Introduction 1

The Pro266 Master (MS-6366) ATX mainboard is a high-performance computer mainboard based on Apollo Pro266 chipset and designed for the Intel® Celeron™ or Pentium !!! (FC-PGA) processor for inexpensive business/personal desktop markets.

The Apollo Pro266 chipset consists of the VT8633 V-Link DDR Host system controller and the VT8233 highly integrated V-Link Client PCI/LPC controller. The VT8633 provides superior performance between the CPU, DRAM, AGP bus and V-Link interface with pipelined, burst, and concurrent operation and supports eight banks of SDR/DDR SDRAMs up to 4 GB and full AGP v2.0 capability including 2x and 4x mode transfers, SBA (SideBand Addressing), Flush/Fence commands, and pipelined grants.

The VIA® VT8233 South Bridge enhances the functionality of the standard ISA peripherals and supports delayed transactions and remote power management so that slower ISA peripherals do not block the traffic of the PCI bus. In addition, the VT8233 includes eight levels (doublewords) of line buffers from the PCI bus to the ISA bus to further enhance overall system performance.

This chapter includes the following topics:

Mainboard Specification

CPU

- Support Socket 370 for Intel® Celeron(PPGA/FC-PGA)/Coppermine (FC-PGA) processor or VIA Cyrix III/Samuel processor
- Support CPU frequency at:
  - Celeron 433/500/533/566/600/633/667/700/733MHz and above
  - Coppermine 500/550/600/650/700/750/800/850 MHz and above @ 100MHz FSB, or 533/600/667/733/800/866/933/1G/1.13GHz and above @ 133MHz FSB
  - Cyrix III 433/466/500/533/566MHz and above @ 133MHz FSB
  - Samuel 500/533/550/600/650/700/733MHz and above @ 133MHz FSB

Chipset

- VIA® VT8633 chipset (552 BGA)
  - support 66/100/133 FSB
  - AGP 4x and Vlink plus Advanced ECC Memory Controller
  - Support PC100/133 SDRAM and PC200/266 DDR technology
- VIA® VT8233 chipset (376 BGA)
  - High Bandwidth Vlink Client controller
  - Integrated Faster Ethernet LPC
  - Integrated Hardware Sound Blaster/Direct Sound AC97 audio
  - Ultra DMA 33/66/100 master mode PCI EIDE controller
  - ACPI

Clock Generator

- Programmable (48-pin clock programmable + 56-pin buffer)
- Support 66/100/133MHz clocks

Main Memory

- Support four memory banks using two 168-pin SDRAMs (maximum size up to 2GB) and six memory banks using three 184-pin DDR DIMMs (maximum size up to 3GB)

Slots

- One AGP (Accelerated Graphics Port) slot
  - AGP v2.0 specification compliant
- One CNR (Communication Network Riser) slot

- Five 32-bit Master PCI Bus slots
- Supports 3.3V/5V PCI bus Interface

On-Board IDE

- An IDE controller on the VIA® VT8233 Chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA 33/66/100 operation modes
- Can connect up to four IDE devices

Audio

- Chipset integrated

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 ports (COMA + COMB)
  - 1 parallel port supportting SPP/EPP/ECP mode
  - 6 USB ports (2 rear connectors and 2 USB front pin headers- 4 ports)
  - 1 IrDA connector for SIR/CIR/FIR/ASKIR/HPSIR
  - 1 Game/3 Audio ports
  - 2 IDE Raid connectors
  - On board buzzer

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

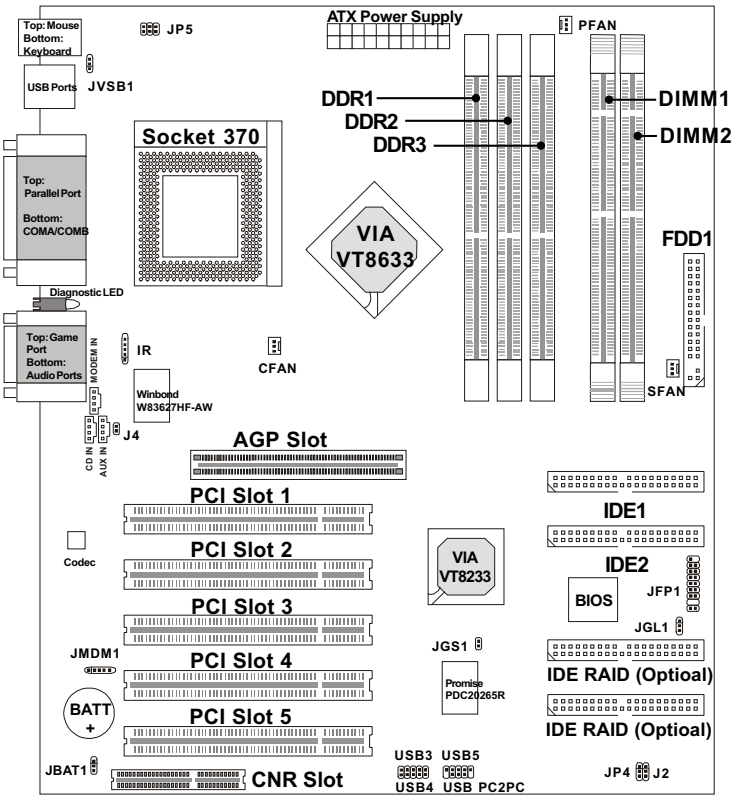
Dimension

- ATX Form Factor

Mounting

- 6 mounting holes

Mainboard Layout



Pro266 Master (MS-6366) ATX Mainboard

Quick Components Guide

Component	Function	Reference
DIMM 1~2	Installing memory modules	See p. 2-4~2-6
Socket 370	Installing CPU	See p. 2-2
CFAN	Connecting to CPUFAN	See p. 2-23
SFAN	Connecting to SYSFAN	See p. 2-23
PSFAN	Connecting to Power Supply Fan	See p. 2-23
ATX Power Supply	Installing power supply	See p. 2-7
IDE1& IDE2	Connecting to IDE hard disk drive	See p.2-13
IDE RAID connectors	Connecting to IDE RAID hard drives	See p.2-14
FDD1	Connecting to floppy disk drive	See p.2-12
USB3/4/5	Connecting to USB interfaces	See p. 2-17
USB PC2PC	Connecting to USB PC2PC interface	See p. 2-17~2-19
PCI Slot 1~5	Installing expansion cards	See p. 2-30
AGP Slot	Installing AGP cards	See p. 2-30
CNR Slot	Installing expansion cards	See p. 2-30
JFP1	Connecting to the case	See p. 2-15
JGS1	Connecting to sleep/suspend switch	See p. 2-20
JGL1	Connecting to sleep/suspend LED	See p. 2-21
JMDM1	Connecting to a modem card	See p. 2-20
J4	Top Tech III: monitor AGP temp.	See p. 2-22
IR	Connecting to IrDA infrared module	See p. 2-22
JBAT1	Clearing CMOS data	See p. 2-26
JVBS1	Setting keyboard wake-up function	See p. 2-27
J2	Selecting beep device	See p. 2-29
JP4	Enabling onboard audio codec	See p. 2-29
JP5	Enabling overclocking feature	See p. 2-28

Key Features

- Microsoft® PC99 compliant
- D-LED™ - 4 LEDs embedded in the mainboard
- T.O.P Tech™ III - accurately detect components' temperatures
- PC Alert™ III system hardware monitor
- CPU: Socket 370 for Intel® Celeron™/Pentium !!! Processor
- ATX Form Factor
- Clock: 66/100/133MHz
- Soft Audio integrated in chipset
- Memory: 3 DDR DIMMs + 2 SDR DIMMs
- LAN Wake up Function
- Modem (External/Internal) Ring Wake up Function
- I/O: 2 serial ports. 1 parallel port, 5 USB ports, 1 USB PC to PC Port, 1 floppy port, 1 IrDA connector, 3 Audio/1 Game port, 2 IDE RAID connectors (Optional)
- Slot: 1 AGP slot, 1 CNR slot, 5 PCI slots

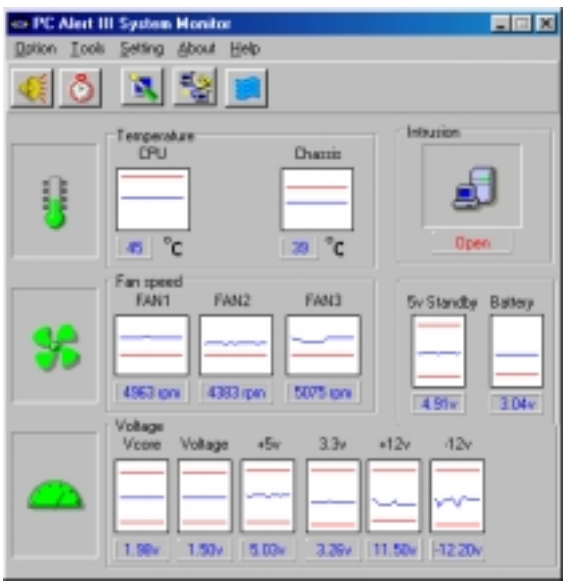
MSI Special Features

PC Alert™ III

The PC Alert™ III is a utility you can find in the CD-ROM. The utility is just like your PC doctor that can detect the following PC hardware status during real time operation:

* monitor CPU & system temperature
* monitor fan speed
* monitor system voltage
* monitor chassis intrusion

If one of the items above is abnormal, the program main screen will be immediately shown on the screen, with the abnormal item highlighted in red. This will continue to be shown,until user disables warning.

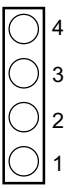


Features:

- Network Management
  - Monitoring & remote control
- Basic System Utilities
  - Scandisk & Defragment to maintain your HDD
- 3D Graphics Design
  - Enables a more friendly user interface
- Sofware Utilities
  - SoftCooler Optimized Cooling

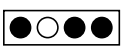
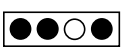
D-LED™

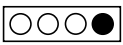
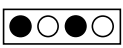
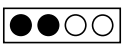
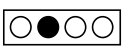
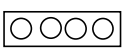
The D-LED™ uses graphic signal display to help users understand their system. Four LEDs embedded in the mainboard provide up to 16 combinations of signals to debug the system. The 4 LEDs can debug all problems that fail the system, such as VGA, RAM or other failures. This special feature is very useful for the overclocking users. These users can use the feature to detect if there are any problems or failures.



