Table of Contents

CHAPTER 1   INTRODUCTION

The mainboard is a high-performance personal computer mainboard based on the Pentium II/III processor.

The SIS 620 integrates the high performance host bus interface,the DRAM controller supports 3.3V SDRAM,the IDE controller supporting PIO mode 0/1/2/3/4 and ULTRA DMA 33/66 operations,the PCI interface is PCI2.2 compliant,the integrated graphics accelerator is compatible with AGP1.0 and PCI 2.2 configuration.
The SIS 5595 PCI system I/O integrates
the PCI-to-ISA bridge,KBC,USB,RTC,SMBUS,ACPI/APM compatible PMU, system environment monitoring for thermal,fan,voltage as will as comprehensive.

1.1 Mainboard Features

☞**CPU**
- Slot 1 for Intel Pentium II/III,Celeron processor.
- Supports 233MHZ - 550MHZand higher.
- Core/Bus ratios are x2, x2.5, x3, x3.5, x4, x4.5, x5, x5.5, x6 and higher.

☞**Clock Generator**
- 66MHZ,~100MHZ　BUS CLOCK SELECT.
- Auto Detect CPU BUS CLK frequency.

☞**Switching Voltage Regulator**
- On-board switching mode DC-DC Step Down Regulator.

☞**Chip Set**
- Mainboard: SIS 620 Chipset.
- Enhanced I/O : ITE IT8661F Chipset.

☞**System Memory, DIMM*2**
- Supports two 168-pin unbuffered DIMM Socket.
- Supports memory size up to 256 MB.
- Supports 3.3v Extended Data Output (EDO) and SDRAM DIMM.

☞**Expansion Slots, PCI1-PCI3, ISA1-ISA2**
- Three 32-bit Master PCI Bus slots and Two 16-bit ISA bus slots wherein one shared slot that can be used as ISA or PCI.

☞**ACPI (ATX Power Supply Mode)**
- power management.　Soft-off Control.
- Supports Modem Ring-in.
- Supports RTC Alarm wake up.

☞**SOUND(On board)**
- ESS Plug & Play Single CHIP ES1938S On Board Design.
- Support 3 – D Audio . 16 Bit Stereo Output . OPL3 Compatible
- Support Speaker Out . Line Out . Mic . Game Port

☞**VGA(On board)**

● Support internal SIS 620 chipset on board

● support Share Momory 2MB/4MB/8MB(UMA mode)

● Support External Memory 2MB/4MB/8MB(NON-UMA mode)

☞**Enhance PCI IDE & I/O Interface**

● Supports two PCI Bus, Master IDE ports (up to 4 IDE devices).

● Supports Ultra DMA 33/66 function.

● Supports SCSI/CD-ROM function.

● 1. floppy port supports 2FDD with 360k, 720k, 1.2M, 1.44M and 2.88M bytes.

● 2. serial ports (COM1+COM2 Two 16550 high speed UART ports).

● 1. paralle1 port supports SPP/EPP/ECP mode.

● 2. USB ports.

● 1. IrDA TX/RX Header.

● PS/2 Keyboard interface and PS/2 mouse interface.

☞**System Green BIOS**

● Flash BIOS option on board, AWARD deep green BIOS, PLUG & PLAY, PnP function.

● Auto configuration for PCI add-on cards.

● CPU stop-clock, real zero clock for CPU.

● I/O Device's power saving, APM & SMI.

● Implements the EPA Energy Star PC specification with Deep Green system design.

> \# Full-on   : System runs in full speed CPU clock.
> \# Doze   : System scales-down CPU clock.
> \# Standby : System scales-down the CPU clock, and turns off video display, and spin-off hard disk driver.
> \# Suspend : With SMM CPU, stop CPU clock in suspend mode.
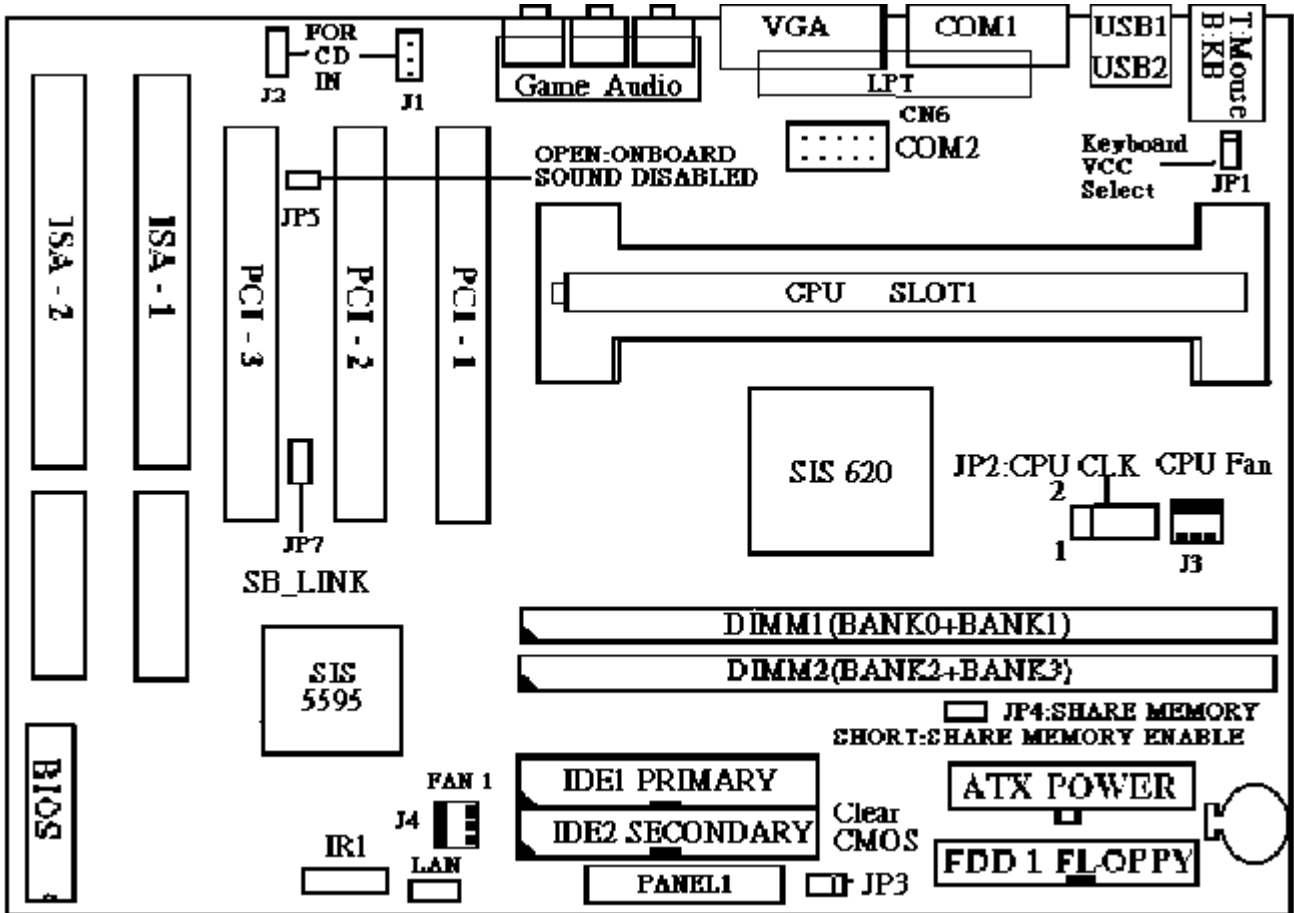
☞**Power Connect**

● ATX Power Supply.

☞**PCB Dimension**

● **Micro** ATX Form Factor : 22cm (L) x 24cm (W) x 4 layers PCB.

