Chapter 1

INTRODUCTION

The MS-6189 MICRO ATX SI1 mainboard is a high-performance computer mainboard based on SiS® 630E chipset. The MS-6189 is designed for the Intel® Celeron™/Pentium III(FC-PGA) processor for inexpensive business/ personal desktop markets.

The SiS630E provides a high performance/low cost Desktop solution for the socket 370 series CPUs based system by integrating a high performance North Bridge, advanced hardware 2D/3D GUI engine and Super-South bridge. SiS630E also adopts Share System Memory Architecture which can flexibly utilize the frame buffer size up to 64MB. The "Super-South Bridge" in SiS630E integrates all peripheral controllers /accelerators /interfaces. SiS630E offers AC'97 compliant interface that comprises digital audio engine with 3D-hardware accelerator, on-chip sample rate converter, and professional wavetable along with separate modem DMA controller. SiS630E also provides interface to Low Pin Count (LPC) operating at 33 MHz clock which is the same as PCI clock on the host, and dual USB host controller with four USB ports that deliver better connectivity and 2 x 12Mb bandwidth.

The built-in fast PCI IDE controller supports the ATA PIO/DMA, and the Ultra DMA33/66 function that supports the data transfer rate up to 66 MB/s. It provides the separate data path for two IDE channels that can eminently improve the performance under the multi-tasking environment.

1.1 Mainboard Features

CPU
- Support Socket370 for Intel® Celeron™/Pentium III(FC-PGA) processor and Cyrix III Processor.
- Support 300MHz, 333MHz, 366MHz, 400MHz, 433MHz, 466MHz, 500MHz, 533MHz, 550MHz, 667MHz, 700MHz, 750Mhz, 800MHz, or higher processor

Chipset
- SiS® 630E chipset.
  - AGP 4x Graphics chip
  - 3D Positional Audio
  - Ultra ATA66 IDE
  - Integrated 10/100Mb Fast Ethernet
- Winbond 83697HF chipset
  - Enhanced Hardware Monitor
  - Low pin count interface for SIO

Front Side Bus (FSB)
- 66/100/133MHz clocks are supported.

Main Memory
- Support two 168-pin DIMM sockets.
- Support a maximum memory size of 256MB(64Mbit technology) or 1GB(256Mbit technology) SDRAM.

Slots
- One MR(Modem Riser) slot.
- Three 32-bit Master PCI Bus slots.
- Support 3.3v/5v PCI bus Interface.

On-Board IDE
- An IDE controller on the SiS 630E chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA33/66 operation modes.
- Can connect up to four IDE devices.

On-Board Peripherals
● On-Board Peripherals include:
 - 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and
   2.88Mbytes.
 - 2 serial port
 - 1 parallel port supports SPP/EPP/ECP mode
 - 4 USB ports(2 USB rear ports + 2 USB front headers)
 - 1 IrDA connector for SIR.
 - 1 VGA port
 - 1 Audio/Game Port

Video
● Chip integrated
● 2D/3D Graphics

Audio
● Chip integrated
● AC'97 2.1 Compliant

Network (optional)
● Chip integrated
 - Plug and Play Compatible
 - IEEE 802.3u Auto Negotiation and Parallel Detection for Automatic
   Speed Selection
 - Full Duplex and Half Duplex Mode for Both 10 and 100 Mbps

BIOS
● The mainboard BIOS provides "Plug & Play" BIOS which detects the
  peripheral devices and expansion cards of the board automatically.
● The mainboard provides a Desktop Management Interface(DMI) function
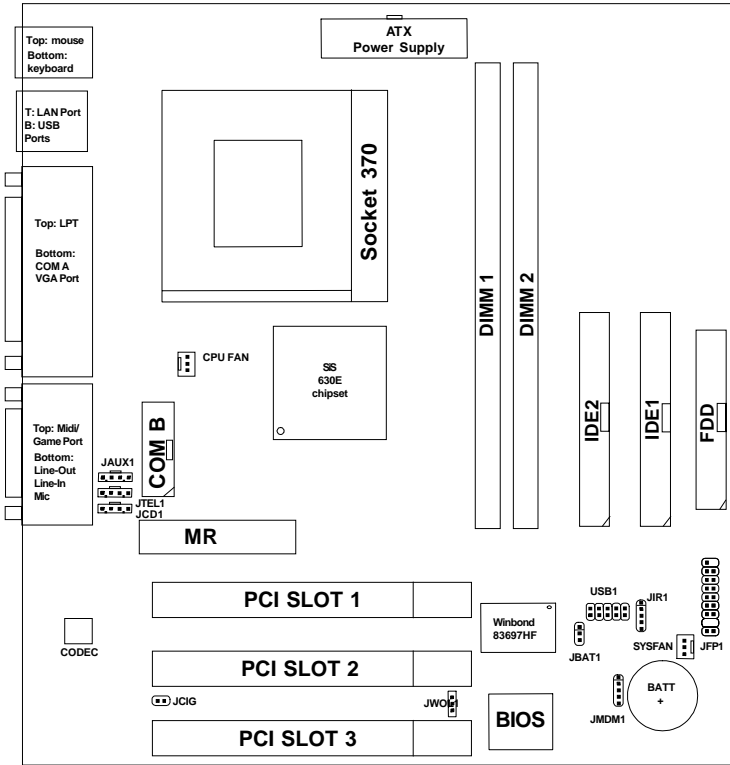 which records your mainboard specifications.

Dimension
● Micro ATX Form Factor: 7.5" x 9" inches

Mounting
● 6 mounting holes.

1.2 Mainboard Layout

MS-6189 MICRO ATX SI1 Mainboard

Chapter 2

HARDWARE INSTALLATION

2.1 Central Processing Unit: CPU

The mainboard operates with **Intel® Celeron™/Pentium III(FC-PGA) processor.** The mainboard uses a CPU socket called Socket 370 for easy CPU installation. The CPU should always have a Heat Sink and a cooling fan attached to prevent overheating.

2.1-1 CPU Installation Procedures

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

2. Locate Pin 1 in the socket and look for the white dot or cut edge in the CPU. Match Pin 1 with the white dot/cut edge. Then, insert the CPU. It should insert easily.

3. Press the lever down to complete the installation.
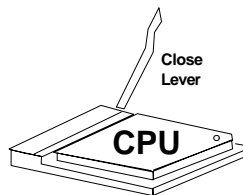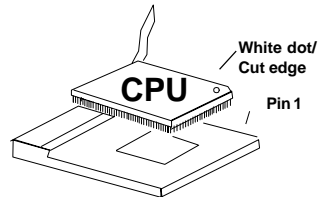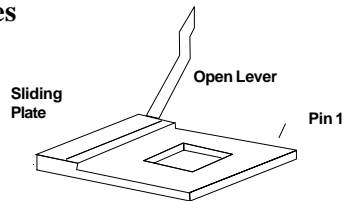
2.1-2 CPU Core Speed Derivation Procedure

The mainboard CPU Core/Bus ratio and CPU Bus Frequency can both be set through BIOS setup

If	<u>CPU Clock</u>	=	100MHz
	<u>Core/Bus ratio</u>	=	4
then	<u>CPU core speed</u>	=	<u>Host Clock</u> x <u>Core/Bus ratio</u>
		=	100MHz x 4
		=	400MHz

2.1-3 Fan Power Connectors: CPUFAN/SYSFAN

These connectors support system cooling fan with + 12V. It supports three pin head connector.   When connecting the wire to the connector, always take note 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 mainboard has System Hardware Monitor chipset on-board, you must use a specially designed fan with speed sensor to take advantage of this function.
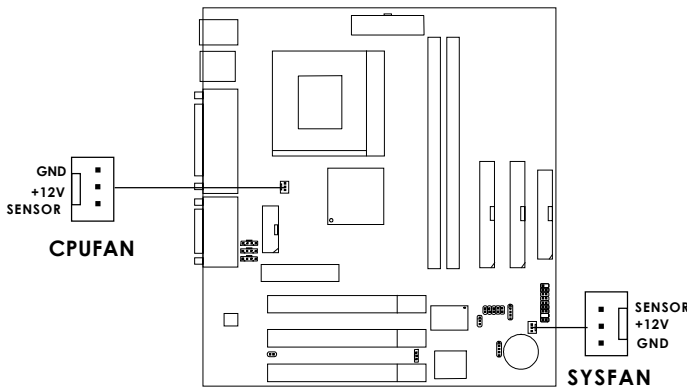
CPUFAN: Processor Fan
SYSFAN: System(Chassis) Fan

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.
        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.
        3. During Suspend mode, FAN status can be set through BIOS.

2.2 Clear CMOS Jumper: JBAT1

A battery must be used to retain the mainboard configuration in CMOS RAM. Short 1-2 pins of JBAT1 to store the CMOS data.