Diagnostic LED

● **Red** ○ **Green**

D-LED	Description
1 2 3 4 	System Power ON - The D-LED will hang here if the processor is damaged or not installed properly.
	Early Chipset Initialization
	Memory Detection Test - Testing onboard memory size. The D-LED will hang if the memory module is damaged or not installed properly.
	Decompressing BIOS image to RAM for fast booting.
	Initializing Keyboard Controller.
	Testing VGA BIOS - This will start writing VGA sign-on message to the screen.

	Processor Initialization - This will show information regarding the processor (like brand name, system bus, etc…)
	Testing RTC (Real Time Clock)
	Initializing Video Interface - This will start detecting CPU clock, checking type of video onboard. Then, detect and initialize the video adapter.
	BIOS Sign On - This will start showing information about logo, processor brand name, etc….
	Testing Base and Extended Memory - Testing base memory from 240K to 640K and extended memory above 1MB using various patterns.
	Assign Resources to all ISA.
	Initializing Hard Drive Controller - This will initialize IDE drive and controller.
	Initializing Floppy Drive Controller - This will initializing Floppy Drive and controller.
	Boot Attempt - This will set low stack and boot via INT 19h.
	Operating System Booting

2 Hardware Setup

This chapter provides you with the information about hardware setup procedures. While doing the installation, be careful in holding the components and follow the installation procedures. For some components, if you install in the wrong orientation, the components will not work properly.

Besides, use a grounded wrist strap before handling computer components. Static electricity may damage the components.

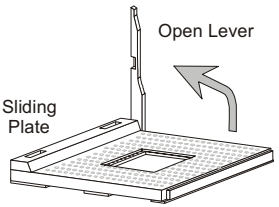
This chapter contains the following topics:

Central Processing Unit: CPU

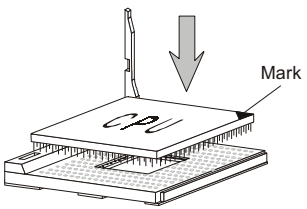
The mainboard supports Intel® Celeron™ and Coppermine™ processor. The mainboard uses a CPU socket called Socket 370 for easy CPU installation. Make sure the CPU has a Heat Sink and a cooling fan attached on top to prevent overheating. If you do not find the Heat Sink and cooling fan, contact your dealer or purchase and install them before turning on the computer.

CPU Installation Procedures

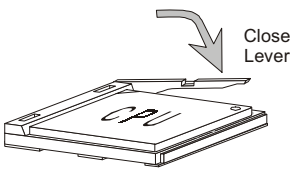
1. Pull the lever sideways away from the socket. Then, raise the lever up to a 90-degree angle.



2. Align the pins on the CPU with the pin positions on the socket carefully and place the CPU on it. The mark of the CPU will be next to the lever end.



3. Hold the CPU firmly, and then press the lever down to complete the installation.



WARNING!

Overheating will seriously damage the CPU and system, always make sure the cooling fan can work properly to protect the CPU from overheating.

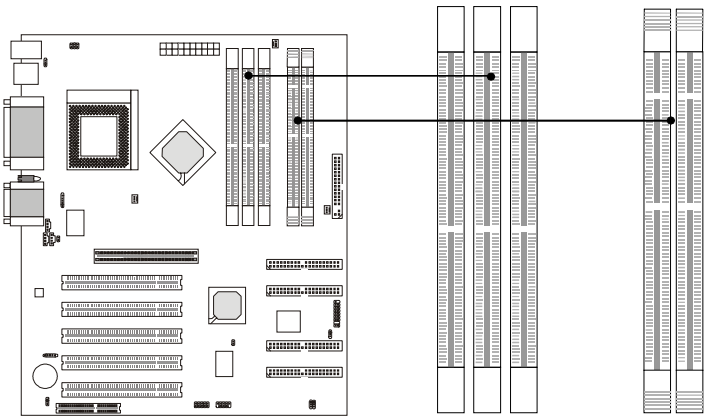
CPU Core Speed Derivation Procedure

The mainboard can automatically set the CPU Host Bus Frequency Clock.

If	CPU Clock	=	100MHz
	Core/Bus ratio	=	7
then	CPU core speed	=	Host Clock x Core/Bus ratio
		=	100MHz x 7
		=	700MHz

Memory Installation

The mainboard provides 3 sockets for 184-pin, 2.5V DDR DIMM with 6 memory banks and 2 sockets for 168-pin, 3.3V SDR DIMM with 4 memory banks. To operate properly, at least one DIMM module must be installed.



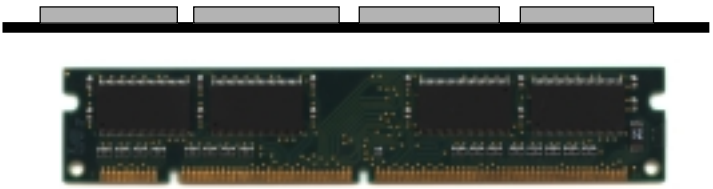
DDR DIMM Slots (DIMM 3~5) **SDR DIMM Slots (DIMM 1~2)**

The SDRAM Addressing & Size

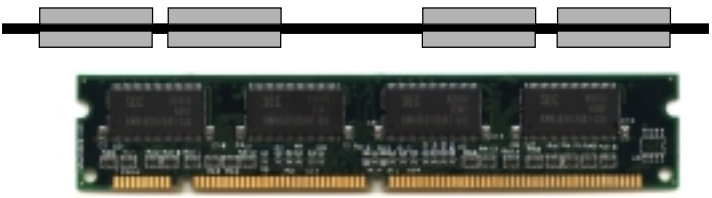
DRAM Tech.	DRAM Density & Width	DRAM Addressing	Address Size		MB/DIMM	
			Row	Column	Single no. Side(S) pcs.	Double no. Side(D) pcs.
16M	1Mx16	ASYM	11	8	8MBx4	16MBx8
	2Mx8	ASYM	11	9	16MBx8	32MBx16
	4Mx4	ASYM	11	10	32MB	64MB
64M	2Mx32	ASYM	11	9	32MBx2	64MBx4
	2Mx32	ASYM	12	8	16MBx2	32MBx4
	4Mx16	ASYM	11	10	32MB	64MB
	4Mx16	ASYM	13	8	32MB	64MB
	8Mx8	ASYM	13	9	64MB	128MB
	16Mx4	ASYM	13	10	128MB	256MB
64M	2Mx32	ASYM	12	8	16MB	32MB
	4Mx16	ASYM	13	8	32MB	64MB
	8Mx8	ASYM	13	9	64MB	128MB
	16Mx4	ASYM	13	10	128MB	256MB

SDR Module Installation Procedures

You can install single sided or double sided 168-pin DIMMs into SDR DIMM slots according to your needs.



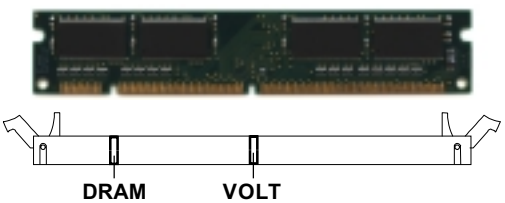
Single Sided DIMM



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.

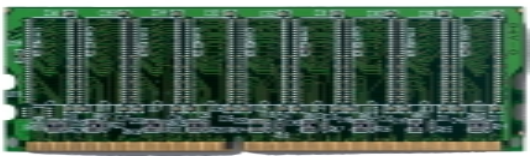
2. Insert the DIMM memory module vertically into the SDR DIMM slot. Then push it in.



3. The plastic clips at sides of the DIMM slot will automatically close.

DDR Module Installation Procedures

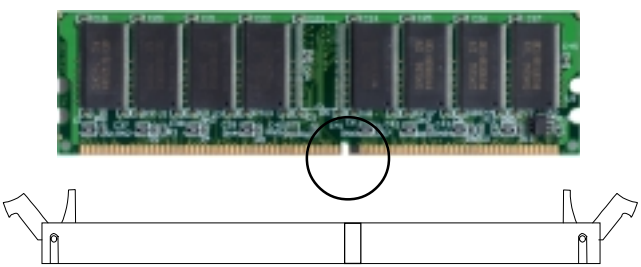
You can also install single sided or double sided 184-pin DDR DIMM modules into DDR DIMM slots to meet your needs. Different from the SDR DIMM, the DDR DIMM has only one notch on the center of module. The number of pins on either side of the breasks are different. The module will only fit in the right orientation.



Single Sided DIMM

Double Sided DIMM

1. Insert the DIMM module vertically into the DDR DIMM slot. Make sure the notch is on the right orientation.
2. The plastic clips at sides of the DIMM slot will automatically close.



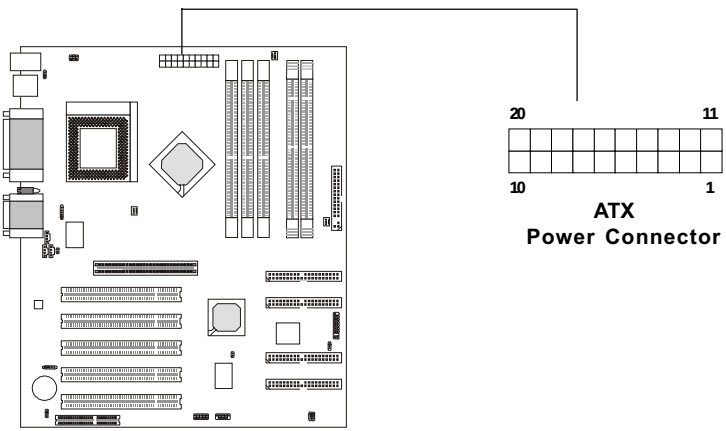
Volt

Power Supply

The mainboard supports ATX power supply for the power system. Before inserting the power supply connector, always make sure that all components are installed properly to ensure that no damage will be caused.