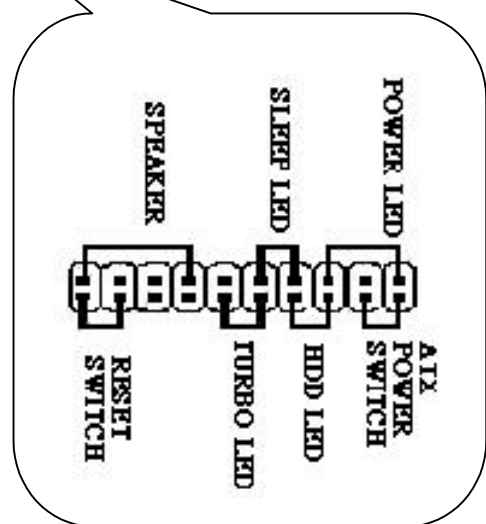# Chapter 2   Hardware Installation

2.1 Mainboard Layout And Connectors Jumpers View

2.2 Connectors & Jumper Setting

PANEL1 :POWER LED, SPEAK, SLEEP LED, POWER SWITCH, HARD DISK LED, TURBO LED,RESET
PANEL2: KEYLOCK
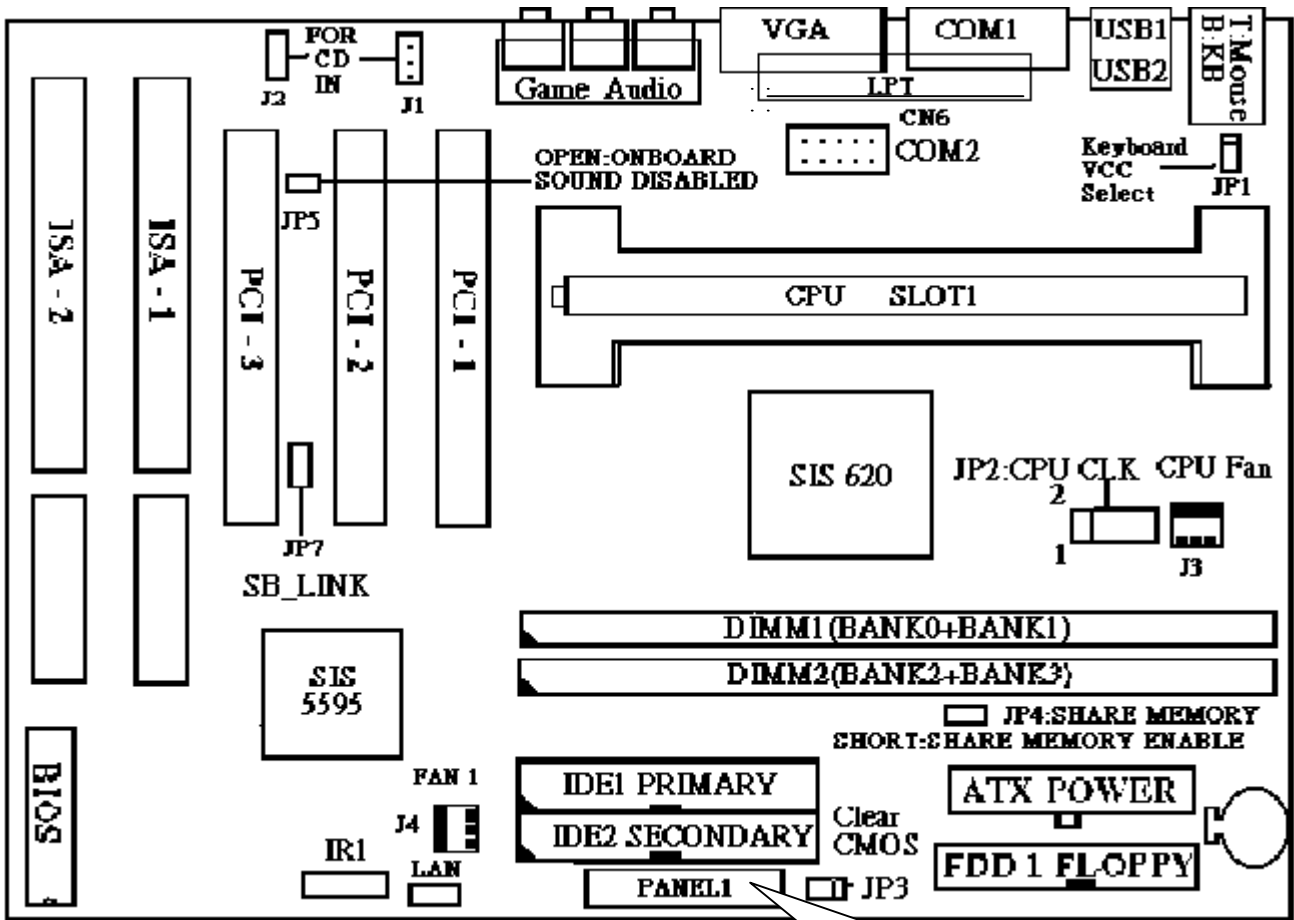
CN1:PS/2 MOUSE CONNECTOR & KEYBOARD CONNECTOR
CN2:USB(UNIVERSAL SERIAL BUS)CONNECTOR(USB1,USB2)
CN3:SERIAL PORT1 CONNECTOR
CN4:VGA1 CONNECTOR