JBAT1
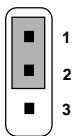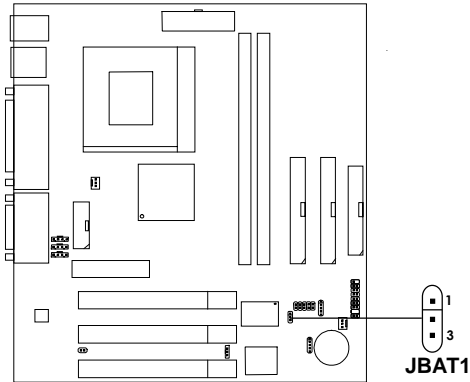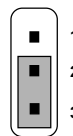
Clear Data

Keep Data

Note: You can clear CMOS by shorting 1-2 pin, while the system is off. Then, return to 2-3 pin position. Avoid clearing the CMOS while the system is on, it will damage the mainboard. Always unplug the power cord from the wall socket.

2.3 Memory Installation

2.3-1   Memory Bank Configuration

The mainboard supports a maximum memory size of 256MB(64-bit technology) or 1GB(256-bit technology) for SDRAM: It provides two 168-pin **unbuffered** DIMMs (Double In-Line Memory Module) sockets. It supports 8 MB to 512 Mbytes DIMM memory module.
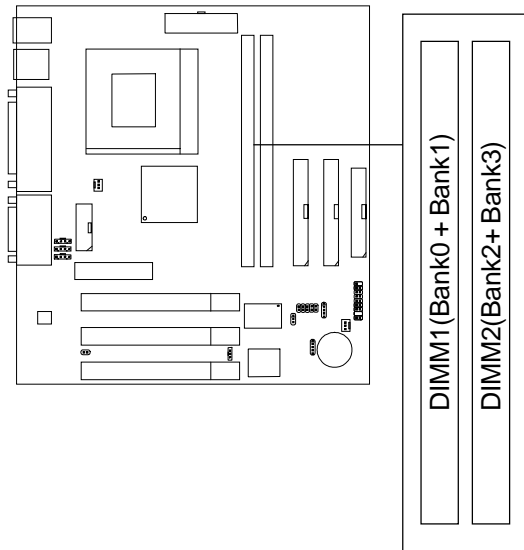
2.3-2   Memory Installation Procedures

A. How to install a DIMM Module
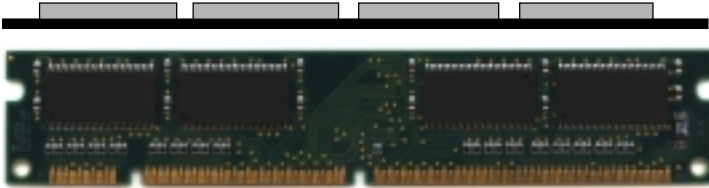
Single Sided DIMM
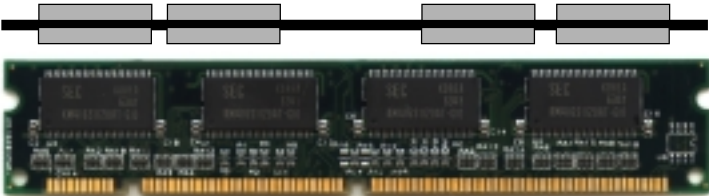
Double Sided DIMM

1. The DIMM slot has 2 Notch Keys "VOLT and DRAM", so the DIMM memory module can only fit in one direction.

2. Insert the DIMM memory module vertically into the DIMM slot. Then push it in.

DRAM   VOLT
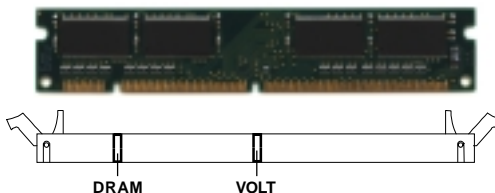
3. The plastic clip at the side of the DIMM slot will automatically close.

2.3-3   Memory Population Rules

1. Supports only SDRAM DIMM.

2. To operate properly, at least one 168-pin DIMM module must be installed.

3. This mainboard supports Table Free memory, so memory can be installed
    on DIMM1 or DIMM 2 in any order.

4. Supports 3.3 volt DIMM.

5. The DRAM addressing and the size supported by the mainboard is
    shown below:

Table 2.3-1 SDRAM Memory Addressing

DRAM Tech.	DRAM Density & Width	DRAM Addressing	Address Size		MB/DIMM	
			Row	Column	Single no. Side(S) pcs.	Double no. Side(D) pcs.
16M	1Mx16	ASYM	11	8	8MBx4	16MBx8
	2Mx8	ASYM	11	9	16MBx8	32MBx16
64M	2Mx32	ASYM	11	9	32MBx2	64MBx4
	2Mx32	ASYM	12	8	16MBx2	32MBx4
	4Mx16	ASYM	11	10	32MB	64MB
	4Mx16	ASYM	13	8	32MB	64MB
	8Mx8	ASYM	13	9	64MB	128MB
64M	2Mx32	ASYM	11	8	16MB	32MB
	4Mx16	ASYM	12	8	---	---
	8Mx8	ASYM	12	9	---	---

2.4 Case Connector: JFP1

The Keylock, Power Switch, Reset Switch, Power LED, Speaker, and HDD
LED are all connected to the JFP1 connector block.
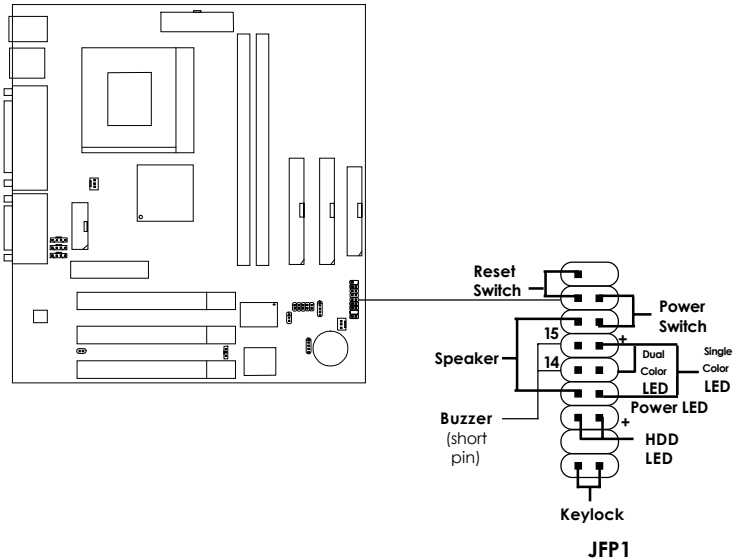
2.4-1 Power Switch
Connect to a 2-pin push button switch. This switch has the same feature with JRMS1.

2.4-2 Reset Switch
Reset switch is used to reboot the system rather than turning the power ON/ OFF. Avoid rebooting while the HDD LED is lit. You can connect the Reset switch from the system case to this pin.

2.4-3 Power LED
The Power LED is lit while the system power is on. Connect the Power LED from the system case to this pin. There are two types of LED that you can use: 3-pin single color LED or 2-pin dual color LED(ACPI request).

       a. 3 pin single color LED connect to pin 4, 5, & 6. This LED will lit when the system is on.

       b. 2 pin dual color LED connect to pin 5 & 6.

          GREEN Color: Indicate the system is in full on mode.

          ORANGE Color: Indicate the system is in suspend mode.

2.4-4 Speaker
Speaker from the system case is connected to this pin.

If on-board Buzzer is available:

Short pin 14-15:   On-board Buzzer Enabled.

Open pin 14-15:   On-board Buzzer Disabled.

2.4-5 HDD LED
HDD LED shows the activity of a hard disk drive. Avoid turning the power off while the HDD led is lit. You can connect the HDD LED from the system case to this pin.

2.4-6 Keylock
Keylock allows you to disable the keyboard for security purposes. You can connect the keylock to this pin.