ATX 20-Pin Power Supply

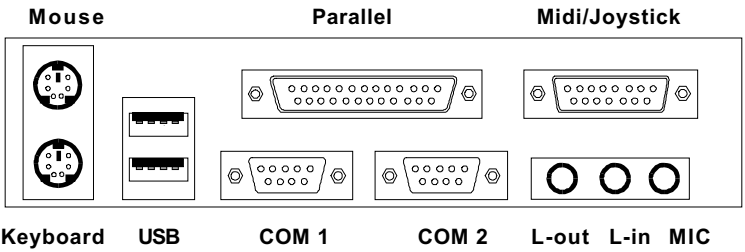
This connector allows you to connect to an ATX power supply. To connect to the ATX power supply, make sure the plugs of the power supply is inserted in the proper orientation and the pins are aligned. Then push down the power supply firmly into the connector.



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

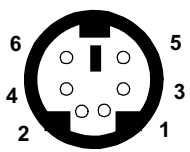
Back Panel

The Back Panel provides the following connectors:



Mouse Connector

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.



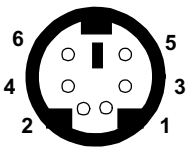
PS/2 Mouse (6-pin Female)

Pin Definition

PIN	SIGNAL	DESCRIPTION
1	Mouse DATA	Mouse DATA
2	NC	No connection
3	GND	Ground
4	VCC	+5V
5	Mouse Clock	Mouse clock
6	NC	No connection

Keyboard Connector

The mainboard provides a standard PS/2® keyboard mini DIN connector for attaching a PS/2® keyboard. You can plug a PS/2® keyboard directly into this connector.



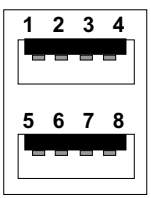
PS/2 Keyboard (6-pin Female)

Pin Definition

PIN	SIGNAL	DESCRIPTION
1	Keyboard DATA	Keyboard DATA
2	NC	No connection
3	GND	Ground
4	VCC	+5V
5	Keyboard Clock	Keyboard clock
6	NC	No connection

USB Connectors

The mainboard provides a UHCI (Universal Host Controller Interface) Universal Serial Bus root for attaching USB devices such as keyboard, mouse or other USB-compatible devices. You can plug the USB device directly into ths connector.



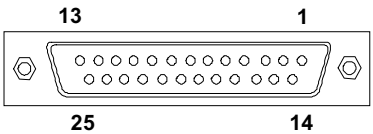
USB Ports

USB Port Description

PIN	SIGNAL	DESCRIPTION
1	VCC	+5V
2	-Data 0	Negative Data Channel 0
3	+Data0	Positive Data Channel 0
4	GND	Ground
5	VCC	+5V
6	+Data 1	Positive Data Channel 1
7	-Data 1	Negative Data Channel 1
8	GND	Ground

Parallel Port Connector

The mainboard provides a 25-pin female centronic connector for LPT. A parallel port is a standard printer port that supports Enhanced Parallel Port (EPP) and Extended Capabilities Parallel Port (ECP) mode.

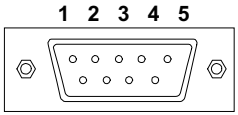


Pin Definition

PIN	SIGNAL	DESCRIPTION
1	STROBE	Strobe
2	DATA0	Data0
3	DATA1	Data1
4	DATA2	Data2
5	DATA3	Data3
6	DATA4	Data4
7	DATA5	Data5
8	DATA6	Data6
9	DATA7	Data7
10	ACK#	Acknowledge
11	BUSY	Busy
12	PE	Paper End
13	SELECT	Select
14	AUTO FEED#	Automatic Feed
15	ERR#	Error
16	INIT#	Initialize Printer
17	SLIN#	Select In
18	GND	Ground
19	GND	Ground
20	GND	Ground
21	GND	Ground
22	GND	Ground
23	GND	Ground
24	GND	Ground
25	GND	Ground1

Serial Port Connector: COM 1 & COM 2

The mainboard has two 9-pin male DIN connectors for serial port COM 1 and COM 2. You can attach a serial mouse or other serial devices.



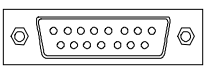
9-Pin Male DIN Connectors

Pin Definition

PIN	SIGNAL	DESCRIPTION
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	Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	RI	Ring Indicate

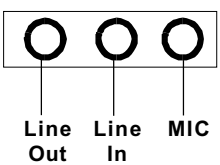
Joystick/Midi Connectors

You can connect a joystick or game pad to this connector.



Audio Port Connectors

Line Out is to connect speakers or headphones. ***Line In*** is a connector for external CD player, Tape player or other audio devices. ***Mic*** is used to connect to a microphone.

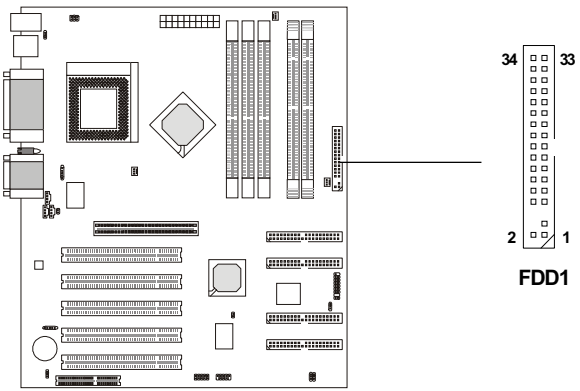


Connectors

The mainboard provides connectors to connect to FDD, IDE HDD, IDE RAID HDD, case, modem, LAN, USB Ports, IR module and CPU/Power Supply/System FAN.

Floppy Disk Drive Connector: FDD1

The mainboard provides a standard floppy disk drive connector that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types.

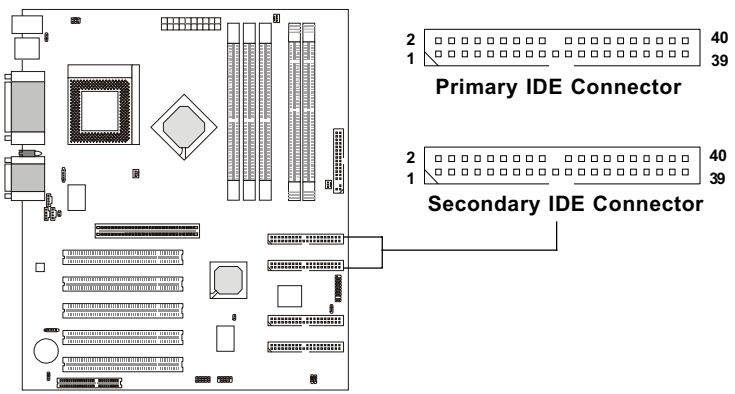


Hard Disk Connectors: IDE1 & IDE2

The mainboard uses an IDE controller on the VIA® VT8633 chipset that provides PIO mode 0-4, Bus Master, and Ultra DMA 33/66/100 modes. It has two HDD connectors IDE1 (Primary) and IDE2 (Secondary). You can connect up to four hard disk drives, CD-ROM or 120MB Floppy to IDE1 and IDE2.

IDE1 (Primary IDE Connector)
- The first hard disk drive should always be connected to IDE1. You can connect a Master and a Slave drive to IDE1.

IDE2 (Secondary IDE Connector)
- You can connect a Master and a Slave drive to IDE2.



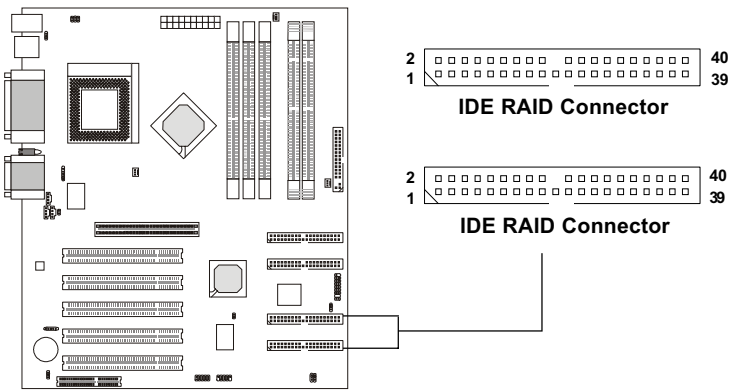
TIP:
If you install two hard disks on cable, you must configure the second drive to Slave mode by setting its jumper. Refer to the hard disk documentation supplied by hard disk vendors for jumper setting instructions.

IDE RAID Connectors (Optional)

The mainboard offers a low-cost RAID (Redundant Array of Independent Disks) solution by integrating two IDE RAID connectors that support PIO mode 0-4, Bus Master, and Ultra DMA 33/66/100 modes. The IDE RAID connectors allow you to connect Ultra ATA/DMA hard disks and use RAID technology for high performance, data security and fault tolerance. The connectors support RAID 0 (striping) and RAID 1 (mirroring).

IDE RAID Connectors

- You can connect a Master and a Slave drive to each IDE RAID connector.

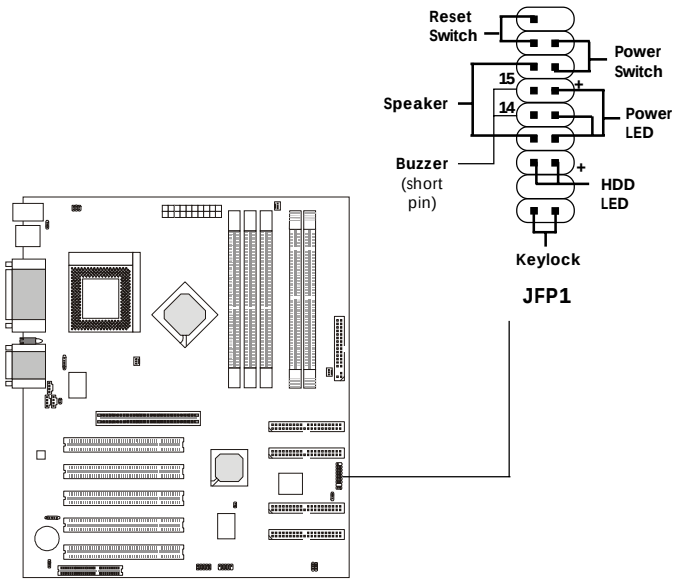


TIP:

If you install two hard disks on cable, you must configure the second drive to Slave mode by setting its jumper. Refer to the hard disk documentation supplied by hard disk vendors for jumper setting instructions.