CN5:PRINTER PORT CONNECTOR
CN6:COM2 CONNECTOR
GAME1:SPEAKER OUT CONNECTOR,LINE IN CONNECTOR,
MIC CONNECTOR,GAME PORT CONNECTOR,
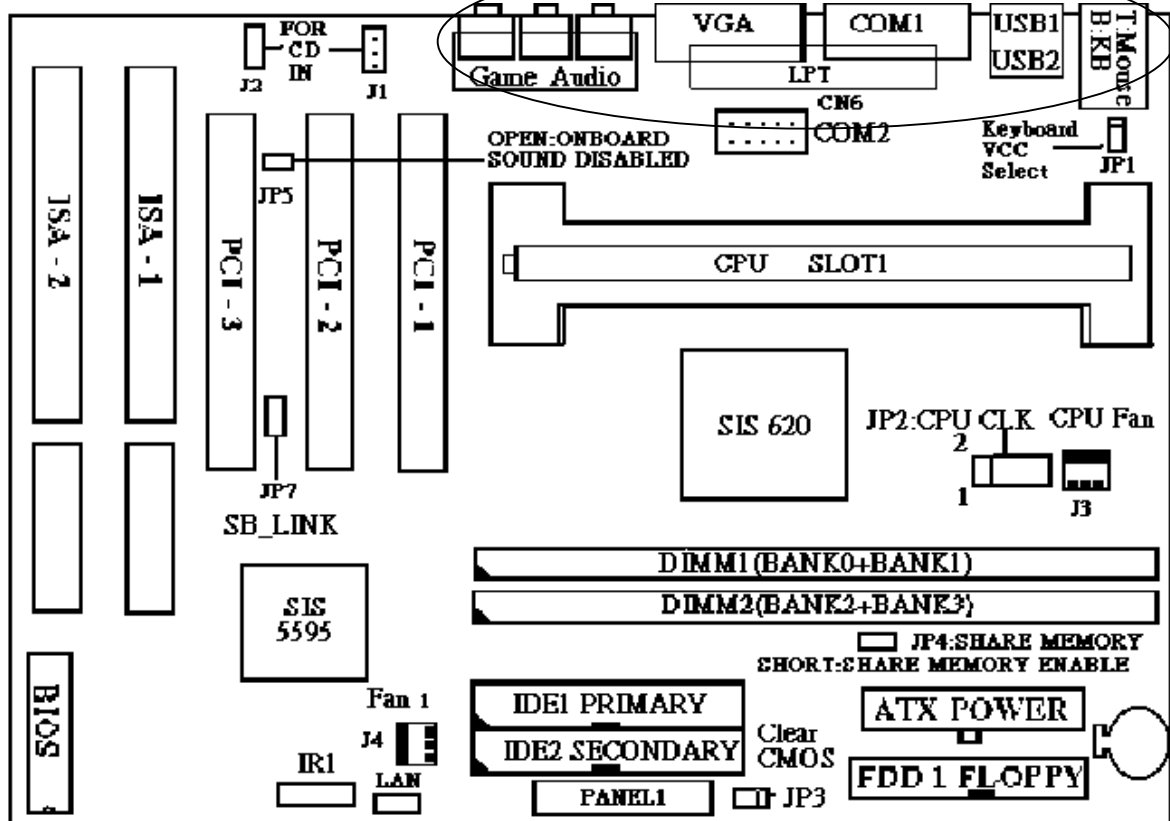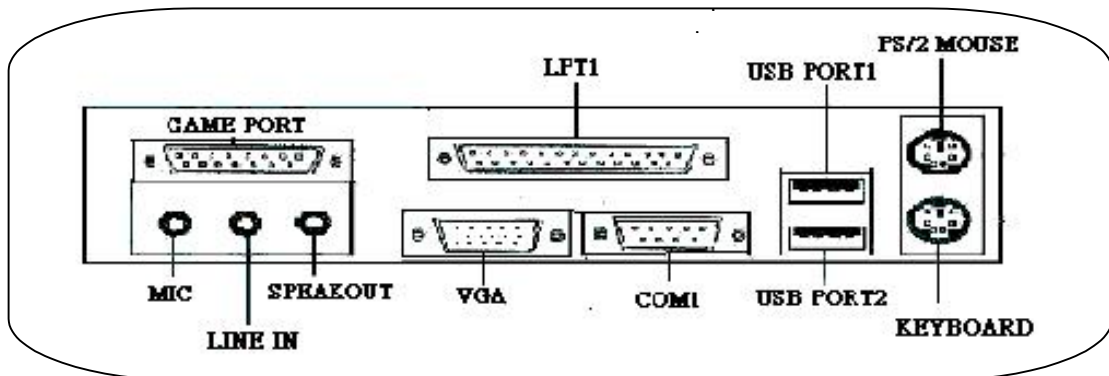
PW2:ATX POWER SUPPLY CONNECTOR
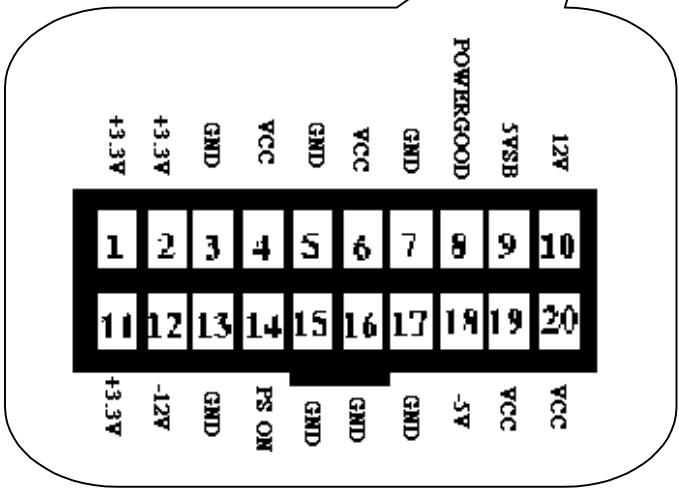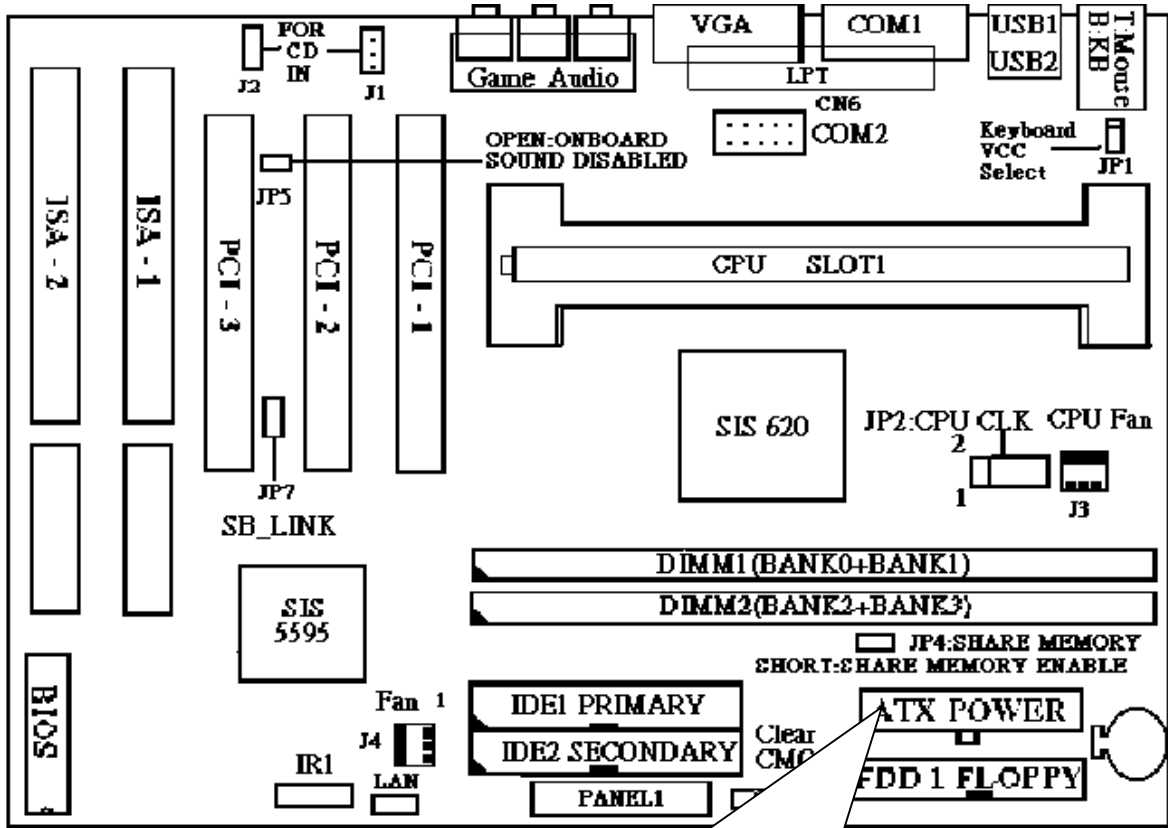
JP4 : SHARE MEMORY SELECTOR
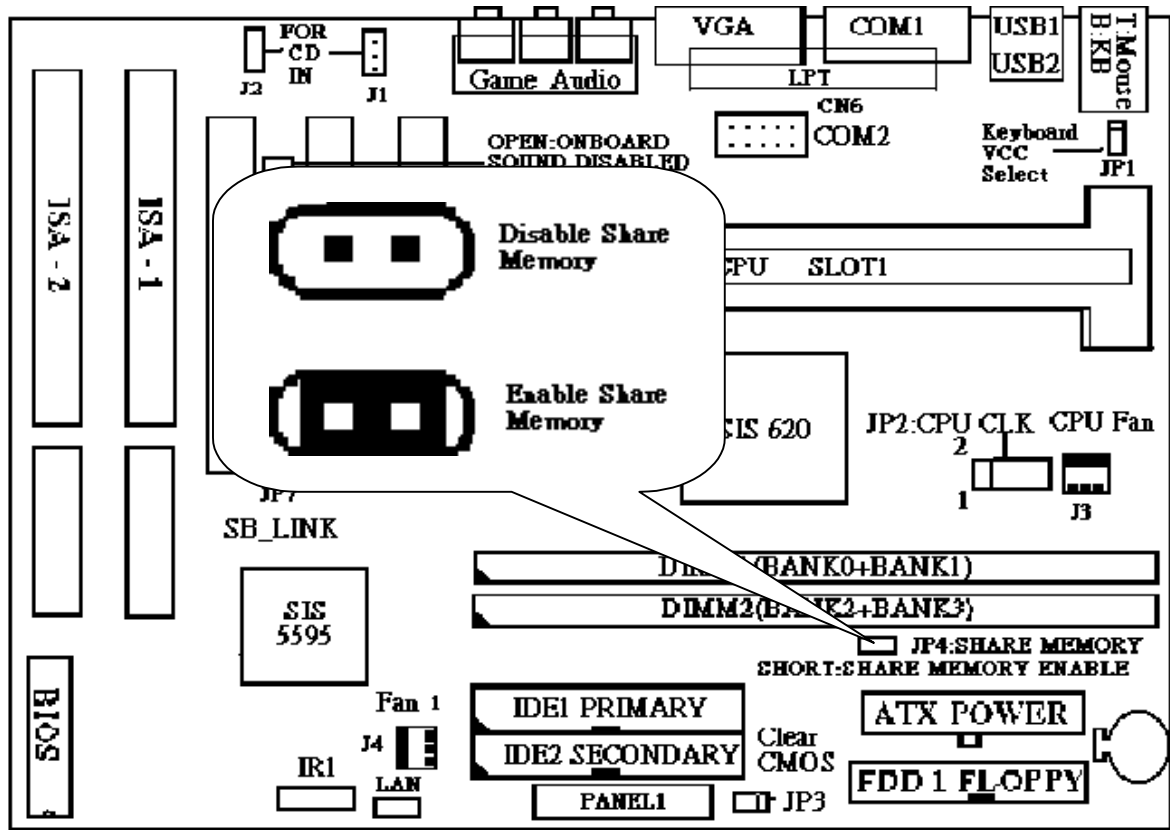
IR1 CONNECTOR
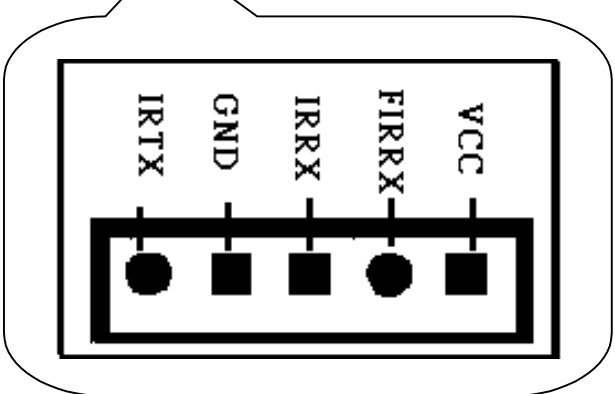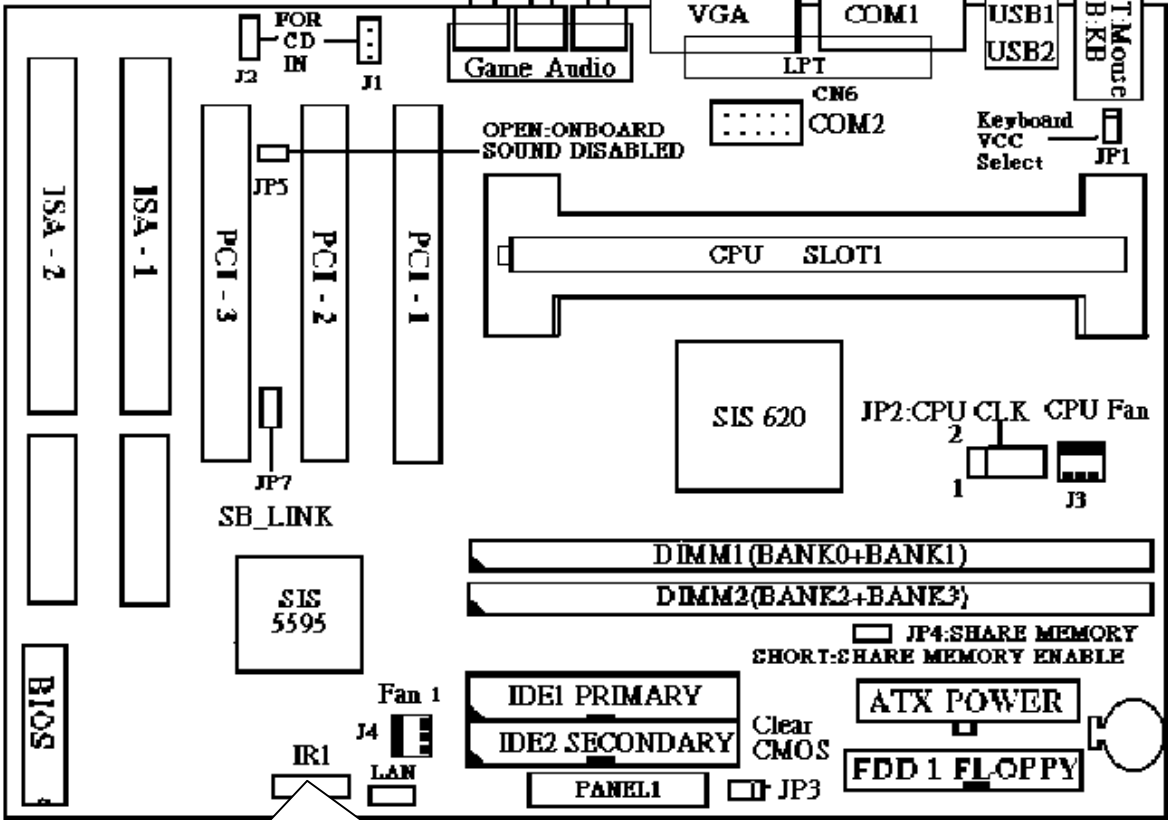