2.5 Floppy Disk Connector: FDD

The mainboard also provides a standard floppy disk connector FDD that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the provided floppy drive ribbon cables.
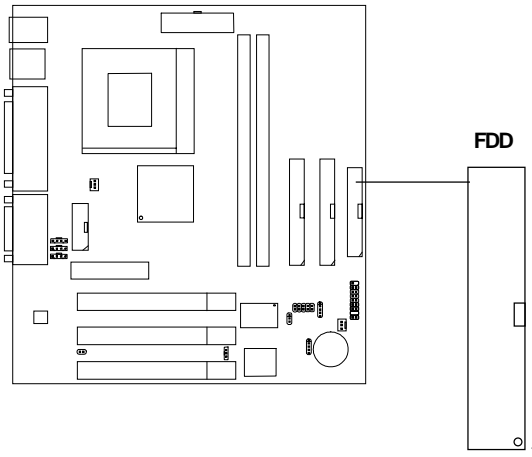
2.6 Hard Disk Connectors: IDE1 & IDE2

The mainboard has a 32-bit Enhanced PCI IDE and Ultra DMA/66 (ICH)/
Ultra DMA/33(ICH0) Controller that provides PIO mode 0~4, Bus Master,
and Ultra DMA/33 function. It has two HDD connectors IDE1 (primary) and
IDE2 (secondary). You can connect up to four hard disk drives, CD-ROM,
120MB Floppy (reserved for future BIOS) and other devices to IDE1 and
IDE2. These connectors support the provided IDE hard disk cable.
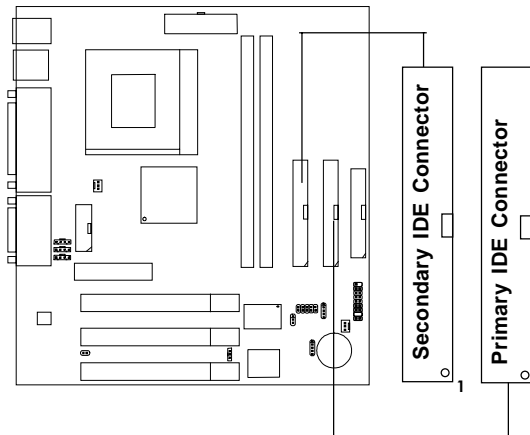
IDE1(Primary IDE Connector)

The first hard drive should always be connected to IDE1. IDE1 can
connect a Master and a Slave drive. You must configure second hard
drive to Slave mode by setting the jumper accordingly.

IDE2(Secondary IDE Connector)

IDE2 can also connect a Master and a Slave drive.

2.7 Power Supply

2.7-1 ATX 20-pin Power Connector: JPWR1

This connector supports the power button on-board. Using the ATX power supply, functions such as Modem Ring Wake-Up and Soft Power Off are supported by this mainboard. This power connector supports instant power on function which means that system will boot up instantly when the power connector is inserted on the board.

**ATX
Power Connector**
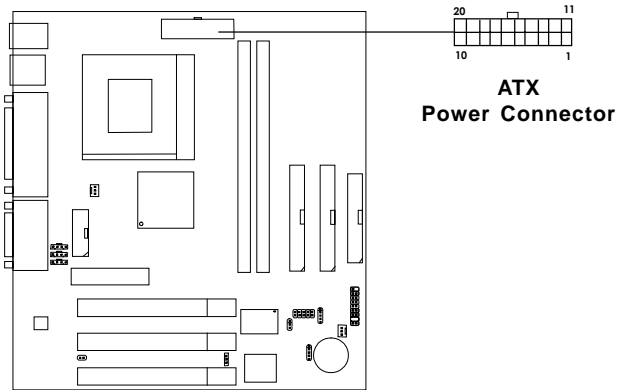
PIN DEFINITION

PIN	SIGNAL	PIN	SIGNAL
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	5V	14	PS_ON
5	GND	15	GND
6	5V	16	GND
7	GND	17	GND
8	PW_OK	18	-5V
9	5V_SB	19	5V
10	12V	20	5V

Warning: Since the mainboard has the instant power on function, make sure that all components are installed properly before inserting the power connector to ensure that no damage will be done.

2.8 IrDA Infrared Module Connector: JIR1

The mainboard provides one 5-pin infrared (JIR1) connector for IR modules. This connector is for optional wireless transmitting and receiving infrared module. You must configure the setting through the BIOS setup to use the IR function. FIR and Consumer IR are reserved functions.

JIR1
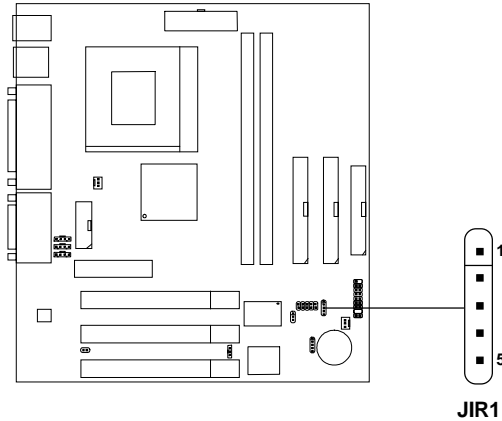
PIN	SIGNAL
1	VCC
2	FIRRX
3	IRRX
4	GND
5	IRTX

2.9 Serial Port Connectors: COM A and COM B

The mainboard provides two 9-pin male DIN connector for serial port COM
A & COM B. These ports are 16550A high speed communication ports that
send/receive 16 bytes FIFOs. You can attach a mouse or a modem cable
directly into this connector.

COM A
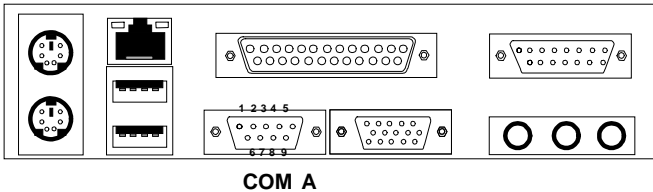
Serial Port (9-pin Male)

PIN DEFINITION

PIN	SIGNAL
1	**DCD**(Data Carry Detect)
2	**SIN**(Serial In or Receive Data)
3	**SOUT**(Serial Out or Transmit Data)
4	**DTR**(Data Terminal Ready)
5	**GND**
6	**DSR**(Data Set Ready)
7	**RTS**(Request To Send)
8	**CTS**(Clear To Send)
9	**RI**(Ring Indicate)
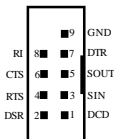
Note: There's another serial port connector (COM B),
which is located on the mainboard. Connect a
serial port 9 pin male port into this connector.

COM B

2.10 Parallel Port Connector: LPT1

The mainboard provides a 25 pin female centronic connector for LPT. A parallel port is a standard printer port that also supports Enhanced Parallel Port(EPP) and Extended capabilities Parallel Port(ECP). See connector and pin definition below:

Parallel Port (25-pin Female)

LPT 1
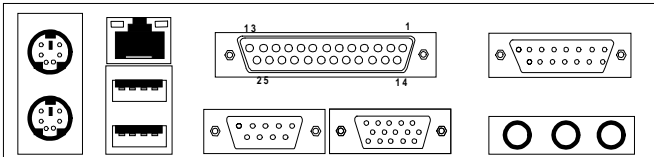
PIN DEFINITION

PIN	SIGNAL	PIN	SIGNAL
1	STROBE	14	AUTO FEED#
2	DATA0	15	ERR#
3	DATA1	16	INIT#
4	DATA2	17	SLIN#
5	DATA3	18	GND
6	DATA4	19	GND
7	DATA5	20	GND
8	DATA6	21	GND
9	DATA7	22	GND
10	ACK#	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SELECT		

2.11 Mouse Connector: JKBMS1

The mainboard provides a standard PS/2® mouse mini DIN connector for attaching a PS/2® mouse. You can plug a PS/2® mouse directly into this connector. The connector location and pin definition are shown below:
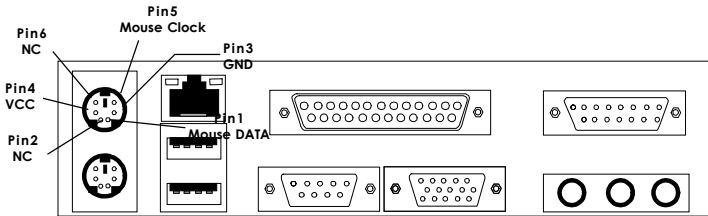
PS/2 Mouse (6-pin Female)

2.12 Keyboard Connector: JKBMS1

The mainboard provides a standard PS/2® keyboard mini DIN connector for attaching a keyboard. You can plug a keyboard cable directly to this connector.
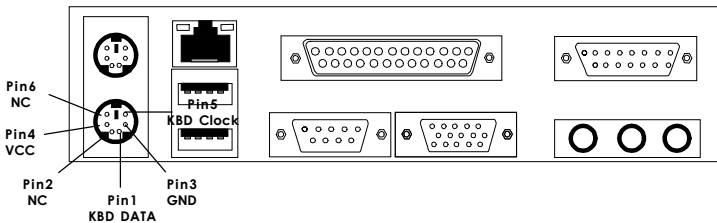
PS/2 Keyboard (6-pin Female)

2.13 Joystick/Midi Connectors

You can connect joystick or game pad to this connector.