Case Connector: JFP1

The case connector block JFP1 allows you to connect to the Power Switch, Reset Swtich, Keylock, Speaker, Power LED, and HDD LED on the case.



Power Switch

Connect to a 2-pin push button switch. This switch has the same feature as JRMS1.

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.

Power LED

The Power LED is lit while the system power is on. You can connect the Power LED from the system case to this pin. When the system enters suspend mode, the Power LED will blink.

Speaker

Speaker from the system case is connected to this pin.
If on-board Buzzer is available, then:
Short pin 14-15: On-board Buzzer Enabled.
Open pin 14-15: On-board Buzzer Disabled.

HDD LED

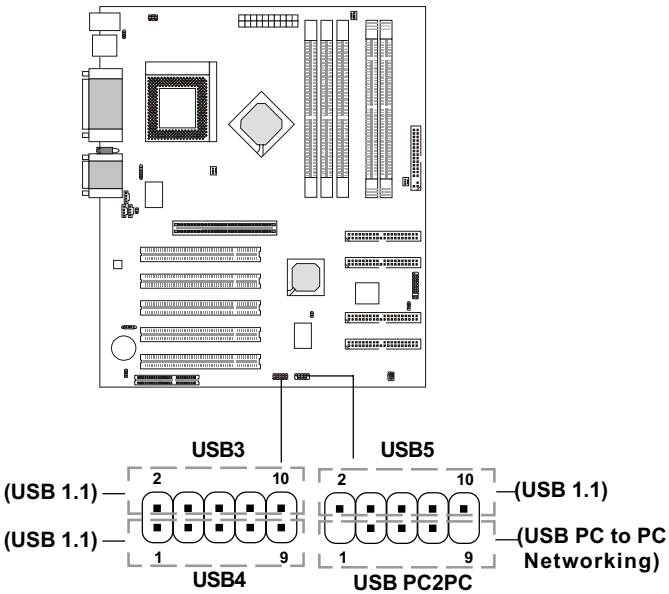
HDD LED shows the activity of a hard disk drive. Avoid turning the power off while the HDD led is lit. You can connect the HDD LED from the system case to this pin.

Keylock

Keylock allows you to disable the keyboard for security purpose. You can connect the keylock to this connector.

USB Front Panel Connectors: USB3, USB4, USB5 & USB PC2PC

The mainboard provides three Front USB (Universal Serial Bus) pin headers that allow you to connect optional USB ports for Front Panel or Rear Panel. One of the USB pin headers, *USB PC2PC*, is implemented with **USB PC to PC Networking** function.



USB3/4 Pin Definition

Pin	Description	Pin	Description
1	VCC	2	GND
3	USB3-	4	GND
5	USBD3+	6	USBD2+
7	GND	8	USB2-
9	GND	10	VCC

USB5/PC2PC Pin Definition

Pin	Description	Pin	Description
1	NC	2	GND
3	USB3-	4	GND
5	USBD3+	6	USBD2+
7	GND	8	USB2-
9	NC	10	VCC

Note: *USB PC to PC Networking feature allows users to transfer and receive data from other computers or share system resources with other computers without using any network adapter. See below for instructions.*

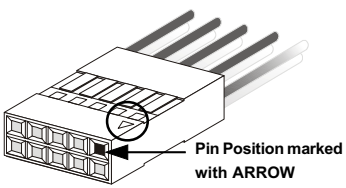
To Attach the USB PC to PC cable

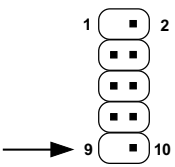
1. Check whether the package includes the following items. If any is missing, contact your dealer.

USB PC to PC Bracket

USB PC to PC Cable

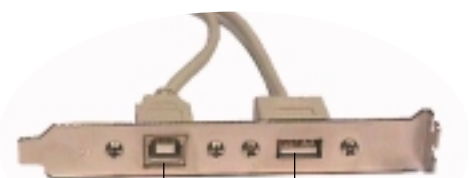
2. Connect the USB Bracket cable to the "USB5/PC2PC" pin header on the mainboard. Locate the pin position marked with the ARROW on the connector of USB Bracket and Pin# 9 of "USB5/PC2PC". Then align the marked pin position with Pin# 9 to attach the USB Bracket.



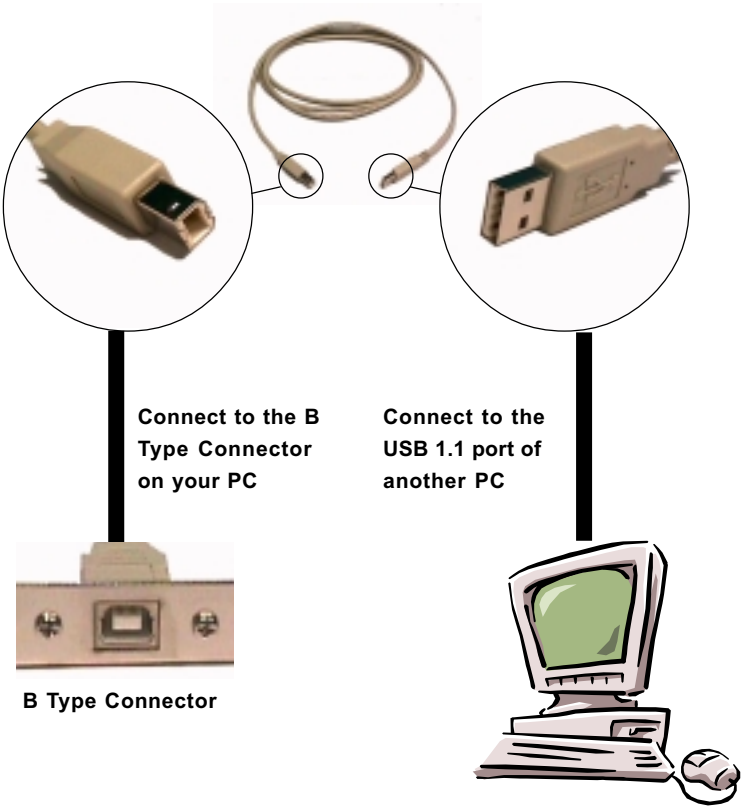


USB5/PC2PC

3. Identify the **B Type Connector** on the bracket used for PC to PC Networking function.



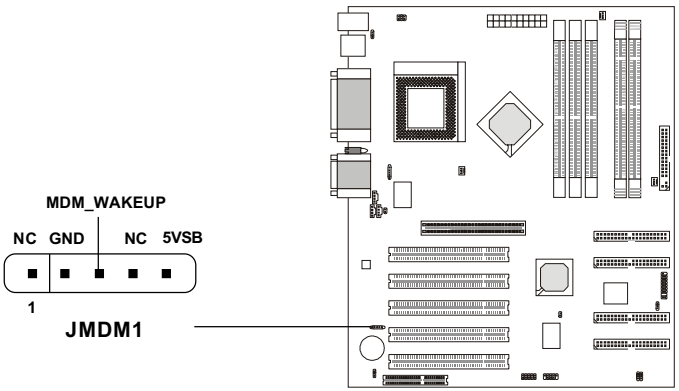
4. Connect your PC to another PC via USB PC to PC cable. The transfer rate will run at USB 1.1 speed (12Mbps/s).



For more information on USB PC to PC Networking function, refer to Appendix A: USB PC to PC Networking Function.

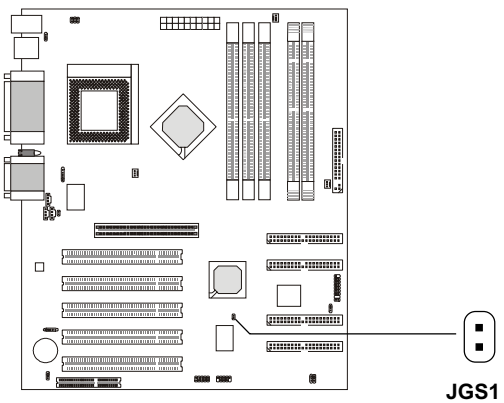
Wake On Ring Connector: JMDM1

This connector allows you to connect to a modem card with Wake On Ring function. The connector will power up the system when a signal is received through the modem card.



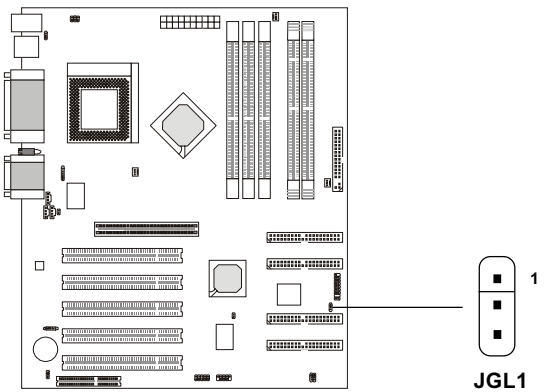
Power Saving Switch Connector: JGS1

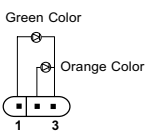
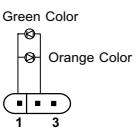
Attach a power saving switch to this connector. Pressing the switch once will have the system enter the sleep state. To wake up the system, just press any key.



Power Saving LED Connector: JGL1

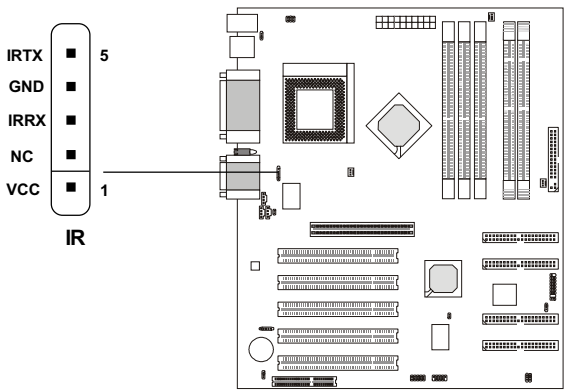
JGL1 is connected to a power saving LED. There are two types of LED that you can use: 3-pin or 2-pin (ACPI request) LED. If connected to a 2-pin LED, the LED light is green when system in turned on, and turns to orange color while entering the sleep state. For 3-pin LED, the LED is lit when system is on, and blinks during the sleep state.