CN7: LAN CONNECTOR
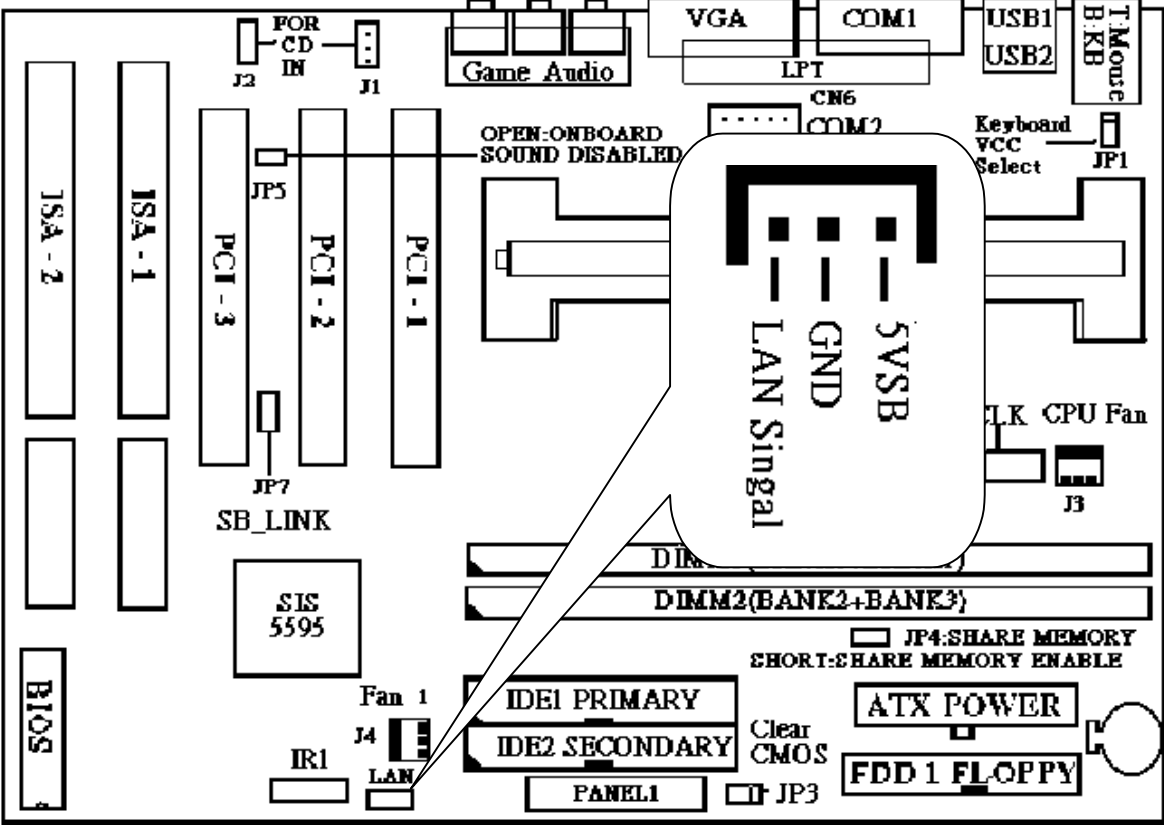
J3: CPU FAN CONNECTOR
J4: SYSTEM FAN CONNECTOR
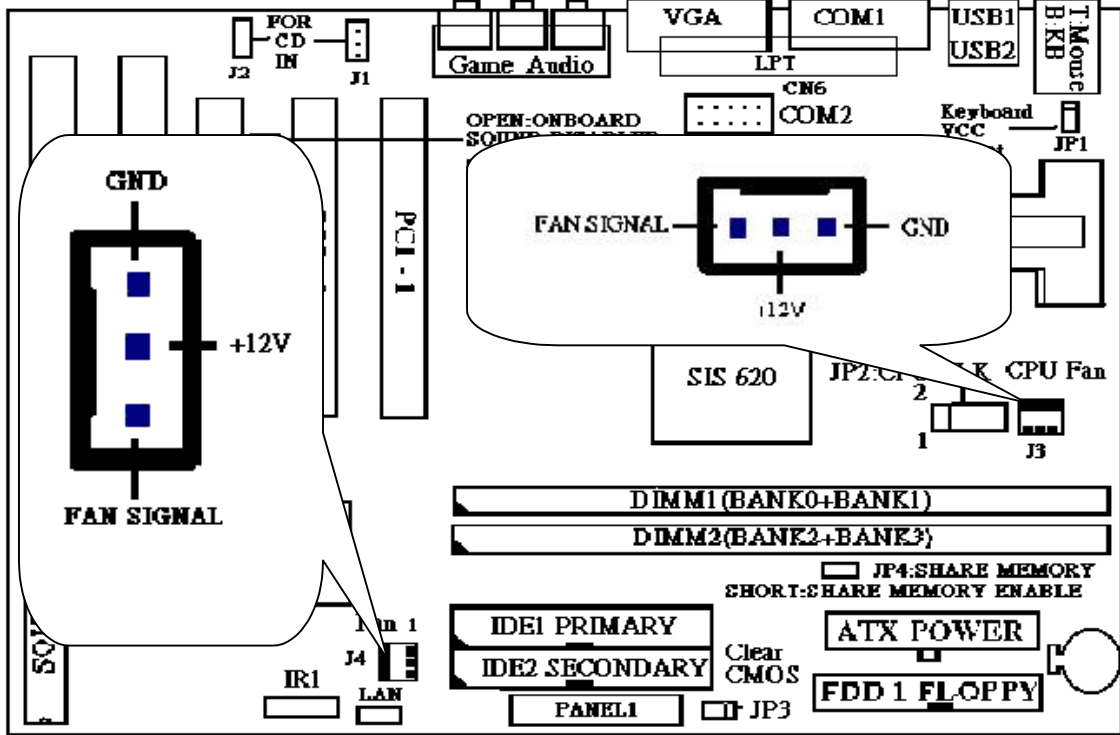
JP3 : CMOS CLEAR SELECTOR
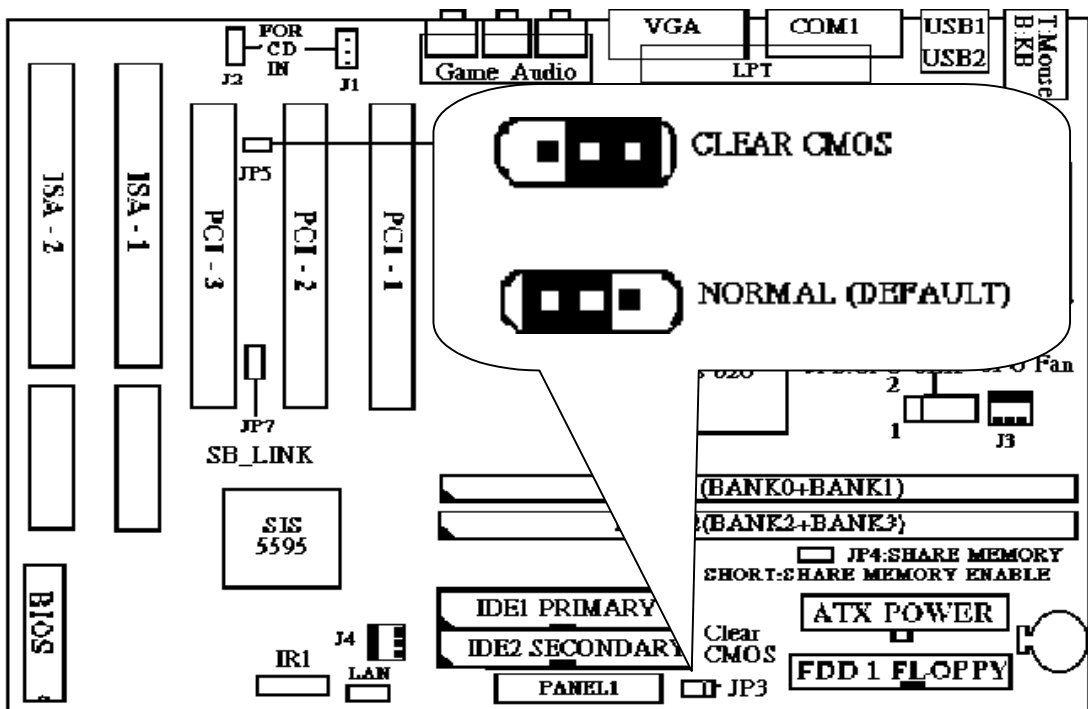
JP7:CPU CLK SELECTOR
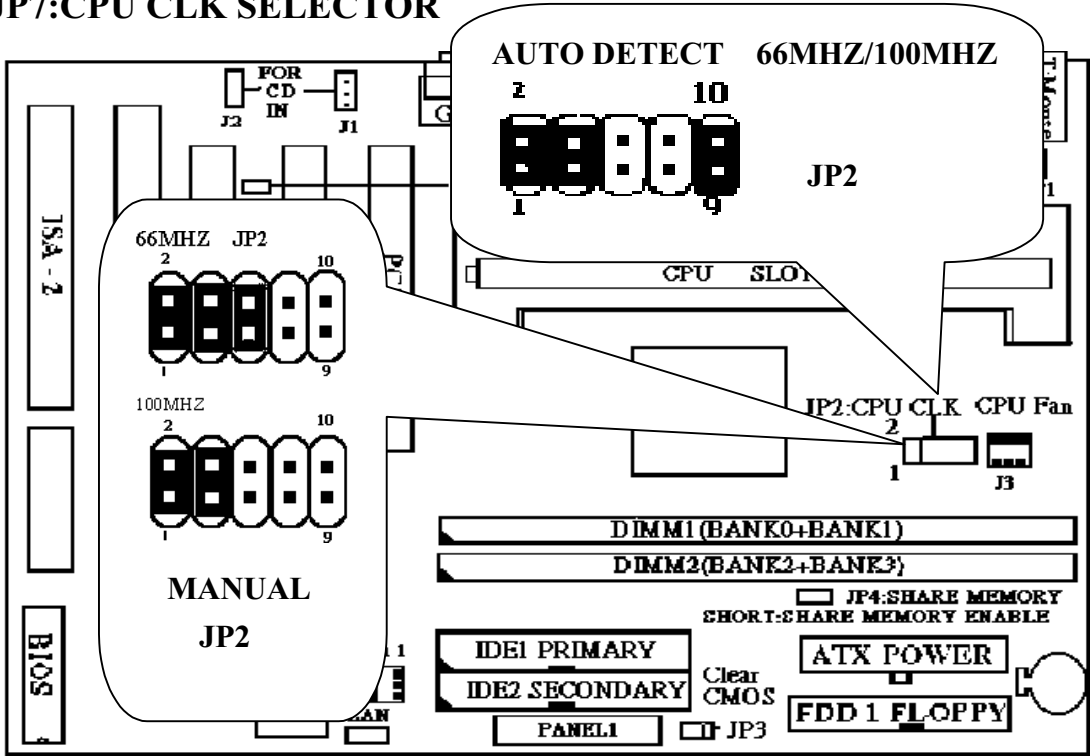
CPU TYPE	BUS CLK (MHZ)	JP2
AUTO DETECT	66/100	
MANUAL	66	
MANUAL	75	
MANUAL	83	
MANUAL	100	
MANUAL	112	
MANUAL	124	
MANUAL	133	