Joystick/MIDI
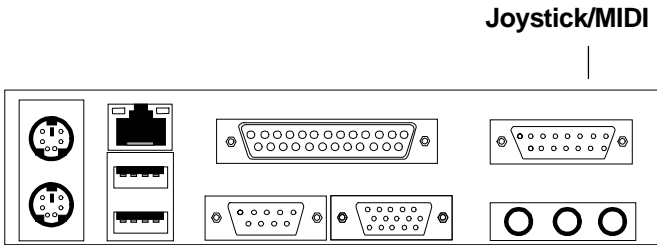
2.14   Audio Port Connectors

Line Out is a connector for Speakers or Headphones. **Line In** is used for external CD player, Tape layer, or other audio devices. **Mic** is a connector for the microphones.

Line Out   Line In   Mic
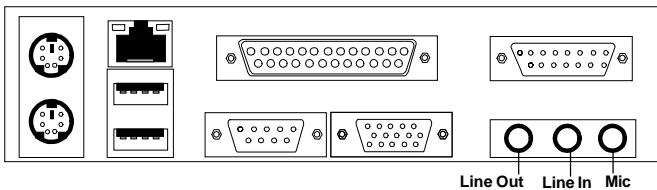
1/8" Stereo Audio Connectors

2.15 USB Connectors

The mainboard provides a **UHCI(Universal Host Controller Interface) Universal Serial Bus root** for attaching USB devices like: keyboard, mouse and other USB devices. You can plug the USB device directly to this connector.

USB Port 2

USB Port 1
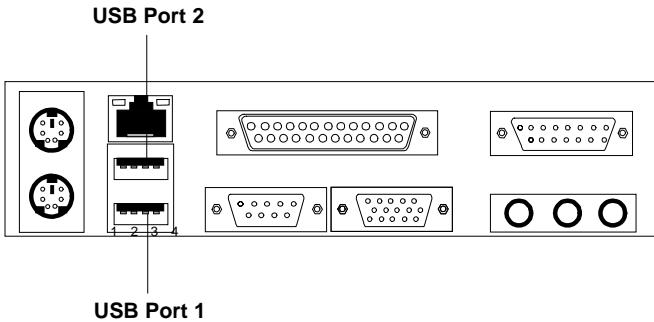
PIN	SIGNAL
1	VCC
2	-Data0
3	GND
4	+Data0

2.16 VGA DB 15 Pin Connector

The mainboard provides a DB 15-pin connector to connect to a VGA
monitor.

VGA
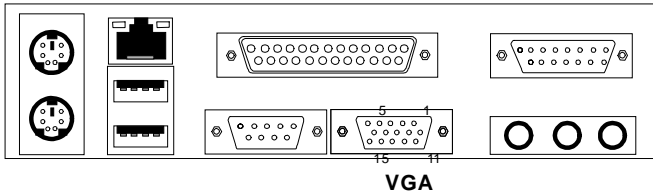
Analog Video Display Connector(DB15-S)	
Pin	**Signal Description**
1	Red
2	Green
3	Blue
4	Not used
5	Ground
6	Ground
7	Ground
8	Ground
9	Not used
10	Ground
11	Not used
12	SDA
13	Horizontal Sync
14	Vertical Sync
15	SCL

2.17 Lan Connector (optional)

The mainboard provides a RJ-45 connector for your network need.
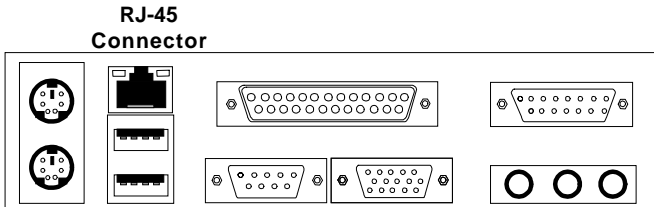
2.18 Wake-Up on LAN Connector: JWOL1

The JWOL1 connector is for use with LAN add-on cards that supports
Wake Up on LAN function. To use this function, you need to set the
"Resume by LAN" to enable at the BIOS Power Management Setup.

JWOL1
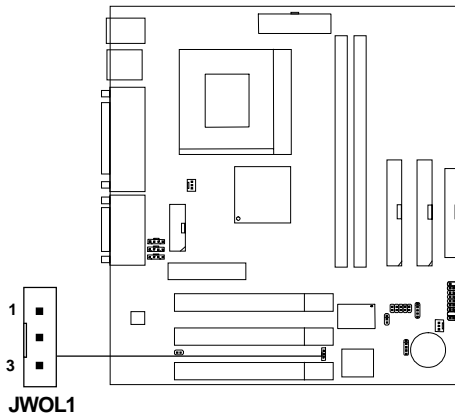
PIN	SIGNAL
1	5VSB
2	GND
3	MP_WAKEUP

Note: LAN wake-up signal is active "high".

Note:　　To be able to use this function, you need a power supply that
provide enough power for this feature. (Power supply with 750mA
5V Stand-by)

2.19 Modem Wake Up Connector: JMDM1

The JMDM1 connector is for used with Modem add-on card that supports
the Modem Wake Up function. To use this function, you need to set the
"Resume by Ring" to enable at the BIOS Power Management Setup.

JMDM1
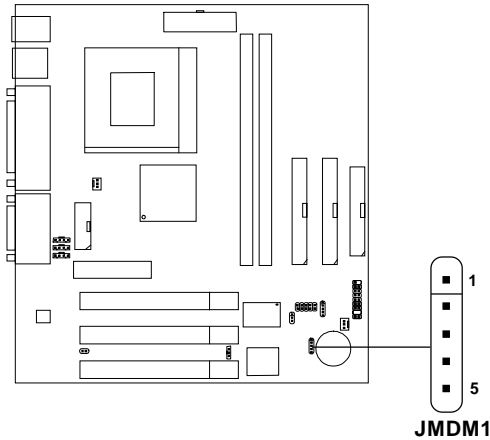
PIN	SIGNAL
1	NC
2	GND
3	MDM_WAKEUP
4	NC
5	5VSB

Note: Modem wake-up signal is active "low".

Note: To be able to use this function, you need a power supply that
provide enough power for this feature. (Power supply with 750mA
5V Stand-by)

2.20 Modem-In：JTEL1

The connector is for Modem with internal voice connector.
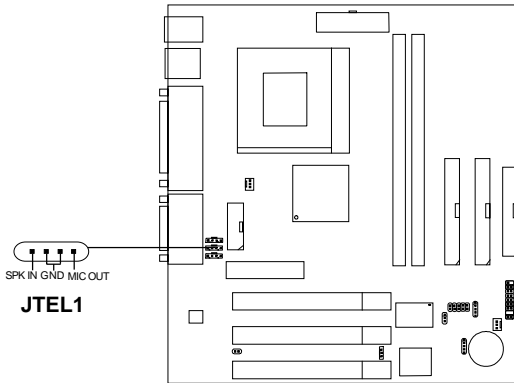
SPK_IN is connected to the Modem Speaker Out connector.
MIC_OUT is connected to the Modem Microphone In connector.

2.21 AUX Line In Connector: JAUX1

This connector is used for DVD Add on Card with Line In connector.

LGND R

JAUX1
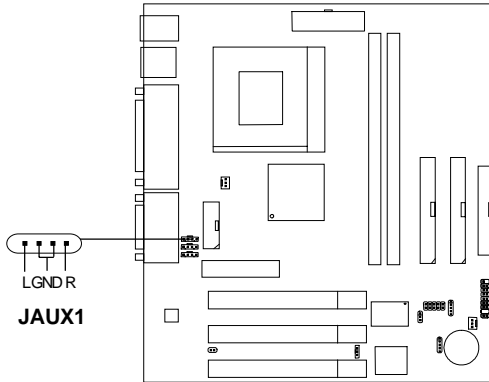
2.22 CD-In Connector: JCD1

This connector is for CD-ROM audio connector.

LGND R

JCD1
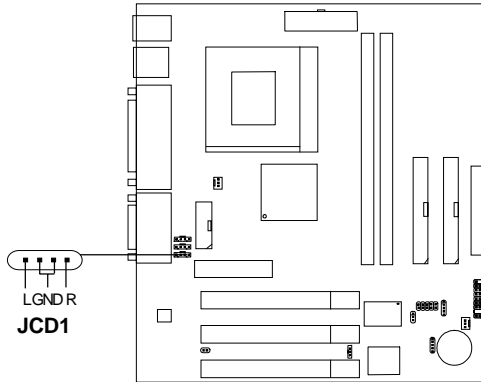
2.23 USB Front Connector: USB1

The mainboard provides a **front Universal Serial Bus connector**. This is an optional USB connector for Front Panel.