3-Pin LED	2-Pin LED
	
1-2 Single Color **1-3 Blink**	**1-2 Dual Color**

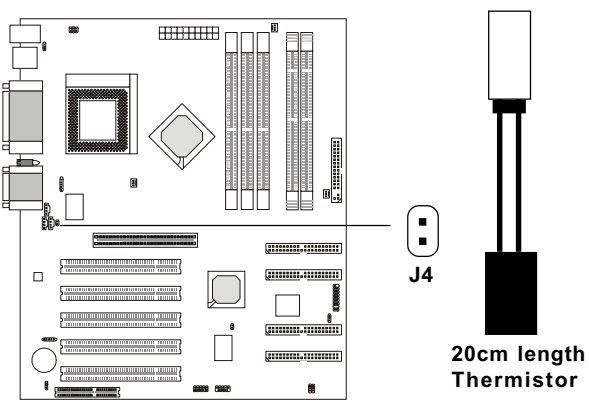
IrDA Infrared Module Connector: IR

This connector allows you to connect to an IrDA Infrared module. You must configure the setting through the BIOS setup to use the IR function.



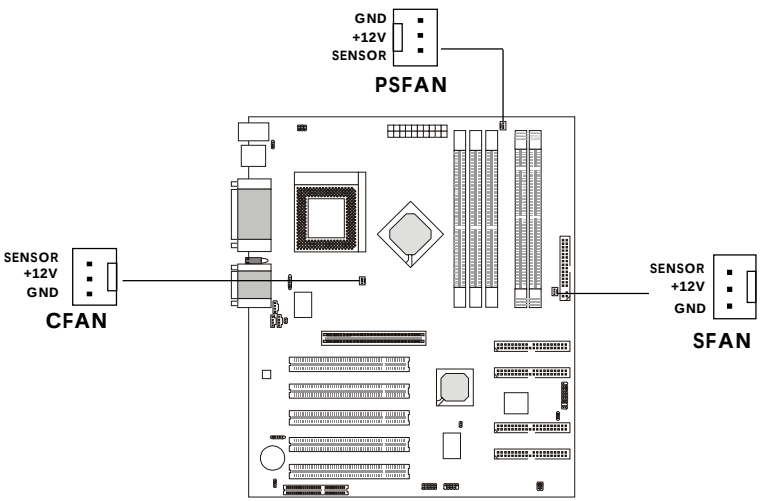
TOP TECH III: J4

This is used to detect the AGP card temperature. This 2-pin connector that can be connected to a 20cm thermistor is located near the AGP slot to monitor the AGP thermal status. The BIOS setup for TOP TECH III should be set to *Enabled*.



Fan Power Connectors: CFAN/PSFAN/SFAN

The CFAN (processor fan), PSFAN (power supply fan), SFAN (system fan) support system cooling fan with +12V. It supports three-pin head connector. When connecting the wire to the connectors, 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 the mainboard has a System Hardware Monitor chipset on-board, you must use a specially designed fan with speed sensor to take advantage of the CPU fan control.

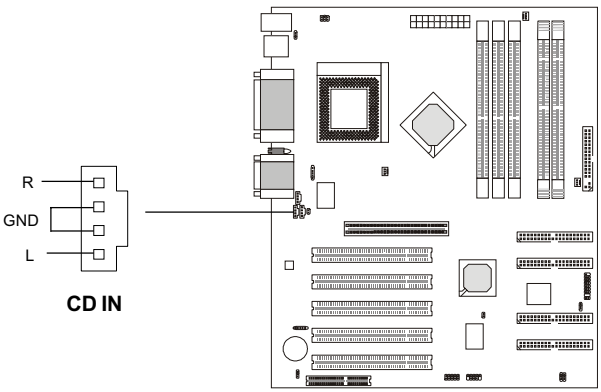


Note:

1. Always consult the vendor for proper CPU cooling fan.
2. CPU Fan supports the fan control. You can install the PC Alert utility that will automatically control the CPU Fan speed according to the actual CPU temeperature.

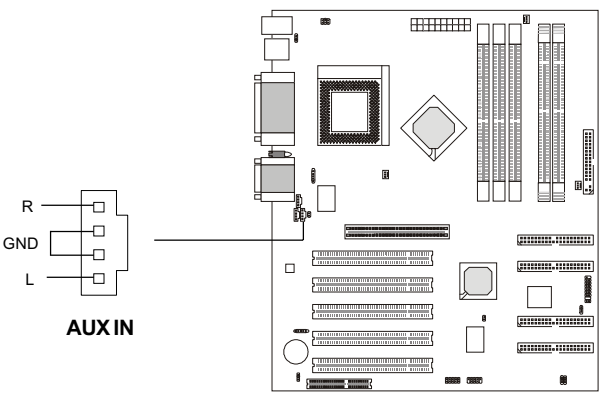
CD-In Connector: CD IN

The connector is for CD-ROM audio connector.



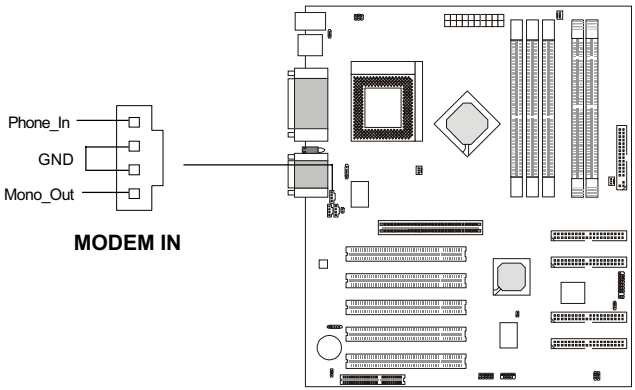
Aux Line-In Connector: AUX IN

The connector is for DVD add-on card with Line-in connector.



Modem-In Connector: MODEM IN

The connector is for modem with internal audio connector.

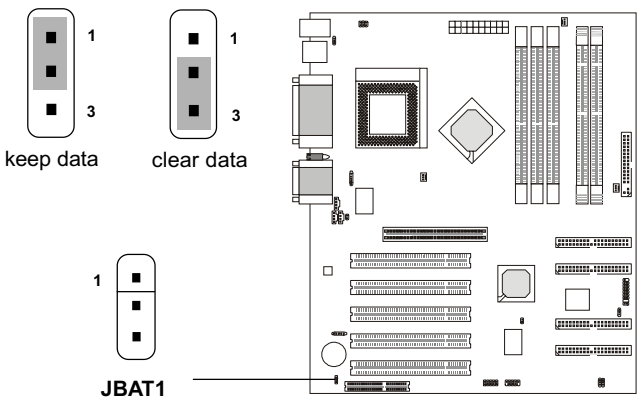


Jumpers

The motherboard provides the following jumpers for you to set the computer's function. This section will mention how to change your motherboard's function through the use of jumpers.

Clear CMOS Jumper: JBAT1

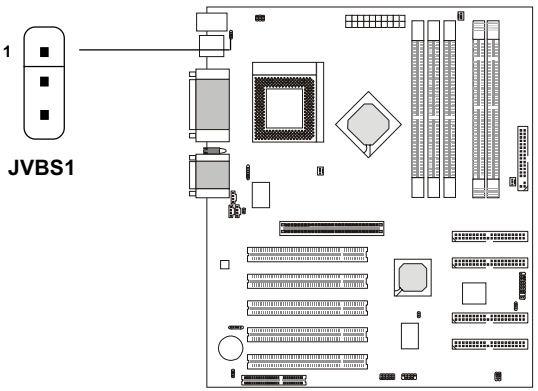
There is a CMOS RAM on board that has a power supply from external battery to keep the data of system configuration. With the CMOS RAM, the system can automatically boot OS every time it is turned on. That battery has long life time for at least 5 years. If you want to clear the system configuration, use the JBAT1 (Clear CMOS Jumper) to clear data. Follow the instructins below to clear the data:

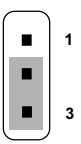


You can clear CMOS by shorting 2-3 pin while the system is off. Then return to 1-2 pin position. Avoid clearing the CMOS while the system is on; it will damage the mainboard.

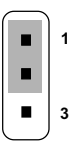
Keyboard Wake-up Jumpers: JVBS1

The JVBS1 jumper is used to set PS/2 Keyboard/Mouse wake-up feature. To use this function, you should also go to BIOS to enable the keyboard and PS/2 mouse wake-up function.





5V Standby
Enable Keyboard Power On Function

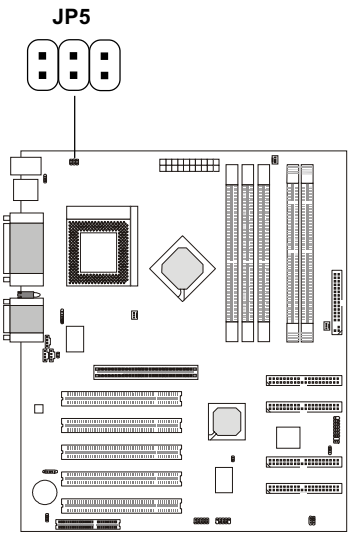


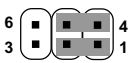
5V
Disable Keyboard Power On Function

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

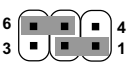
Overclocking Jumper: JP5

Overclocking allows CPU to run beyond its specified specification. Use the JP5 jumper to overclock the CPU.

