD Power Down = 1 min.
User Defined	Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 from 1 min. to 15 min. and disable.

PM Control 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 the Max. Power Saving is not enabled, this will be preset to *No*.

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	Initial display power management signaling.

PM Timers

The following four modes are Green PC power saving functions which are only user configurable when User Defined Power Management has been selected. See above for available selections.

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.

Standby Mode

When enabled and after the set time of system inactivity, the fixed disk drive and the video would be shut off 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.

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.

VGA: Off **LPT & COM:** LPT/COM **HDD&FDD**:On **PCI Master**: Off
Modem Ring Resume: When set to *Enable*d, any event occurring to the Modem Ring will awaken a system which has been powered down.
RTC Alarm Resume: When set to *Enable rtc alarm resume,* you could set the date (of month) and timer (hh:mm:ss), any event occurring at will awaken a system which has been powered down.
Primary INTR: When set to *On* (default), any event occurring at will awaken a system which has been powered down.
● IRQ3 (COM2)
● IRQ4 (COM1)
● IRQ5 (LPT2)
● IRQ6 (Floppy Disk)
● IRQ7 (LPT1)
● IRQ8 (RTC Alarm)
● IRQ9 (IRQ2 Redir)
● IRQ10 (Reserved)
● IRQ11 (Reserved)
● IRQ12 (Reserved)
● IRQ13 (Coprocessor)
● IRQ14 (Hard Disk)

● IRQ15 (Reserved)

3.7 CPU Speed Setting

CMOS Setup Utility – Copyright © 1984 – 2000 Award Software
PC Health Status Setup

Auto Detect DIMM/PCI CLK : Enabled	Item Help
Spread Spectrum : Disabled	
CPU Host Clock(CPU/PCI) : Default	Menu Level ➢
Current CPU Temp. 39°C/102°F	
Current System Temp 35°C/95°F	
Current CPUFan1 Speed 4818 RPM	
Current CPUFan2 Speed 0 RPM	
Vcore :1.60V 2.5V: 2.42V	
3.3V : 3.19V 5V: 4.85V	
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

Auto Detect DIMM/PCI CLK

This item allows you to select Disabled,Enabled.the default setup is
Enabled. When enabled the motherboard will automatically
disable the clock source for a DIMM socket which does not have a module in it.
Same applies for PCI slots.

Spread Spectrum

This item allows you to select Disabled,Enabled.the default setup is
Disabled,

CPU Host /PCI Clock

Allows the external clock to be modified
depending upon what FSB has been selected. Should not be used to clock
proces-sor faster than it was designed for. The default is Default.

Current CPU Temperature

This is the current temperature of the CPU.

Current System Temp

This is the Current temperature of the system.

Current CPU FAN1 Speed

The current CPU fan speed in RPMs.

Current CPU FAN2 Speed

The current SYS fan speed in RPMs.

CPU(V): The voltage level of the CPU(Vio/Vcore).
+2.5V, +3.3V, +5V, +12V: The voltage level of the switch power supply..

3.8 Setup PnP/PCI Configuration

This section describes configuring the PCI bus system.PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

ROM PCI/ISA BIOS
PNP/PCI CONFIUGURATION
AWARD SOFTWARE. INC.

PNP OS Installed	: No	CPU to PCI Write Buffer	:Enabled
Resources Controlled By	: Auto	PCI Dynamic Bursting	:Enabled
Resources Configuration Data	: Disable	PCI Master 0 ws write	:Enabled
		PCI Delay Transaction	:Disabled
		PCI#2 Access #1 Retry	:Disabled
		AGP Master 1 ws write	:Enabled
		AGP Master 1 ws read	:Disabled
		Assign IRQ for USB	:Enabled
		Assign IRQ for VGA	:Enabled

ESC : Quit   ↑↓→← : Select Item
F1 : Help   PU/PD/+/- : Modify
F5 : Old Values   (Shift) F2 : Color
F6 : Load BIOS
F7 : Load Setup

Resource Controlled by

The Award Plug and Play BIOS has the capacity to automatically configure
all of the boot and Plug and Play compatible devices. However, this capability
means absolutely nothing unless you are using a Plug and Play Operating system
such as Windows® 95.
Choices are Auto and Manual ,the default is Auto.

Reset Configuration Data

This item allows you to determine reset the configuration data or not.
Choices are Enabled and Disabled (default).

CPU to PCI Write Buffer

When enabled, up to four D words of data can be
written to the PCI bus without interruting the CPU. When disabled, a write buffer
is not used and the CPU read cycle will not be completed until the PCI bus signals
that it is ready to receive the data.
The Choice: Enabled, Disabled. The default is Enabled.

PCI Dynamic Bursting

When Enabled, data transfers on the PCI bus, where possible,
make use of the high-performance PCI bust protocol, in which graeater
amounts of data are transferred at a single command.
The Choice: Enabled, Disabled. The default is Enabled.

PCI Master 0 WS Write

When Enabled, writes to the PCI bus are command
with zero wait states.
This item allows you to select Enabled, Disabled. The default is Enabled.

PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer
to support delay transactions cycles. Select Enabled to support compliance with
PCI specification
This item allows you to select Enabled, Disabled. The default is Disabled.

PCI #2 Access #1 Retry

This item allows you enabled/disable the PCI #2
Access #1 Retry.
The Choice: Enabled, Disabled. The default is Disabled.

AGP Master 1 WS Write

This item allows you to select Enabled, Disabled. The default is Enabled.

AGP Master 1 WS Read

This item allows you to select Enabled, Disabled. The default is Disabled.

Exit Selecting

Save & Exit Setup

Pressing <Enter> on this item asks for confirmation:

Save to CMOS and EXIT (Y/N)? Y

Pressing "Y" stores the selections made in the menus in CMOS – a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

Exit Without Saving

Pressing <Enter> on this item asks for confirmation:

Quit without saving (Y/N)? Y

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.