USB1
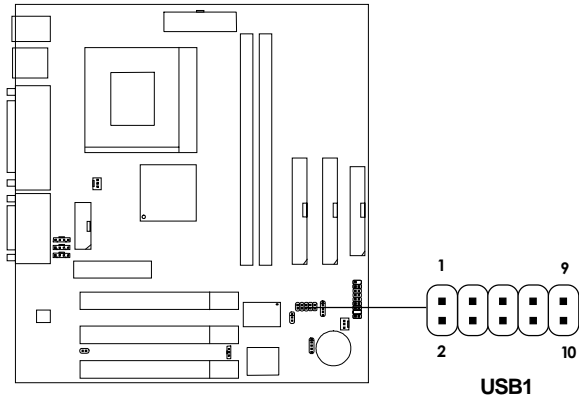
Pin	Description	Pin	Description
1	NC	6	+Data
2	VCC	7	GND
3	GND	8	-Data
4	NC	9	GND
5	NC	10	NC

2.24 MR

The Modem Riser specification is an open industry-standard specification that defines a hardware scalable Original Equipment Manufacturer (OEM) mainboard riser board and interface, which support a modem.

MR
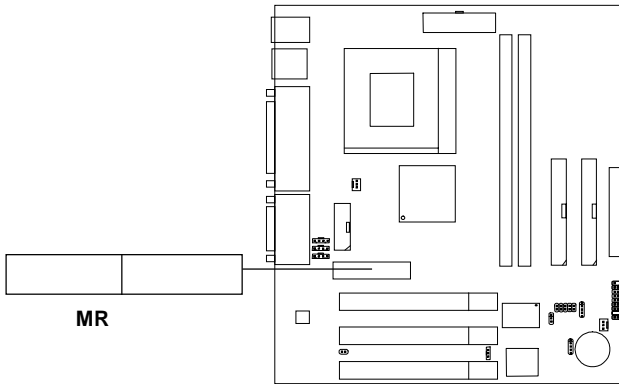
Chapter 3

AWARD® BIOS SETUP

Award® BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed RAM (CMOS RAM), so that it retains the Setup information when the power is turned off.

3.1 Entering Setup

Power on the computer and press <Del> immediately to allow you to enter Setup. The other way to enter Setup is to power on the computer. When the below message appears briefly at the bottom of the screen during the POST (Power On Self Test), press <Del> key or simultaneously press <Ctrl>, <Alt>, and <Esc> keys.

TO ENTER SETUP BEFORE BOOT, PRESS <CTRL-ALT-ESC>
OR <DEL> KEY

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to,

PRESS <F1> TO CONTINUE, <CTRL-ALT-ESC>
OR <DEL> TO ENTER SETUP

3.2 Getting Help

Main Menu
The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu/Option Page Setup Menu
Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <Esc>.

3.3 The Main Menu

Once you enter Award® BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. The Main Menu allows you to select from eleven setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

```
              CMOS Setup Utility - Copyright(C) 1984-2000

   ┌──────────────────────────────────────────────────────────────┐
   │                                                                │
   │   STANDARD  CMOS  Feature    Frequency/Voltage  Control        │
   │                                                                │
   │   Advanced  BIOS  Feature    Load  Fail-Safe  Defaults         │
   │                                                                │
   │   Advanced  Chipset  Feature Load  Optimized  Defaults         │
   │                                                                │
   │   Integrated  Peripherals    Set  Password                     │
   │                                                                │
   │   Power  Management  Setup    Save  &  Exit  Setup             │
   │                                                                │
   │   PnP/PCI  Configurations    Exit  Without  Saving             │
   │                                                                │
   │   PC  Health  Status                                           │
   │                                                                │
   │   Esc : Quit              ↑↓→←    : Select Item                │
   │   F10 : Save & Exit Setup  (Shift)F2 : Change Color            │
   │                                                                │
   │          Time, Date, Hard Disk Type...                         │
   │                                                                │
   └──────────────────────────────────────────────────────────────┘
```

Standard CMOS Setup
　　　　Use this Menu for basic system configurations.

Advanced BIOS Features
　　　　Use this menu to set the Advanced Features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Power Management Setup

Use this menu to specify your settings for power management.

PnP/PCI Configuration

This entry appears if your system supports PnP/PCI.

PC Health Status

This entry shows your PC health status.

Frequency/Voltage Control

Use this menu to specify your settings for frequency/voltage control.

Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults

Use this menu to load the BIOS default values that are factory settings for optimal performance system operations.

Set Password

Use this menu to set Passwords.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

3.4 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.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Standard CMOS Setup

```
 ┌──────────────────────────────────────────┬─────────────────────────┐
 │ Date(mm:dd:yy):      Fri, Feb 28,1999     │                         │
 │ Time(hh:mm:ss):      00:00:00             │      Item Help          │
 │                                           │                         │
 │                                           ├─────────────────────────┤
 │ IDE  Primary Master    Press Enter 2557MB │ Menu Level   >          │
 │ IDE  Primary Slave     Press Enter None   │                         │
 │ IDE  Secondary Master  Press Enter None   │                         │
 │ IDE  Secondary Slave   Press Enter None   │                         │
 │                                           │                         │
 │                                           │                         │
 │ Drive A              1.44M,  3.5in.       │                         │
 │ Drive B              None                 │                         │
 │                                           │                         │
 │                                           │                         │
 │ Video                EGA/VGA              │                         │
 │ Halt On              All Errors           │                         │
 │                                           │                         │
 │                                           │                         │
 │ Based Memory         640K                 │                         │
 │ Extended Memory      64512K               │                         │
 │ Total Memory         65536K               │                         │
 │                                           │                         │
 │                                           │                         │
 ├───────────────────────────────────────────┴────────────────────────┤
 │↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help│
 │   F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults     │
 └─────────────────────────────────────────────────────────────────────┘
```

Date

The date format is <day><month> <date> <year>.

Day	Day of the week, from Sun to Sat, determined by BIOS. Read-only.
month	The month from Jan. through Dec.
date	The date from 1 to 31 can be keyed by numeric function keys.
year	The year, depends on the year of the BIOS

Time

The time format is <hour> <minute> <second>.

PrimaryMaster/PrimarySlave
SecondaryMaster/Secondary Slave

Press PgUp/<+> or PgDn/<-> to select Manual, None, Auto type. 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 Manual to define your own drive type manually.

If you select Manual, related information is asked to be entered to the following items. Enter the information directly from the keyboard. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is SCSI, the selection shall be
"None".
If the controller of HDD interface is CD-ROM, the selection shall be
"None".

Access Mode	The settings are Auto, Normal, Large,LBA.
Cylinder	number of cylinders
Head	number of heads
Precomp	write precom
Landing Zone	landing zone
Sector	number of sectors

3.5 Advanced BIOS Features

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Advanced BIOS Features

Anti-Virus Protection	Disabled	Item Help
CPU Internal Cache	Enabled	
External Cache	Enabled	
CPU L2 Cache ECC Checking	Enabled	
Quick Power On Self Test	Disabled	Menu Level >
First Boot device	Floppy	
Second Boot device	HDD-0	
Third Boot device	LS/Zip	
Boot Other Device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Disabled	
Boot Up Numlock Status	Off	
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	
Report No FDD for Win 95	No	
Video BIOS Shadow	Enabled	

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

Anti-Virus Protection

Allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.

Disable(default)	No warning message to appear when anything attempts to access the boot sector or hard disk partition table.
Enable	Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector of hard disk partition table.

CPU Internal Cache

The default value is Enabled.

Enabled (default)   Enable cache
Disabled   Disable cache

Note: The internal cache is built in the processor.

External Cache

Choose Enabled or Disabled. This option enables the level 2 cache memory.

CPU L2 Cache ECC Checking

Choose Enabled or Disabled. This option enables the level 2 cache memory ECC(error check correction).

Quick Power On Self Test

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

Enabled   Enable quick POST
Disabled (default)   Normal POST

First/Second/Third/Boot Other Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items. The settings are Floppy, LS/ZIP, HDD-0/HDD-1/HDD-2/HDD-3, SCSI, CDROM, LAN, and Disabled.

Swap Floppy Drive

Switches the floppy disk drives between being designated as A and B. Default is Disabled.

Boot Up Floppy Seek

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

Boot Up NumLock Status

The default value is On.
On (default)   Keypad is numeric keys.
Off   Keypad is arrow keys.

Gate A20 Option

Normal   The A20 signal is controlled by keyboard controller or chipset hardware.
Fast(default) The A20 signal is controlled by port 92 or chipset specific method.

Typematic Rate Setting

Key strokes repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected. The settings are: Enabled/Disabled.

Typematic Rate (Chars/Sec)

Sets the number of times a second to repeat a key stroke when you hold the key down. The settings are: 6, 8, 10, 12, 15, 20, 24, 30.

Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke   The settings are: 250, 500, 750, 1000.