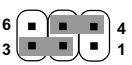




CPU 66/100/133 Auto Detect



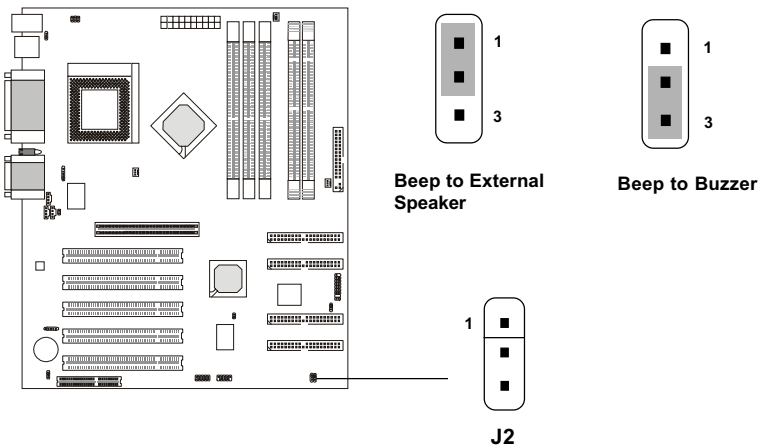
Overclock from 66 to 100



Overclock from 100 to 133

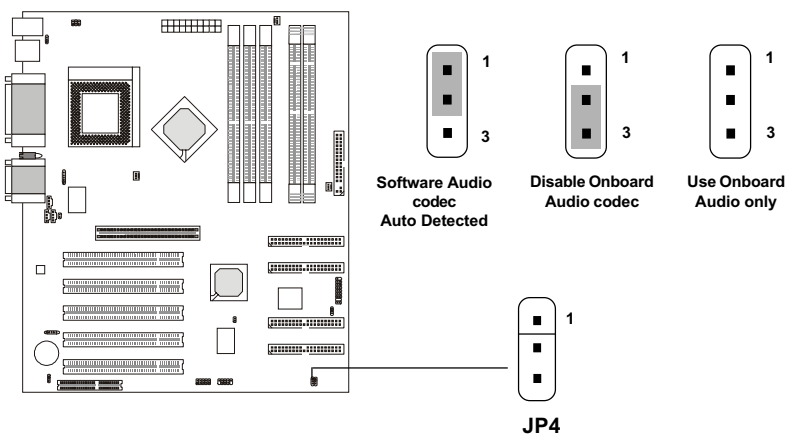
Beep Device Jumper: J2

The jumper is used to select the device for beep sound.



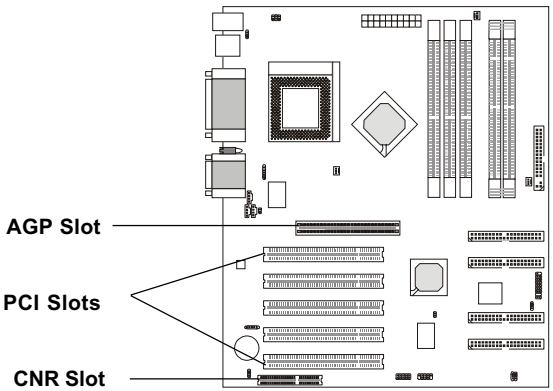
Onboard Audio Jumper: JP4

The jumper is used to enable/disable the onboard soft audio codec.



Slots

The motherboard provides five 32-bit Master PCI Bus Slots, one AGP slot and one CNR slot.



AGP Slot (Accelerated Graphics Port)

The AGP Slot allows you to insert AGP card.

PCI Slots

Five PCI slots allow you to insert the expansion cards to meet your needs. When adding or removing expansion cards, make sure that you unplug the power supply first. Meanwhile, read the documentation for the expansion card to make any necessary hardware or software settings for the expansion card, such as jumpers, switches or BIOS configuration.

CNR (Communication Network Riser)

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

PCI Interrupt Request Routing

The IRQ, abbreviation of interrupt request line, and pronounced I-R-Q, are hardware lines over which devices can send interrupt signals to the microprocessor. The "AGP/PCI/USB/AC97/IDE RAID" IRQ pins are typically connectoed to the PCI bus INTA#-INTD# pins as follows.

	Order 1	Order 2	Order 3	Order 4
AGP	INT A#	INT B#		
PCI Slot 1	INT A#	INT B#	INT C#	INT D#
PCI Slot 2	INT B#	INT C#	INT D#	INT A#
PCI Slot 3	INT D#	INT A#	INT B#	INT C#
PCI Slot 4	INT D#	INT A#	INT B#	INT C#
PCI Slot 5	INT A#	INT B#	INT C#	INT D#
USB1-2	INT D#			
USB3-4	INT D#			
USB5-6	INT D#			
AC97	INT C#			
IDE RAID	INT C#			

AGP & PCI Slot 1 shared.
PCI Slot 3 & PCI Slot 4 shared.
AC97 codec & Promise IDE Raid shared.

PCI Slot 1~5: Bus Master

AWARD® BIOS Setup 3

The mainboard uses AWARD® BIOS ROM that provides a Setup utility for users to modify the basic system configuration. The information is stored in a battery-backed CMOS RAM so it retains the Setup information when the power is turned off.

This chapter provides you with the overview of the BIOS Setup program. It contains the following topics:

Entering Setup

Power on the computer and the system will start POST (Power On Self Test) process. When the message below appears on the screen, press <DEL> key to enter Setup.

```
Hit DEL if you want to run SETUP
```

If the message disappears before you respond and you still wish to enter Setup, restart the system by turning it OFF and On or pressing the RESET button. You may also restart the system by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.

Control Keys

<↑>	Move to the previous item
<↓>	Move to the next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
<Enter>	Select the item
<Esc>	Jumps to the Exit menu or returns to the main menu from a submenu
<+/PU>	Increase the numeric value or make changes
<-/PD>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the default CMOS value from Fail-Safe default table, only for Option Page Setup Menu
<F7>	Load Optimized defaults
<F10>	Save all the CMOS changes and exit

Getting Help

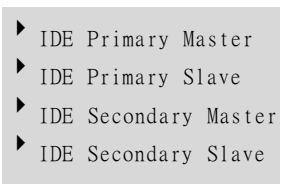
After entering the Setup utility, the first screen you see is the Main Menu.

Main Menu

The main menu displays the setup categories the BIOS supplies. You can use the arrow keys (↑↓) to select the item. The on-line description for the selected setup category is displayed on the bottom of the screen.

Sub-Menu

If you find a right pointer symbol appears to the left of certain fields (as shown in the right view), that means a sub-menu containing additional options for the field can be launched from this field. To enter the sub-menu, highlight the field and perss <Enter>. Then you can use control keys to move between and change the settings of the sub-menu. To return to the main menu, press <Esc>.



General Help <F1>

The BIOS setup program provides a General Help screen. You can call up this screen from any menu by simply pressing <F1>. The Help screen lists the appropriate keys to use and the possible selections for the highlighted item. Press <Esc> to exit the Help screen.

The Main Menu

Once you enter AWARD® BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu displays twelve configurable functions and two exit choices. Use arrow keys to move among the items and press <Enter> to enter the sub-menu.

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

▸Standard CMOS Features          ▸Frequency/Voltage Control
▸Advanced BIOS Features            Load Fail-Safe Defaults
▸Advanced Chipset Features         Load Optimized Defaults
▸Integrated Peripherals            Set Supervisor Password
▸Power Management Setup            Set User Password
▸PnP/PCI Configurations            Save & Exit Setup
▸PC Health Status                  Exit Without Saving

ESC : Quit         F9 : Menu in BIOS      ↑↓←→ : Select Item
F10 : Save & Exit Setup