When you set the frequency of chipset over 100MHZ.We don't promise the over 100MHZ setting could keep the system continue to work stable.

J 1 : 1*4 WAFER FOR CD IN
J 2 : 1*4 JUMPER FOR CD IN
JP5: SOUND CARD SELECTOR
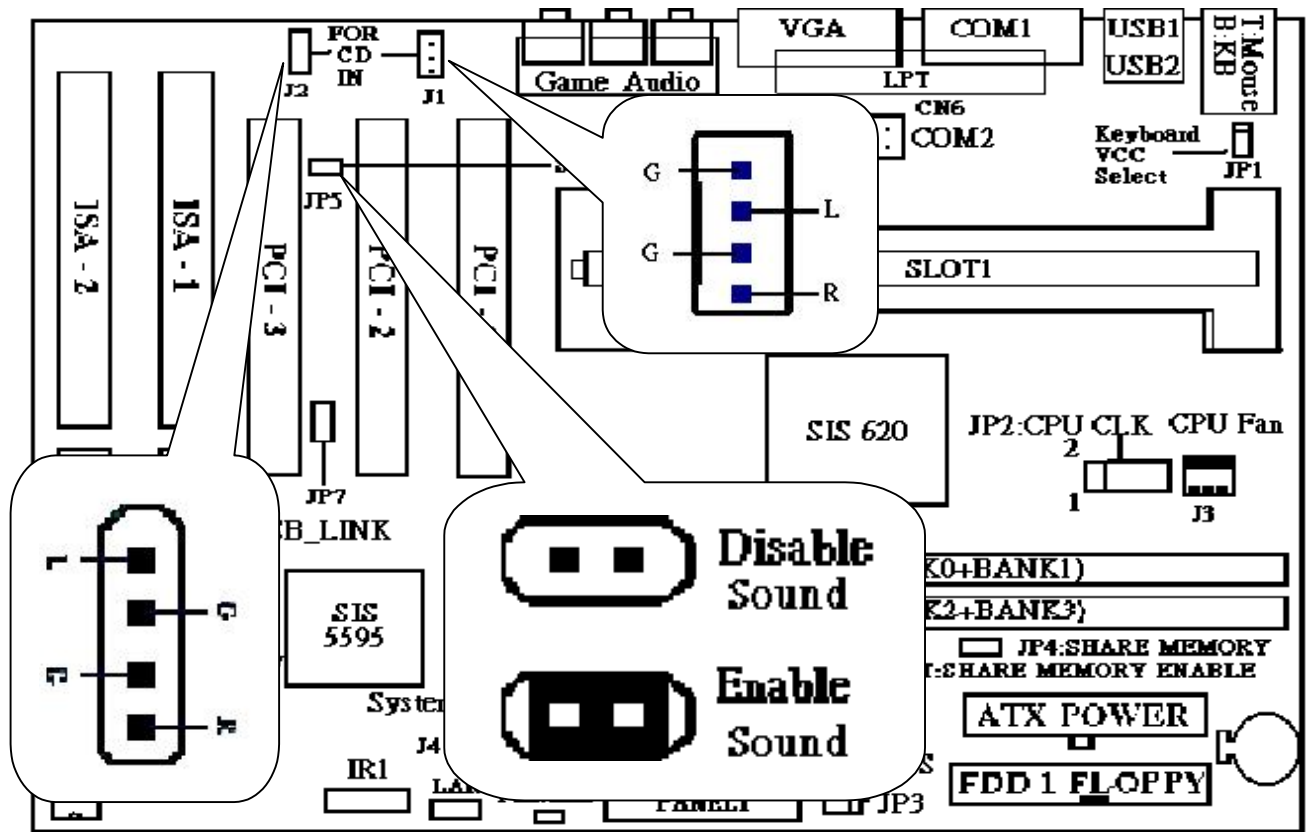
JP1: KEYBOARD VCC SELECTOR