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

OS Selection for DRAM > 64MB

Allows OS2® to be used with > 64 MB of DRAM. Settings are Non-OS/2 (default) and OS2. Set to OS/2 if using more than 64MB and running OS/2®.

Report No FDD For Win 95

Whether report no FDD for Win 95 or not. The settings are: Yes, No.

Video BIOS Shadow

Determines whether video BIOS will be copied to RAM for faster execution. Video shadow will increase the video performance.

Enabled (default)   Video shadow is enabled

Disabled   Video shadow is disabled

3.6 Advanced Chipset Features

The Advanced Chipset Features Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.

Choose the "ADVANCED CHIPSET FEATURES" from the Main Menu and the following screen will appear.

```
        CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
                        Advanced Chipset Features
┌────────────────────────────────────────┬──────────────────────────┐
│ System BIOS Cacheable        Enabled    │                          │
│ Video RAM Cacheable          Enabled    │        Item Help         │
│ Memory Hole at 15M-16M       Disabled   │                          │
│ AGP Aperture Size            64MB       ├──────────────────────────┤
│ Graphic Window WR Combin     Enabled    │                          │
│ Concurrent function (MEM)    Enabled    │ Menu Level   >           │
│ Concurrent function (PCI)    Enabled    │                          │
│ CPU Pipeline Control         Enabled    │                          │
│ PCI Delay Transaction        Enabled    │                          │
│ Memory Parity Check          Enabled    │                          │
│                                         │                          │
│                                         │                          │
│                                         │                          │
│                                         │                          │
│                                         │                          │
│                                         │                          │
│                                         │                          │
│                                         │                          │
├─────────────────────────────────────────┴──────────────────────────┤
│ ↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help│
│    F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults    │
└────────────────────────────────────────────────────────────────────┘
```

Note: Change these settings only if you are familiar with the chipset.

System BIOS Cacheable

Selecting Enabled allows the caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

Video RAM Cacheable

Select Enabled allows caching of the video RAM, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

Memory Hole at 15M-16M

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. The user information of peripherals that need to use this area of system memory usually discusses their memory requirements. The settings are Enabled or Disabled.

AGP Aperture Size

Select the size of Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwaded to the AGP without any translation.

Concurrent function (MEM)

This item is CPU & PCI Masters Concurrently Access Memory Funtion. Select enabled allows CPU access memory cycles and PCI masters access memory concurrently issued onto host bus and PCI bus, respectively, and then the memory access cycles will be rearranged by SiS630 to memory sequentially.

Concurrent function (PCI)

This item is CPU & PCI Masters Concurrently Access PCI Bus Function. Select Enabled allows CPU access PCI bus cycle and PCI masters access memory cycles concurrently issued onto host and PCI bus, respectively.

CPU Pipeline Control

When this item is Enabled, only one pending cycle is allowed at one time. When Disabled, there might be more than two pending cycles at one time depending on the CPU behaviour.

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 version 2.1. The settings are Enabled or Disabled.

Memory Parity Check

Enabled this item to test the boot-up memory.

3.7 Integrated Peripherals

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Integrated Peripherals

```
➜ SIS 630 OnChip IDE Device      Press Enter          Item Help
➜ SIS 630 OnChip PCI Device      Press Enter
  USB Controller                 Enabled
  USB Keyboard Support           Disabled       Menu Level   >
  Onboard FDC Controller         Enabled
  IDE HDD Block Mode             Enabled
  Onboard Serial Port 1          3F8/IRQ4
  Onboard Serial Port 2          2F8/IRQ3
  UART Mode Select               Normal
  Onboard Parallel Port          3F8/IRQ7
  Game Port Address              201
  Midi Port Address              330
  Init Display First             PCI Slot
  System Share Memory Size       8 MB


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

USB Controller

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals. The settings are: Enabled, Disabled.

USB Keyboard Support

Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard. The settings are: Enabled, Disabled.

Onboard FDC Controller

The system has an onboard Super I/O chip with Floppy Disk Drive controller that supports 2 FDDs for 360K/720K/1.2M/1.44M/2.8M. Choose Enabled, to use the onboard FDD controller for accessing the FDD. Choose Disabled, to use the off board FDD controller.

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/writes per sector the drive can support. The settings are: Enabled, Disabled.

Onboard Serial Port 1
Disabled/(3F8/IRQ4)/(2F8/IRQ3)/ (3E8/IRQ4)/(2E8/IRQ3)

Onboard Serial Port 2
Disabled/(3F8/IRQ4)/(2F8/IRQ3)/(3E8/IRQ4)/(2E8/IRQ3)

The system has an On-board Super I/O chipset with 2 serial ports. The On-board serial ports can be selected as:

> **Disabled**
> 3F8/IRQ4   COM 1 uses IRQ4
> 2F8/IRQ3   COM 2 uses IRQ3
> 3E8/IRQ4   COM 3 uses IRQ4
> 2E8/IRQ3   COM 4 uses IRQ3

Note: Because the ISA Bus Interrupt accepts low to high edge trigger, the interrupt request line cannot be shared by multiple sources. If an off-board ISA add-on card with a serial port is installed the user may have to disable the on-board serial port because it will conflict with IRQ request line for the off-board serial port.

UART Mode Select

This item allows you to determine which InfraRed (IR) function of the onboard I/O chip, this function uses.

> 278H/IRQ5   Line Printer port 2
> 378H/IRQ5   Line Printer port 1

Onboard Parallel Port

    Disabled   There is a built-in parallel port on the on-board Super I/O chipset that provides Standard, ECP, and EPP features. It has the following options:

        Disable
        3BCH/IRQ7   Line Printer port 0
        278H/IRQ5   Line Printer port 2
        378H/IRQ5   Line Printer port 1

Game Port Address

    This item allows the user to choose the Game port address.

Midi Port Address

    This item allows the user to choose the Midi port address.

Init Display First

    This item allows you to decide to activate whether PCI Slot or on-chip VGA first.   The settings are: PCI Slot, Onboard.

System Share Memory Size

    This item defines the System Share Memory Size for video.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
SIS 630 OnChip IDE Device

```
Internal PCI/IDE              Both                    Item Help
IDE Primary Master PIO        Auto
IDE Primary Slave PIO         Auto
IDE Secondary Master PIO      Auto          Menu Level   >
IDE Secondary Slave PIO       Auto
Primary Master UltraDMA       Auto
Primary Slave UltraDMA        Auto
Secondary Master UltraDMA     Auto
Secondary Slave UltraDMA      Auto
IDE Burst Mode                Enabled
```

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

Internal PCI/IDE

This chipset contains an internak PCI IDE interface with support for two IDE channels. The settings are Primary, Secondary or Both

IDE Primary Master/Slave PIO

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interfaces supports. Modes 0 through 4 provide succesively increased performance. In Auto mode, the system automatically determines the best mode for each device.

Primary/Secondary Master/Slave UltraDMA

UDMA (Ultra DMA) is a DMA data transfer protocol that utilizes ATA commands and the ATA bus to allow DMA commands to transfer data at a maximum burst rate of 33MB/s. When you select Auto in the four IDE UDMA fields (for each of up to four IDE devices that the internal PCI IDE interface supports,) the system automatically determines the optimal data transfer rate for each IDE device.

IDE Burst Mode

Selecting Enabled reduces latency between each drive read/write cycle, but may cause instability in IDE subsystems that cannot support such fast performance. If you are getting disk drive errors, try setting this value to Disabled. This field does not appear when the Internal PCI/IDE field, above is Disabled.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
SIS 630 OnChip PCI Device

```
┌─────────────────────────────────────────┬──────────────────────┐
│                                          │                      │
│  SIS-7018 AC97 AUDIO         Auto        │      Item Help       │
│  SIS-7013 S/W Modem          Auto        │                      │
│  SIS-900 10/100M Ethernet    Enabled     ├──────────────────────┤
│  SIS-900 MAC Address Input   Press Enter │                      │
│                                          │  Menu Level  >       │
│                                          │                      │
│                                          │                      │
│                                          │                      │
│                                          │                      │
│                                          │                      │
│                                          │                      │
│                                          │                      │
│                                          │                      │
│                                          │                      │
└─────────────────────────────────────────┴──────────────────────┘
↑↓→←  Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
   F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults
```

SIS-7018 AC97 AUDIO

Select Auto to support AC97 audio.

SIS-7013 S/W Modem

Select Auto to support AC97 modem.

SIS-900 10/100M Ethernet (optional)

This items alllows you to Enabled/Disabled the SiS-900 10/100M
Ethernet.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
SIS 950 SuperIO Device