                  Time, Date, Hard Disk Type…
```

Standard CMOS Features
Use this menu for basic system configurations, such as time, date etc.

Advanced BIOS Features
Use this menu to setup the items of Award® special enhanced features.

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 Configurations
This entry appears if your system supports PnP/PCI.

PC Health Status
This entry displays the current status of your PC.

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 of your PC.

Load Optimized Defaults
Use this menu to load the default factory settings for BIOS for optimal system performance.

Supervisor Password
Use this menu to set Supervisor Password.

User Password
Use this menu to set User Password.

Save & Exit Setup
Save changes to CMOS and exit setup.

Exit Without Saving
Abandon all changes and exit setup.

Standard CMOS Features

The items inside Standard CMOS Features menu are divided into 13 categories. Each category includes none, one or more setup items. Use the arrow keys to highlight the item you want to modify and use the <PgUp> or <PgDn> keys to switch to the value you prefer.

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Standard CMOS Features

Date (mm:dd:yy) :	Mon, Dec 5, 2000	Item Help
Time (hh:mm:ss) :	00:00:00	
▸ IDE Primary Master		Menu Level ▸
▸ IDE Primary Slave		
▸ IDE Secondary Master		Change the day, month, year and century
▸ IDE Secondary Slave		
Drive A	1.44 M, 3.5 in	
Drive B	None	
Video	EGA/VGA	
Halt On	All, But Keyboard	
Base Memory	640K	
Extended Memory	65472K	
Total Memory	1024K	

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

Date

This allows you to set the system to the date that you want (usually the current date). The 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
This allows you to set the system time that you want (usually the current time). The time format is <hour> <minute> <second>.

IDE Primary Master/Primary Slave/Secondary Master/Secondary Slave
Press PgUp/<+> or PgDn/<-> to select the hard disk drive type. The specification of hard disk drive will show up on the right hand according to your selection.

IDE Primary Master

IDE HDD Auto-Detection	Press Enter	Item Help
IDE Primary Master	Auto	
Access Mode	Auto	Menu Level ▸ ▸
Capacity	15021MB	To auto-detect the HDD's size, head...on this channel
Cylinder		
291024		
Head	16	
Precomp	0	
Landing Zone	29103	
Sector	63	

Access Mode	The settings are Auto, CHS, LBA and Large.
Capacity	The formatted size of the storage device.
Cylinder	Number of cylinders.
Head	Number of heads.
Precomp	Write precompensation.
Landing Zone	Cylinder location of the landing zone.
Sector	Number of sectors.

Drive A/B
This item allows you to set the type of floppy dirves installed. Available options are *None*, *360K, 5.25 in.*, *1.2M, 5.25 in.*, *720K*, 3.5 in., *1.44M, 3.5 in.*, *2.88M, 3.5 in.*. The default value for Floppy Drive A is *1.44M, 3.5 in*, and for Floppy Drive B is *None*.

Video
The item sets the type of video adapter used for the primary monitor of the system . Available options are *EGA/VGA* , *CGA 40*, *CGA 80* and *Mono*. Default value is *EGA/VGA*.

Halt On
The item determines whether the system will stop if an error is detected at boot. Available options are:

All Errors	The system stops when any error is detected.
No Errors	The system doesn't stop for any detected error.
All, But Keyboard	The system doesn't stop for a keyboard error.
All, But Diskette	The system doesn't stop for a disk error.
All, But Disk/Key	The system doesn't stop for either a disk or a keyboard error.

Advanced BIOS Features

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Advanced BIOS Features

	Anti-Virus Protection	Disabled
	CPU Internal Cache	Enabled
	External Cache	Enabled
	CPU L2 Cache ECC Checking	Enabled
	Processor Number Feature	Enabled
	Quick Power On Self Test	Disabled
	First Boot Device	Floppy
	Second Boot Device	HDD-0
	Third Boot Device	LS120
	Boot Other Device	Enabled
	RAID & SCSI Boot Order	RAID, SCSI
	Swap Floppy Drive	Disabled
	Boot Up Floppy Seek	Enabled
	Boot Up NumLock Status	On
	Gate A20 Option	Fast
	Typematic Rate Setting	Disabled
x	Typematic Rate (Chars/Sec)	6
x	Typematic Delay (Msec)	250
	Security Option	Setup
	OS Select for DRAM > 64MB	Non-OS2
	Full Screen LOGO Show	Enabled
	Video BIOS Cacheable	Disabled

Item Help

Menu Level ▸

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.

↑ ↓ → ←: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
The item is to set the Virus Warning feature for IDE Hard Disk boot sector protection. If the function is enabled and any attempt to write data into this area is made, BIOS will display a warning message on screen and beep. Settings are *Disabled* and *Enabled*. Default value is *Disabled*.

CPU Internal Cache
The item allows you to turn on or off CPU's internal (L1) cache. Settings are *Enabled* (default) and *Disabled*.

External Cache
This allows you to turn on or off L2 (Level 2) cache memory for CPU. Settings are *Enabled* (default) and *Disabled*.

CPU L2 Cache ECC Checking
This allows you to enable or disable the ECC (Error-Correcting Code) feature to check the data when it passes through L2 cache memory. Settings are *Enabled* and *Disabled*. Default value is *Enabled*.

Processor Number Feature
This feature is for Pentium® !!! only. When set to *Enabled*, the system will check CPU Serial Number. Set to *Disabled* if you don't want the system to know the CPU Serial Number. Default value is *Enabled*.

Quick Power On Self Test
Setting the item to *Enabled* allows the system to shorten boot time since it will skip some check items. Settings are *Enabled* and *Disabled*. Default value is *Disabled*.

First/Second/Third Boot Device
The items allow you to set the sequence of boot devices where BIOS attempts to load the disk operating system. The settings are:

HDD-0	The system will boot from the first HDD.
HDD-1	The system will boot from the second HDD.
HDD-2	The system will boot from the third HDD.
HDD-3	The system will boot from the fourth HDD.
Floppy	The system will boot from floppy drive.
ZIP100	The system will boot from ATAPI ZIP drive.
LS-120	The systm will boot from LS-120 drive.
SCSI	The system will boot from the SCSI (including Promise IDE RAID device).
LAN	The system will boot from the Network drive.
CD-ROM	The system will boot from the CD-ROM.
Disabled	Disable this sequence.

Boot Other Device
Setting the option to *Enabled* allows the system to try to boot from other

device if the system fails to boot from the 1st/2nd/3rd boot device.

RAID & SCSI Boot Order (Optional)
The optional field allows you to determine the boot priority of the attached SCSI card and Promise IDE RAID device when **First**, **Second** or **Third Boot Device** is set to *SCSI*. Settings are *RAID, SCSI* and *SCSI, RAID*. Default value is *RAID, SCSI*.

Swap Floppy Drive
Setting to *Enabled* will swap floppy drives A: and B:. Default is *Disabled*.

Boot Up Floppy Seek
Setting to *Enabled* will make BIOS seek floppy drive A: before booting the system. Setting options are *Disabled* and *Enabled*. Default is *Enabled*.

Boot Up NumLock Status
This item is to set the Num Lock status when the system is powered on. Setting to *On* will turn on the Num Lock key when the system is powered on. Setting to *Off* will allow end users to use the arrow keys on the numeric keypad. Settings are *On* and *Off*. Default is *On*.

Gate A20 Option
This item is to set the Gate A20 status. A20 refers to the first 64KB of extended memory. When the default value *Fast* is selected, the Gate A20 is controlled by Port92 or chipset specific method resulting in faster system performance. When *Normal* is selected, A20 is controlled by a keyboard controller or chipset hardware.

Typematic Rate Setting
This item is used to enable or disable the typematic rate setting including Typematic Rate & Typematic Delay.

Typematic Rate (Chars/Sec)
After Typematic Rate Setting is enabled, this item allows you to set the rate (characters/second) at which the keys are accelerated. Setting options are *6*, *8*, *10*, *12*, *15*, *20*, *24* and *30*.

Typematic Delay (Msec)
This item allows you to select the delay between when the key was first pressed and when the acceleration begins. Setting options are *250*, *500*, *750* and *1000*.

Security Option
This specifies the type of BIOS password protection that is implemented. Setting options are described below:

Option	Description
Setup (default)	The password prompt appears only when end users try to run Setup.
System	A password prompt appears every time when the compuer is powered on or when end users try to run Setup.

OS Select for DRAM > 64MB
This allows you to run the OS/2® operating system with DRAM larger than 64MB. When you choose the default value *Non-OS2*, you cannot run the OS/2® operating system with DRAM larger than 64MB. But it is possible if you choose *OS2*. Default value is *Non-OS2*.

Full Screen LOGO Show
This item enables you to show the company logo on the bootup screen. Settings are:

Disabled	Shows the POST messages at boot.
Enabled	Shows a still image (logo) on the full screen at boot.

Video BIOS Cacheable
Setting to *Enabled* allows caching of the Video BIOS ROM at C0000h-F7FFFh and leads to better video performance. But any program attempt to write to this memory area will cause a system error. Default value is *Disabled*.

Advanced Chipset Features

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Advanced Chipset Features

▸ DRAM Clock/Drive Control	Press Enter	Item Help
▸ AGP & P2P Bridge Control	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

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

DRAM Clock/Drive Control

Press <Enter> to enter the sub-menu, and you will see a sub-menu screen similar to the following:

DRAM Clock/Drive Control

DRAM Timing by SPD	Yes	Item Help
x DRAM Frequency (MHz)	Auto	
x SDRAM CAS Latency	Auto	
x Bank Interleave	Auto	Menu Level ▸ ▸
Current Host (FSB) Clock	133MHz	
Current DRAM Frequency	133MHz	
Current DDR Frequency	266MHz	

DRAM Timing by SPD — Selects whether DRAM timing is controlled by the SPD EPROM on the DRAM card. Setting to *No* not only makes DRAM Frequency, SDRAM CAS Latency and Bank Interleave adjustable but also sets SDRAM "Precharge"/"RAS to CAS"/"RAS Pulse" to "3T/3T/6T."

DRAM Frequency (MHz) — The chipset supports synchronous and asynchronous mode between host clock and DRAM clock frequency. The settings are:

- Auto: BIOS automatically determines the DRAM clock frequency.
- HCLK+33: The DRAM clock will be equal to Host Clock plus 33MHz. For example, if the Host Clock is 100MHz, the DRAM clock will be 133MHz.
- HCLK: The DRAM clock will be equal to the Host Clock.
- HCLK-33: The DRAM clock will be equal to the Host Clock minus 33MHz. For example, if the Host Clock is 133MHz, the DRAM clock will be 100MHz.