FOR +5V FOR 5VSB
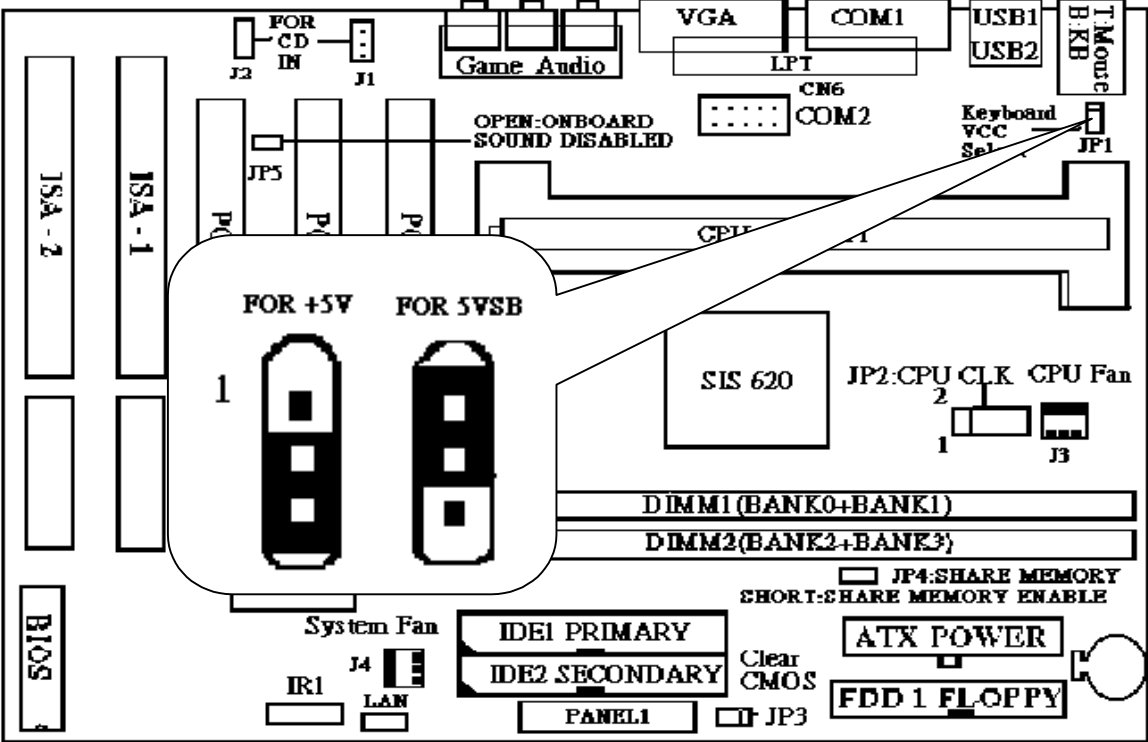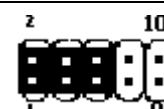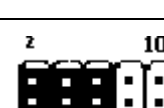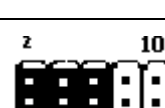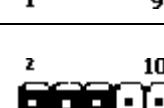
2-3 INSTALL CPU
QUICK INSTALL PENTIUM II/III AND CELERON CPU
1, PENTIUM II/III
THE SOFT(BIOS)CONTROLLED THE CPU RATIO

Product Name	BUS CLK (MHZ)	JP2	Product Name	BUS CLK (MHZ)	JP2
Pentium II MMX-233	66		Pentium II MMX-400	100	
Pentium II MMX-266	66		Pentium II/III MMX-450	100	
Pentium II MMX-300	66		Pentium II/III MMX-500	100	
Pentium II MMX-333	66		Pentium II/III MMX-550	100	
Pentium II MMX-350	100		Pentium II/III MMX-600	100	

2,CELERON

Product Name	BUS CLK (MHZ)	JP2	Product Name	BUS CLK (MHZ)	JP2
CELERON 233	66		CELERON 400	66	
CELERON 266	66		CELERON 433	66	
CELERON 300	66		CELERON 466	66	
CELERON 333	66		CELERON 500	66	
CELERON 366	66		CELERON 533	66	

2-4 INSTALL MEMORY

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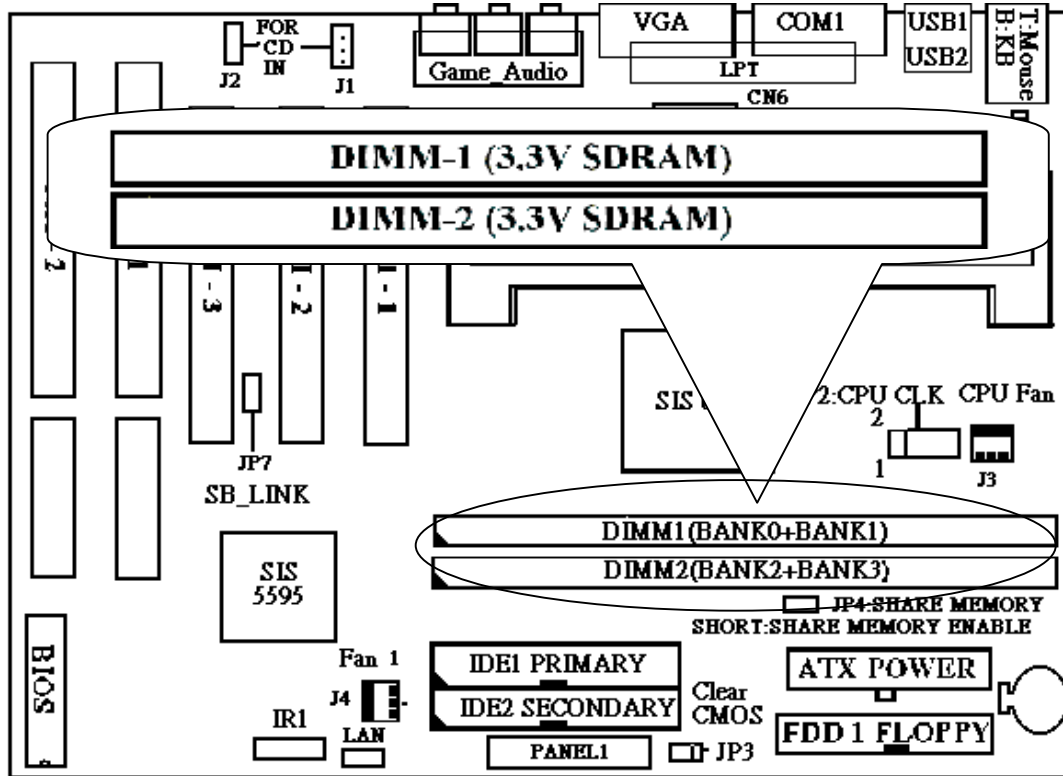
(2) The Supports Different Type Of Settings For The System Memory . There Is No Jumper Nor Connect Needed For Memory Configuration . Following Figures Provides All Possible Memory Combinations .