```
┌─────────────────────────────────────────────┬──────────────────────────┐
│ Onboard FDC Controller        Enabled        │       Item Help          │
│ Onboard Serial Port 1         3F8/IRQ4        │                          │
│ Onboard Serial Port 2         2F8/IRQ3        ├──────────────────────────┤
│ UART Mode Select              Normal          │                          │
│ xUR2 Duplex Mode              Half            │ Menu Level   >           │
│ Onboard Parallel Port         378/IRQ7        │                          │
│ Parallel Port Mode            SPP             │                          │
│ xECP Mode Use DMA             3               │                          │
│ Game Port Address             201             │                          │
│ Midi Port Address             330             │                          │
│ Midi Port IRQ                 10              │                          │
│                                               │                          │
│                                               │                          │
│                                               │                          │
│                                               │                          │
├─────────────────────────────────────────────┴──────────────────────────┤
│ ↑↓→←  Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│    F5:Previous Values  F6:Fail-safe defaults  F7:Optimized Defaults       │
└─────────────────────────────────────────────────────────────────────────┘
```

Onboard FDC Controller

Select Enabled if your system has a floppy disk controller (FDC) installed on the systen board and you wish to use it. If the system has no floppy drive, select Disabled in this field.

Onboard Serial Port 1/Port 2

Select an address and corresponding interrupt for the first and second serial ports.

UART Mode Select

This item allows you to select the UART mode.

UR2 Duplex Mode

This item allows you to select the IR half/full duplex function.

Onboard Parallel Port

This item allows you to determine access onboard parallel port controller with which I/O address.

Parallel Port Mode

Select an address operating mode for the onboard parallel (printer) port. Select SPP, EPP, ECp, or ECP+EPP unless you are certain your hardware and software both support one of the other available modes.

ECP Mode Use DMA

Select a DMA channel for the parallel port for use during ECP mode. The settings are 3 or 1.

Game Port Address

This item allows you to select the Game Port Address. The settings are Disabled, 201 or 209.

Midi Port Address

This item allows you to select the Midi Port Address. The settings are Disabled, 330 or 300.

Midi Port IRQ

This item allows you to select the Midi Port IRQ.

3.8 Power Management Setup

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.

```
           CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
                          Power Management Setup
┌─────────────────────────────────────────────────────────────────────────┐
│ ACPI Function              Enabled       │                                │
│ ACPI Suspend Type          S1(POS)       │         Item Help              │
│ Video Off Option           Susp,Stby→Off │                                │
│ Video Off Method           DPMS Supported│                                │
│ Modem Use IRQ              3             │ Menu Level   >                 │
│ HDD Off After              Disable       │                                │
│ Power Button Override      Instant Off   │                                │
│ ➔ PM 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          │
└───────────────────────────────────────────────────────────────────────────┘
```

ACPI Function

This item allows you to Enabled/Disabled the Advanced Configuration and Power Management (ACPI). The settings are Enabled and Disabled.

ACPI Suspend Type

This item will set which ACPI suspend type will be used.

S1 (POS)

The S1 sleeping state is low wake-up latency sleeping state. In this state, no system context is lost(CPU or chip set) and hardware maintains all system context.

S3 (STR)

The S3 state is a low wake-up latency sleeping state where all system context is lost except system memory. CPU, cache, and chipset context are lost in this state. Hardware maintains memory context and restores some CPU and L2 configuration context.

Video Off Optiom

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 will blanked when the systems enters the Suspend mode.
Susp, Stby → Off	Monitor will blanked when the systems enters either Suspend or Standby modes.
All modes → Off	Monitor will blanked when the system enters any power saving mode.

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 Supported (default)	Initial display power management signaling.

Modem Use IRQ

Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system.

HDD Off After

By default, this item is Disabled, meaning that no matter the mode the rest of the system, the harddrive will remain ready. Other wise, you have a range of choices from 1 to 15 minutes or Suspend. This means that you can select to have your hard disk drive turned off after a selected number of minutes or when the rest of the system goes into a Suspend mode.

Power Button Override

You could press the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has "hung".

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
PM Wake Up Events

```
┌─────────────────────────────────────────┬──────────────────────────┐
│  IRQ [3-7,9-15], NMI          Enabled     │        Item Help         │
│  IRQ 8 Break Suspend          Disabled    │                          │
│  RING Power Up Control        Enabled     │                          │
│  PCIPME Power Up Control       Enabled     ├──────────────────────────┤
│  KB Power ON Password         Enter       │  Menu Level   >          │
│   Power Up by Alarm           Disabled    │                          │
│  x Month Alarm                NA          │                          │
│  x Day of Month Alarm          0          │                          │
│  x Time (hh:mm:ss) Alarm       0  14  0   │                          │
│                                           │                          │
│                                           │                          │
│                                           │                          │
│                                           │                          │
│                                           │                          │
│                                           │                          │
├───────────────────────────────────────────┴──────────────────────────┤
│ ↑↓→←  Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│   F5:Previous  Values  F6:Fail-safe  defaults  F7:Optimized  Defaults │
└───────────────────────────────────────────────────────────────────────┘
```

IRQ [3-7, 9-15], NMI
IRQ 8 Break Suspend

You can Enable or Disable monitoring of IRQ8 (the Real Time Clock) so it does not awaken the system from Suspend mode.

Ring Power Up Control

When you select Enabled, a signal from ring returns the system to Full On state.

KB Power ON Password

When you set a password for keyboard, the password you set the keyboard that returns the system to Full On state.

Power Up by Alarm

When you select Enabled, the following fields appear. This lets you set the alarm that returns the system to Full On state.

3.9 PnP/PCI Configuration Setup

This section describes configuring the PCI bus system. PCI, or **P**ersonal **C**omputer **I**nterconnect, 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.

```
          CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
                       PnP/PCI Configuration Setup
┌──────────────────────────────────────────────┬──────────────────────┐
│  Reset Configuration Data        Disabled     │                      │
│                                               │      Item Help       │
│   Resources Controlled By        Auto (ESCD)  │                      │
│ x IRQ Resources                  Press Enter  ├──────────────────────┤
│                                               │ Menu Level   >       │
│   PCI/VGA Palette Snoop          Disabled     │                      │
│                                               │                      │
│                                               │                      │
│                                               │                      │
│                                               │                      │
│                                               │                      │
│                                               │                      │
│                                               │                      │
│                                               │                      │
│                                               │                      │
│                                               │                      │
├───────────────────────────────────────────────┴──────────────────────┤
│ ↑ ↓ → ← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help│
│    F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults       │
└────────────────────────────────────────────────────────────────────────┘
```

Reset Configuration Data

Normally, you leave this field to Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot.
The settings are: Enabled and Disabled .

Resources 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®95/98. If you set this field to "manual" choose specific resources by going into each of the sub menu that follows this field (a sub menu is preceded by a "➤"). The settings are: Auto(ESCD), Manual.

IRQ Resources

When resources are controlled manually, assign each system inter-rupt a type, depending on the type of device using the interrupt.

PCI/VGA Palette Snoop

Leave this field at *Disabled*. The settings are Enabled, Disabled.

3.10 PC Health Status

This section shows the Status of your CPU, Fan, Warning for overall system status.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
PC Health Status

```
┌─────────────────────────────────────────────┬──────────────────────┐
│ Shutdown  Temperature       60℃/140°F        │                      │
│ Vcore                       1.95V            │      Item Help       │
│ +2.5V                       2.56V            │                      │
│ Power +3.3V                 3.26V            ├──────────────────────┤
│ Power +5.0V                 5.02V            │                      │
│ Power +12.0V                12.03V           │ Menu Level   >       │
│ 3.3VSB                      3.26V            │                      │
│ Power -12.0V                (-)11.54V        │                      │
│ 5.0VSB                      4.86V            │                      │
│ Voltage Battery             3.28V            │                      │
│ CPU Temperature             (-) 55℃          │                      │
│ CPU FAN                     5357 RPM         │                      │
│ System Fan                  0 RPM            │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
├──────────────────────────────────────────────┴──────────────────────┤
│ ↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help │
│    F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults   │
└─────────────────────────────────────────────────────────────────────┘
```

Shutdown Temperature
        This item allows you to configure a high temperature limit. If the CPU/System temperature is higher than the limit, chipset will automatically enter in ACPI S5 state.

Vcore/+2.5V/+3.3V/+5.0V/+12.0V/3.3VSB/-12.0V/5.0VSB

The chipset reserves 8 inputs for monitoring working voltages from various sources in the system. These voltages may include CPU voltage, power pins of the ATX power (+/-12V, +/-5V, 3.3V...) and others.

Voltage Battery

Monitor the output voltgae of the notebook battery.

CPU Temperature

The chipset reserves inputs for monitoring temperatures that are typically the CPU temperatures.

CPU/System Fan

The chipset reserves 2 inputs for monitoring FAN speeds in the system. Usually, one FAN is applied to cool down the CPU and the other one is applied by different purpose.

3.11 Frequency/Voltage Control

This section is for setting CPU Frequency/Voltage Control.