SDRAM(NON-SHARE)		STATUS	SDRAM(SHARE)		STATUS
BANK0	BANK1		BANK0	BANK1	
DIMM1	DIMM2		DIMM1	DIMM2	
INSTALLED	NONE	OK	INSTALLED	NONE	OK
NONE	INSTALLED	OK			
			INSTALLED	INSTALLED	OK
INSTALLED	INSTALLED	OK			

NOTE :

1 . SDRAM Module Specification : 3.3 V Only .

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

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

2-5 INSTALL THE ESS ES1938s SOUND

1.Features

   *16 bit stereo high quality sound

   *Spatializer 3D sound

   *Plug & Play Ready

   *Support Full Duplex mode

   *Record, compress, and playback voice, sound, music

   *Mixer controlled recording, 6 channel mixer

   *3-D Audio LINE Output,Stereo Input for LINE IN,

    Mono Input for Microphone, GAME Port for Joystic or MIDI kit

   *Builit in power amplifer

   *Windows compatible and OLE complinat and OPL3 compatible

   *Supports the Microsoft Windows Sound system

   *Sound Blaster and Sound Blaster Pro compatible

for Win95:

   The pathname for the execution file is D:\mb_drv\6s2m1\sound\win9x\setup
Installation
==========

   Step 1.)Start windows and continue until the system detects a

      new hardware

   Step 2.)Once the windows finds a new hardware (ES1938S),

      The New Hardware found dialog box is displayed.

   Step 3.)Select Driver from disk provided by hardware manufacturer

      then click OK.

   Step 4.)Insert The windows utility drivers disk into the driver CDROM,

      Type D:\mb_drv\6s2m1\sound\win9x\solo1.inf

       and then click OK.

P.S: If your ESS1938S Sound plug, and play can work smoothly

    in Win95, Follow:

    example:

    *Under Win95. My Computer. Control Panel. Device Manager.

     View Device by Type

    Other Device

    PCI Multimedia Audio Device

Please, REMOVE "!" Other Device, After go to Installation

      Step1,2,3,4.

for Win98:

The pathname for the execution file is D:\mb_drv\6s2m1\sound\win9x\setup Installation
==========

Step 1.)Start windows and continue until the system detects a
new hardware

Step 2.)Once the windows finds a new hardware (ES1938S),
The New Hardware found dialog box is displayed.

Step 3.)Select Driver from disk provided by hardware manufacturer
then click OK.

Step 4.)Insert The windows utility drivers disk into the driver CDROM
Type D:\mb_drv\6s2m1\sound\win9x\solo1.inf and then click OK.

P.S: If your ES1938s   Sound plug, and play can work smoothly
in Win98, you won't be necessary to install the drivers.

Chapter 3   BIOS SETUP

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.

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

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	PASSWORD SETTING
CHIPSET FEATURES SETUP	IDE HDD AUTO DETECTION
POWER MANAGEMENT SETUP	SAVE & EXIT SETUP
PNP/PCI CONFIGURATION SETUP	EXIT WITHOUT SAVING
LOAD BIOS DEFAULTS	
LOAD SETUP DEFAULTS	
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.

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.

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

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

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 Master	: Auto	0	0	0	0	0	0	AUTO
Secondary Slave	: Auto	0	0	0	0	0	0	AUTO

Drive A   : 1.44M, 3.5 in.
Drive B   : None

Video   : EGA/VGA
Halt On   : All Errors

Base Memory :   640K
Extended Memory :
                261120K
Other Memory :   384K
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 13:00:00

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
NONO	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 IMB 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
Quick Power On Self Test	: Enabled	D4000-D7FFF Shadow	: Disabled
Boot Sequence	: C, A, SCSI	D8000-DBFFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	DC000-DFFFF Shadow	: Disabled
Boot Up Floppy Seek	: Enabled		
Boot Up NumLock Status	: On		
Memory Parity Check	: Disabled		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6	ESC : Quit	↑↓→← : Select Item
Typematic Delay (Msec)	: 250	F1 : Help	PU/PD/+/- : Modify
Security Option	: Setup	F5 : Old Values	(Shift) F2 : Color
PCI/VGA Palett Snoop	: Disabled	F6 : Load BIOS Defaults	
OS Select For DRAM >	: Non-OS2	F7 : Load Setup Defaults	
64MB	: Yes		
Report NO FDD For win95			

Virus Warning

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

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

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

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

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 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 Setup/Integrated Peripherals Features Setup

ROM PCI/ISA BIOS(2A69KF99)

CHIPSET FEATURES SETUP

AWARD SOFTWARE. INC.

Auto Configuration	: Enabled	Spread Spectrum	:Disabled
RAS Pulse Width Refresh	: 5T	CPU Clock Ratio Jumpless:Disabled	
RAS Precharge Time	: 3T		
RAS To Cas Delay	: 3T		
ISA Bus Clock Frequency	: PCICLK/4		
Starting Point of Paging	: 2T		
SDRAM CAS Latency	: 3T		
SDRAM WR Retire Rate	: X-2-2-2		
CPU To PCI Burst Mem.WR	: Enabled		
Video RAM Cacheable	: Enabled		
Memory Hole At 15M-16M	: Disabled		
AGP Aperture Size	: 64MB	ESC : Quit	↑↓→← : Select Item
Concurrent Function(MEM)	: Enabled	F1 : Help	PU/PD/+/- : Modify
Concurrent Function(PCI)	: Enabled	F5 : Old Values	(Shift) F2 : Color
CPU Pipeline Control	: Enabled	F6 : Load BIOS Defaults	
PCI Delay Transaction	: Enabled	F7 : Load Setup Defaults	
SDRAM Synchronous Mode	: Enabled		
Auto Detect DIMM/PCI CLK	: Enabled		

Auto Configuration

When "Enabled", this parameter sets and locks some of the optimum values for the chipset and CPU registers automatically. When "Disabled', this parameter allows those values could be manual changed.

Note: When this item is Enabled,the pre-defined items will become SHOW-ONLY   Follows as:

RAS Pulse Width Refresh:5T

RAS Precharge Time   :3T
RAS TO CAS Delay   :3T

ISA Bus Clock Frequency
This item allow you to select 7.159MHZ,PCICLK/4,PCICLK/3
The default is PCICLK/4

Starting Point of Paging
This item allows you to select 1T,2T,4T,8T,The default is 2T.

SDRAM CAS Latency
This item allows you to select 3T,2T,The defaults is 3T,

SDRAM WR Retire Rate
This item allows you to select X-1-1-1,X-2-2-2,The default is X-2-2-2.

CPU to PCI Burst Mem.WR
This item allows you to select Enabled,Disabled, The default is Enabled.

Video Ram Cacheable
The item allows you to select Enabled,Disabled,The default is Enabled.

AGP Aperture Size.
This item allow you to select 4MB,8MB,16MB,32MB,64MB,128MB
256MB,The default is 64MB.

Concurrent Function (MEM)
This item allows you to select Enabled ,Disabled.The default is Enabled.

Concurrent Funtion(PCI)
This item allows you to select Enabled,Disabled ,The default is Enabled.