```
          CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
                          Frequency/Voltage Control
┌─────────────────────────────────────────┬─────────────────────────┐
│ Auto Detect DIMM/PCI Clk      Enabled    │                         │
│ Spread Spectrum               0.5% (CNTR)│       Item Help         │
│ CPU HOST/SDRAM/PCI Clock      Default     │                         │
│ CPU Clock Ratio Jumpless      By H/W      │                         │
│                                          ├─────────────────────────┤
│                                          │ Menu Level  >           │
│                                          │                         │
│                                          │                         │
│                                          │                         │
│                                          │                         │
│                                          │                         │
│                                          │                         │
│                                          │                         │
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│                                          │                         │
│                                          │                         │
│                                          │                         │
├──────────────────────────────────────────┴─────────────────────────┤
│ ↑↓→← 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 enable/disable auto detect DIMM/PCI Clock. The settings are: Enabled, Disabled.

Spread Spectrum

This item allows you to set the Spread Spectrum.

CPU HOST/SDRAM/PCI Clock

This item allows you to select the CPU/PCI frequency.

3.12 Load Fail-Safe/Optimized Defaults

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

    Load Fail-Safe Defaults (Y/N) ? N

Pressing 'Y' loads the BIOS default values for the most stable, minimal-performance system operations.

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 default values that are factory settings for optimal performance system operations.

3.13 Set Password

You can set the 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 disable 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. 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.

Chapter 4

SIS 630E INTEGRATED AUDIO/GRAPHICS CONTROLLER

1. Overview

The SiS 630E chipset extends SiS's graphics capabilities into the value PC segment by incorporating 2D and 3D capabilities with the memory controller, to provide the industry with complete graphics offerings for every computing segment.

The SiS AC'97 digital controller provides the next generation of audio performance to the PC market.

1.1 Graphics Features

- Support 2M, 4M, 8M, 16M, 32M, 64M share memory
- Support AGP 4x
- 2D & 3D Graphics Accelerator

1.2 Audio Features

- PCI Bus Master for fast DMA.
- Fully Compliant with PC97 Power Management Specification.

1.3 System Requirements

This section describes system requirements for the Audio/VGA Driver installation and Usage.

Computer	Intel® Celeron™ processor or higher
Monitor	VGA Support, mimimum 640x480 resolution
Operating system	Windows® 95/98, Windows® NT 4.0, Windows® ME, or Windows® 2000.
CD-ROM	Double Speed or Higher
Chipset	SiS 630E chipset

2. VGA Driver Setup & Usage Procedures

Insert the CD-title into your CD-ROM drive. This CD will auto-run.
This will display installation for VGA driver and sound driver. Just
click the button for automatic installation for VGA driver.

2.1 Windows® 95/98/ME/2000

If you start Windows® 95/98/ME/2000, this will automatically detect
this hardware onboard "Standard PCI Graphics Adapter (VGA)". You
need to click "Next", then "Finish". Do not click on the "Cancel".
The driver need these ID.

2.1-1 Display Driver Installation Procedure:
Step 1:   Insert the provided CD_ROM disk into the CD-ROM drive.
Step 2:   Look for the CD_ROM drive, double click on the CD_ROM
              icon. This will show the setup screen.
Step 3:   Click on "SiS630 VGA Drivers" icon.
Step 4:   This will show an installation menu.
Step 5:   Click on "Display Drivers".
Step 6:   Click "OK".
Step 7:   This will copy the VGA drivers into the hard drive.
Step 8: A message will appear stating you must restart the Win-
              dows® 95/98/ME/2000 system, select **yes** to restart.
Step 9: After restarting, Windows® 95/98/ME/2000 will show a new
              display setting.

2.2 Windows® NT 4.0

You need to install Windows® NT "Service Pack 3" or higher, before you install Windows® NT driver.

2.2-1 Display Driver Installation Procedure:
Step 1: Click **Start** menu and select **Control Panel** from **Settings**
            group.
Step 2:   Select **Display** icon.
Step 3: Select **Settings** on the Display Properties.
Step 4: Select **Display Type**.
Step 5: Select **Change** from the **Adapter Type** Area.
Step 6: Select **Have Disk** of Change Display.
Step 7: Insert the **CD-Title Disk** into CD-ROM Drive.
Step 8: When the Install from Disk dialog box appears, look for your
            CD-ROM drive :**\SVGA\sis\630\winnt40**
Step 9: When the **Change Display** dialog box appears, click **OK**.
Step 10: When the Third-party Drivers dialog box appears, click **Yes.**
A message will appear stating that the drivers were succesfully
installed. Click OK. You must now restart Windows® NT 4.0.

2.2-2 Changing resolution, color depth, and refresh rate:

Step 1: Click **Start** menu and select **Control Panel** from **Settings**
              group.

Step 2: Select **Display** icon.

Step 3: Select **Settings**.

Step 4: Select Color Palette to change between 256 color, 16 bit
              colors, and 32 bit colors.

Step 5: To select desktop resolution size, go to the Desktop area
              and use the slide bar to change resolution from 640x480,
              800x600, 1024x768, 1152x864, 1280x1024, to 1600x1200.

Step 6: Select Test to test the resolution. If the display test screen
              was good, then select Yes when the Testing Mode dialog
              box appears. If the display test screen was bad, then select
              No. Windows® NT will give you an error message.

Step 7: Click OK. If the display test screen was good and you
              select Yes, Windows® NT 4.0 will change the mode without
              restarting the system.

3. Audio Driver Setup & Usage Procedures

Insert the CD-title into your CD-ROM drive. This CD will auto-run.
Just click the button for automatic installation for audio driver.

2.1 Windows® 95/98/ME/2000

If you start Windows® 95/98/ME/2000, this will automatically detect
this hardware onboard "PCI Multimedia Audio Device" and
"Gameport Joystick". You need to click "Next", then "Finish". Do
not click on the "Cancel". The driver need these ID.

2.1-1 Audio Driver Installation Procedure:

Step 1:   Insert the provided CD_ROM disk into the CD-ROM drive.
Step 2:   Look for the CD_ROM drive, double click on the CD_ROM
              icon. This will show the setup screen.
Step 3:   Click on "SiS630 Sound Driver" icon.
Step 4:   This will copy the audio drivers into the hard drive.
Step 5:   A message will appear stating you must restart the Win-
              dows® 95/98/ME/2000 system, select **yes** to restart.

2.2 Windows® NT 4.0

2.2-1 Audio Driver Installation Procedure:

Step 1:   Click **Start** menu and select **Control Panel** from **Settings**
              group.
Step 2:   Select **Multimedia** icon.
Step 3:   Select **device** on the multimedia properties.
Step 4:   Select **ADD** icon.
Step 5:   Select **unlisted or updated driver**
Step 6:   Click **Ok**.
Step 7:   Insert the **CD-Title Disk** into CD-ROM Drive.
Step 8:   When the Install from Disk dialog box appears, look for your
              CD-ROM drive :**Sound\sis\630\NT40**
Step 9: When the Third-party Drivers dialog box appears, click **Yes.**
A message will appear stating that the drivers were succesfully
installed. Click OK. You must now restart Windows® NT 4.0.

Chapter 5

SIS® 630 FAST ETHERNET LAN DRIVER (OPTIONAL)

1. Overview

The SiS 630 provides an integrated Fast Ethernet controller and 10/100 Megabit per Second (Mbps) Physical layer Transceivers for the PCI Local Bus.

1.1 Features

- Plug and Play Compatible
- High-Performance 32-Bit PCI Bus Master Architecture with Integrated Direct Memory
- Access(DMA) Controller for Low CPU and Bus Utilization
- IEEE 802.3 and 802.3u Auto Negotiation and Parallel Detection for Automatic Speed Selection
- Full Duplex and Half Duplex Mode for Both 10 and 100Mbps
- Supports 10base-T, 100base-Tx

2. LAN Driver Setup

2.1 Windows® 95/98

To install the driver, just insert the provided CD-ROM into the CD-ROM drive. The CD-ROM will autorun. Press "SiS 630/540 :Lan Driver" icon to install the LAN driver.

If you restart Windows 95/98. This will automatically detect this hardware onboard 'PCI Ethernet Controller". You need to click "Next" then "Finish". Do not click the " Cancel" button. The driver need these ID.

2.2 Other OS driver

To install the driver for other operating system, just insert the provided CD-ROM into the CD-ROM drive.
Type:
    CD-ROM Path:\Network\SiS\630_540/Readme

This will show different procedure for the installation of LAN driver for different kind of operating system. Just follow the procedures given.