CPU Pipeline Control

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

PCI Delay Transaction

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

SDRAM Synchronous Mode

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

Auto Detect DIMM/PCICLK

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

Spread Spectrum

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

CPU Clock Ratio Jumpless

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

When "Enabled" the next line display"Processor Corefrequency"

This item allows you to x1.5, x2.0, x2.5.x3.0,x3.5,x4.0,x4.5,x5.0, X5.5,x6.0,x6.5,x7.0,x7.5,x8.0,The default is x1.5.

Integrated Peripherals

Internal PCI/IDE	: Both	PS/2 Mouse Function	:Enabled
IDE Primary Master PIO	: Auto	USB Controller	: Enabled
IDE Primary Slave PIO	: Auto	USB Keyboard Support	: Disabled
IDE Secondary Master PIO	: Auto	Init Display First	:PCI SLOT
IDE Secondary Slave PIO	: Auto	VGA Share Memory Size	:8MB
Primary Master UltraDMA	: Auto	Current CPU Temperature	: 51°C/123°F
Primary Slave UltraDMA	: Auto	Current FAN1 Speed	:0 RPM
Secondary Master UltraDMA	: Auto	Current CPUFAN Speed	:3750 RPM
Secondary Slave UltraDMA	: Auto	+5V :5.12V +3.30V	: 3.41V
IDE Burst Mode	: Enabled	+2.5V :2.60V VCORE	:2.05V
IDE HDD Block Mode	: Enabled		
Onboard FDC Controller	: Enabled		
Onboard Serial Port1	: Auto		
Onboard Serial Port2	: Auto		
IR Address Select	: Disabled		
Onboard Parallel Port1	: 378/IRQ7		
Parallel Port Mode	: SPP		
		ESC : Quit ↑↓→← : Select Item	
		F1 : Help PU/PD/+/- : Modify	
		F5 : Old Values (Shift) F2 : Color	
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

IDE HDD Block Mode

This allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive (HDD).

Enabled	IDE controller uses block mode.
Disabled	IDE controller uses standard mode.

Enabled is the default.

PCI Slot IDE 2nd Channel

This item allows you designate an IDE controller board inserted into one of the physical PCI slots as your secondary IDE controller.

Enabled	External IDE controller designated as the secondary controller
Disabled	No IDE controller occupying a PCI slot.

Enabled is the default.

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

On-Chip Primary PCI IDE

As stated above, your system includes two built-in IDE controllers, both of which operate on the PCI bus. This setup item allows you either to enable or disable the primary controller. You might choose to disable the controller if you were to add a higher performance or specialized controller.

Enabled	Primary HDD controller used-Default
Disabled	Primary HDD controller not used.

On-Chip Secondary PCI IDE

As above for the Primary controller, this setup item you either to enable or disable the secondary controller. You might choose to disable the controller if you were to add a higher performance or specialized controller.

Enabled	Primary HDD controller used
Disabled	Primary HDD controller not used.

USB KEYBOARD SUPPORT

If you have USB keyboard, you must be enable this item.

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

ON BOARD PARALLEL PORT

The system default value parallel port   378 /IRQ7

PARALLEL PORT MODE

The system support SPP,EPP,ECP,ECP+EPP mode

Support   Standard   Parallel   Port (SPP) compatible with IBM parallel port.

Support　Enhanced Parallel Port (EPP) compatible with IEEE 1284 specification

Support　Extended Capabilities Port (ECP) compatible with IEEE 1284 specification.

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.

<div align="center">
ROM PCI/ISA BIOS
POWER MANAGEMENT SETUP
AWARD SOFTWARE. INC.
</div>

ACPI function	: Enabled	VGA Activity	: Enabled
Power Management	: User Define	IRQ(3-7,9-15),NMI	: Enabled
PM Control by APM	: Yes	IRQ 8 Break Suspend	: Disabled
Video Off Option	: Susp,Stby-→off	Power Button Over Ride	: Instant off
Video Off Method	: V/H SYNC+Blank	Ring Power up Control	: Disabled
Switch Function	: Break/Wake	GPI05 Power up Control	: Disabled
Doze Speed(div.by)	:2/8	KB Power on passward	Enter
Stdby Speed(div by)	:1/8	Power up by Alarm	: Disabled
MODEM Use IRQ	:3		
Hot Key Function As	:Power off		
PM Times			
Hdd Off After	: Disabled		
Doze Mode	: Disabled		
Standby Mode	: Disabled		
Suspend Mode	: Disabled		
PM Events	:		
HDD Ports Activity	: Enabled		
COM Ports Activity	: Enabled		
LPT　Ports Activity	: Enabled		
		ESC : Quit	↑↓→←: 　Select
		F1 : Help	Item

	F5 : Old Values PU/PD/+/- : Modify
	F6 : Load BIOS Defaults (Shift) F2 : Color
	F7 : Load Setup Defaults

Power Button Over Ride (ATX POWER ONLY)

If the CMOS setup is "Delay 4 Sec". Selected, this switch's function is:

❖ Press PANEL1(11-12):ATX power Switch Connect within 1 seconds, the system will get into Suspend mode.(get into a GREEN mode)

❖ Press PANEL1 (11-12):ATX power Switch Connect beyond 4 seconds, the system will power off.

If the CMOS setup is "Instant-off" selected, this switch's function is:

❖ Press PANEL1 (11-12): ATX power Switch Connect, the system will power off instantly.

Power Up by ALARM (ATX POWER ONLY)

For this function you must set the CMOS setup item "Power Up by Alarm" to "enabled" and

set the accurate date and time in next two fields. When these date and time are equal to the RTC's date and time, the system will be power on.

Every time if you change these setup items, the functions will become effective after next time the keyboard has be initiated during POST (Power On Self Test)

RING Power Up Control (ATX POWER ONLY)

If you have an external MODEM connected to COM A or COM B port, you could power on the system by MODEM via a phone called.

For this function you must set the CMOS setup item " Ring Power Up Control " to "enabled".

Every time if you change this setup item, the function will become effective after next time the "DMI pool data" has be verified. The system will verify the DMI pool data just before loading the OS (operating system).

This function will be malfunction if any time the system has be power on but the DMI pool data has not be verified.

This function is unavailable while using an internal MODEM card.

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
2. Standby Mode

3. Suspend 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.

Power Down & Resume Events

Power Down and Resume events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything which occurs to a device which is configured a *On,* even when the system is in a power down mode.

As above, the choices are *On and Off. Off* is the default.

When set *On,* activity will neither prevent the system from going into a power management mode nor awaken it.

HDD Ports Activity
COM Ports Activity

LPT Ports Activity
VGA Activity
IRQ (3-7,9-15),NMI
IRQ 8 Break Suspend

Power Button Over Ride   (For ATX POWER ONLY)

This item allows you to select Delay 4 sec or Instant-off.

Ring Power Up Control (For ATX POWER ONLY)

This item allows you to select Disabled ,Enabled.
If a Fax Modem was connected with serial ports,
the computer will be awoken when it received a signal from outside.

Ring Power Up Control, Setup for MS-DOS mode
1. Select Ring Power Up Control :Enabled
2. Save the Value and Exit. This system will Reboot.
3. Power off your system by pressing the power button on the panel.

Ring Power Up Control, Setup for WIN95 mode
1. Select Ring Power Up Control: Enabled
2. Save the Value and Exit. This system will Reboot.
3. When you want leave WIN95 , select Shut down. The powor off by software

Power up By Alarm (For ATX POWER ONLY)

This item allows you to select Disabled ,Enabled.
Which allows the user setting date(Day/Hour/Minute)
in advance for turning on the system with a range in 30 days.
The system will be awoken on the date according to the user' setup.

Power up By Alarm Setup for MS-DOS mode

1. Select Resume By Alarm: Enabled
2. Set the (Day/Hour/Minute) you desire towake up your system
3. Save the Value and Exit. This system will Reboot.
4. Power off your system by pressing the power button on the panel.

Power up By Alarm Setup for win95 mode

1. Select Power up By Alarm: Enabled
2. Set the (Day/Hour/Minute) you desire towake up your system
3. Save the Value and Exit. This system will Reboot.
4. When you want leave WIN95 , select Shut down. The powor off by software

3.7 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.

<div align="center">

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

</div>

Resources Controlled By ::Auto Resources Configuration Data : Disable :	
	ESC : Quit ↑↓→← : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift) F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults

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 (default).

Reset Configuration Data

This item allows you to determine reset the configuration data or not.

Choices are Enabled and Disabled (default).