SDRAM CAS Latency — Controls the time delay (in clock cycles) before SDRAM starts a read command after receiving it. Settings are *Auto*, *2*, *2.5* and *3*.

Bank Interleave — Enables or disables bank interleave feature. Settings are *Auto* and *Disabled*.

Current Host (FSB) Clock: Displays current host clock frequency.

Current DRAM Frequency: Displays current DRAM clock frequency.

Current DDR Frequency: This display-only filed appears only when DDR DRAMs are installed.

AGP & P2P Bridge Control

Press <Enter> to enter the sub-menu. You will see a sub-menu screen similar to the following:

AGP & P2P Bridge Control

AGP Aperture Size	64M	Item Help
AGP Driving Control	Auto	
x AGP Driving Value	DA	Menu Level ▸ ▸

AGP Aperture Size — Selects the size of the Accelerated Graphics Port (AGP) aperture. Aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. Options are *4M*, *8M*, *16M*, *32M*, *64M*, *128M* and *256M*.

AGP Driving Control — This filed is used to adjust the AGP driving force. Selecting *Manual* allows you to type an AGP driving force in AGP Driving Value. It is strongly suggested to select *Auto* to avoid causing any system error.

AGP Driving Value — Specifies the AGP driving force.

Integrated Peripherals

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Integrated Peripherals

Onboard Promise Chip	Enabled	Item Help
▸ VIA OnChip IDE Device	Press Enter	
▸ VIA OnChip PCI Device	Press Enter	
Init Display First	PCI Slot	Menu Level ▸
OnChip USB Controller	All Enabled	
USB Keyboard Support	Disabled	
IDE HDD Block Mode	Enabled	
POWER ON Function	BUTTON ONLY	
KB Power On Password	Enter	
Hot Key Power ON	Ctrl-F1	
Onboard FDC Controller	Enabled	
Onboard Serial Port 1	3F8/IRQ4	
Onboard Serial Port 2	2F8/IRQ3	
UART Mode Select	Normal	
RxD, TxD Active	Hi, Lo	
IR Transmission Delay	Enabled	
UR2 Duplex Mode	Half	
Use IR Pins	IR-Rx2Tx2	
Onboard Parallel Port	378/IRQ7	
Parallel Port Mode	SPP	
EPP Mode Select	EPP1.7	
ECP Mode Use DMA	3	
PWRON After PWR-Fail	Off	
Game Port Address	201	
Midi Port Address	330	
Midi Port IRQ	10	
Audio Channel	2	

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

Onboard Promise Chip (Optional)
The field is optional. It allows you to enable or disable the onboard Promise IDE RAID controller if any. Settings are *Enabled* (default) and *Disabled.*

VIA OnChip IDE Device
Press <Enter> to enter the sub-menu, and a sub-menu similar to the following will appear.

OnChip IDE Device

OnChip IDE Channel0		Enabled	Item Help
OnChip IDE Channel1		Enabled	
Primary Master	PIO	Auto	Menu Level ▸ ▸
Primary Slave	PIO	Auto	
Secondary Master	PIO	Auto	
Secondary Slave	PIO	Auto	
Primary Master	UDMA	Auto	
Primary Slave	UDMA	Auto	
Secondary Master	UDMA	Auto	
Secondary Slave	UDMA	Auto	

OnChip IDE Channel0/1 — The integrated peripheral controller contains an IDE interface with support for two IDE channels. Choose the default value *Enabled* to activate each channel separately.

Primary/Secondary Master/Slave PIO — The four fields allow you to set a PIO (Programmed Input/Output) mode for each of the four IDE devices that the onboard IDE interface supports. Modes 0~4 provide increased performance. In Auto mode, BIOS automatically determines the best mode for each IDE device.

Primary/Secondary Master/Slave UDMA — Ultra DMA implementation is possible only if your IDE device supports it and your operating environment contains a DMA driver. If both your hard drive and software support Ultra DMA, select *Auto* (default) to enable BIOS support.

OnChip PCI Device

Press <Enter> to enter the sub-menu. A sub-menu screen similar to the following will appear.

OnChip PCI Device

VIA-3058 AC97 Audio	Auto	Item Help
VIA-3068 MC97 Modem	Auto	
VIA-3043 OnChip LAN	Disabled	Menu Level ▸ ▸

VIA-3058 AC97 Audio — *Auto* allows the mainboard to detect whether an audio device is used. If the device is detected, the onboard VIA AC'97 (Audio Codec'97) controller will be enabled; if not, the controller is disabled. Disable the controller if you want to use other controller cards to connect an audio device. Settings are *Auto* (default) and *Disabled*.

VIA-3068 MC97 Modem — *Auto* allows the mainboard to detect whether a modem is used. If a modem is detected, the onboard VIA MC'97 (Modem Codec'97) controller will be enabled; if not, the controller is disabled. Disable the controller if you want to use other controller cards to connect modems. Settings are *Auto* (default) and *Disabled*.

VIA-3043 OnChip LAN (Optional) — The field is optional. It enables or disables VIA chip integrated LAN controller. Settings are *Enalbed* and *Disabled* (default).

Init Display First

This item specifies which VGA card is your primary graphics adapter. Available options are *PCI Slot* and *AGP*. Default value is *PCI Slot*.

OnChip USB Controller
The item specifies which USB (Universal Serial Bus) Port is enabled. The settings are *All Enabled*, *1&2 USB Port*, *2&3 USB Port*, *1&3 USB Port*, *1 USB Port*, *2 USB Port*, *3 USB Port* or *All Disabled*. Default is *All Enabled*.

USB Keyboard Support
Set to *Enabled* if your need to use an USB keyboard in the operating system that does not support or have any USB driver installed, such as DOS and SCO Unix. Default is *Disabled*.

IDE HDD Block Mode
This allows your hard disk controller to use the fast block mode to transfer data to and from the hard disk drive. Block mode is also called block transfer, multiple commands or multiple sector read/write. Setting to *Enabled* makes IDE controller use block mode; *Disabled* makes the controller use standard mode. Default is *Enabled*.

POWER ON Function
This controls which button on the PS/2 mouse or keyboard can power on the sytem. Settings are *BUTTON ONLY* (default), *Keyboard 98*, *Password*, *Hot Key*, *Mouse Left* and *Mouse Right*.

KB Power On Password
If **POWER ON Function** is set to *Password*, then you can set a password in this field for the PS/2 keyboard to wake up the system from suspend mode.

Hot Key Power ON
If **POWER ON Function** is set to *Hot Key*, then you can specify a hot key combination in the field for the PS/2 keyboard to wake up the system from suspend mode. Settings are *Ctrl-F1* through *Ctrl-F12*.

Onboard FDC Controller
This is to enable or disable the onboard Floppy controller. Set to *Enabled* if you have a floppy disk drive installed on the mainboard.

If the ISA add-on card has	Onboard FDC to be set at
FDC exist	Disabled
None FDC exist	Enabled (default)

Default is *Enabled*.

Onboard Serial Port 1/2

These items specify the base I/O port address of the onboard Serial Port 1 (COM 1)/Serial Port 2 (COM 2). Setting to *Auto* allows BIOS to automatically determine the correct base I/O port address. Available options are *Auto, 3F8/IRQ4*, *2F8/IRQ3*, *3E8/IRQ4*, *2E8/IRQ3* and *Disabled*. Default is *Auto*. If you have ISA add-on card, the suggested configuration is as the following:

If the ISA add-on card has				Onboard Serial port to be set at			
COM1 (I/O:3F8H)	COM2 (I/O:3F8H)	COM3 (I/O:3E8H)	COM4 (I/O:2E8H)	PORT1	IRQ ASSIGNED	PORT2	IRQ ASSIGNED
✓	✓	✓	✓	DISABLED	X	DISABLED	X
✓	✓	X	X	COM3	4	COM4	3
X	X	✓	✓	COM1	4	COM2	3
✓	X	X	✓	COM2	3	COM3	4
X	✓	✓	X	COM1	4	COM4	3
✓	✓	✓	X	COM4	3	DISABLED	X
✓	✓	X	✓	COM3	4	DISABLED	X
✓	X	✓	✓	COM2	3	DISABLED	X
X	✓	✓	✓	COM1	4	DISABLED	X
X	X	X	X	COM1	4	COM2	3
✓	X	X	X	COM2	3	COM3	4
X	✓	X	X	COM1	4	COM3	4
X	X	✓	X	COM1	4	COM2	3
X	X	X	✓	COM1	4	COM2	3

UART Mode Select

The item allows you to determine which Infra Red (IR) function of the onboard I/O chip. Settings are *Normal*(default), *IrDA* and *ASKIR*.

RxD, TxD Active
The item determines the active of RxD, TxD. Settings are "*Hi, Lo*" (default), "*Hi, Hi*", "*Lo, Hi*", "*Lo, Lo*".

IR Transmission Delay
This enables or disables IR transmission delay feature. Settings are *Enabled* and *Disabled*. Default is *Enabled*.

UR2 Duplex Mode
This specifies a duplex value for the IR device connected to the IR connector. Full-Duplex mode permits simultaneous two-direction transmission. Half-Duplex mode permits transmission in one direction only at a time. Settings are *Half* and *Full*. Default is *Half* .

Use IR Pins
Consult your IR peripheral documentation to select the correct setting of the TxD and RxD signals. Settings are "*IR-Rx2Tx2*" and "*RxD2, TxD2*".

Onboard Parallel Port
This specifies the base I/O port address of the onboard Parallel Port. Settings are *378/IRQ7*, *278/IRQ5*, *3BC/IRQ7* and *Disabled*. Default is *378/IRQ7*. If you have an ISA add-on card, the suggested configuration is as below:

If the ISA add-on card has			Onboard parallel port to be set as	
LPT1 I/O:378H	LPT2 I/O:278H	LPT3 I/O:3BCH	PORT ASSIGNED	IRQ ASSIGNED
✓	✓	✓	Disabled	X
✓	✓	X	LPT3	5
✓	X	✓	LPT2	5
X	✓	✓	LPT1	7
✓	X	X	LPT2	5
X	✓	X	LPT1	7
X	X	✓	LPT1	7
X	X	X	LPT1	7

***Note**: If the onboard parallel port interrupt and ISA add-on card interrupt are in conflict, the parallel port will not work properly. Please disable one of the devices.*

Parallel Port Mode
This item selects the operating mode for the parallel port to support: *SPP*, *EPP*, *ECP* or *ECP+EPP*. Default is *SPP*.

EPP Mode Select
The item selects the EPP version used by the parallel port if the port is set to *EPP* or *ECP+EPP* mode. Settings are *EPP1.7* and *EPP1.9*.

ECP Mode Use DMA
This item automatically specifies an DMA channel 1 or 3 for the Parallel Port when it is set to *ECP* or *ECP+EPP*mode.

PWRON After PWR-Fail
This item specifies whether your system will reboot after a power failure or interrupts occurs. Available settins are:

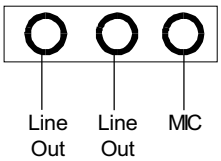
Off (default)	Leaves the computer in the power off state.
On	Reboots the computer.
Former-Sts	Restores the system to the status before power failure or interrupt occurs.

Game/Midi Port Address
The items disable or set an address for the onboard Game/MIDI port. Settings for Game port are *Disabled*, *201* and *209*. Settings for Midi port are *Disabled*, *330*, *300* and *290*.

Midi Port IRQ
This specifies an IRQ line for the Midi Port. Settings are *5* and *10*.

Audio Channel (Optional)
This item specifies the number of audio channels. Settings are *2* (default) and *4*. The field is OPTIONAL.

***Note**: When **Audio Channel** is set to 4 (channels), the onboard LINE-IN port will function as the LINE-OUT port (as shown below) and add two more channels for the board.*



Power Management Setup

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Power Management Setup

IPCA Function	Enabled	Item Help
Sleep State	S1/POS	
Power Management Option	User Define	
HDD Power Down	Disabled	Menu Level ▸
Doze Mode	Disabled	
Suspend Mode	Disabled	
PM Control by APM	Yes	
MODEM Use IRQ	3	
Soft-Off by PWRBTN	Instant-Off	
▸ IRQ/Event Activity Detect	Press Enter	
Sleep State LED	Single	

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

IPCA Function
This item is to activate the ACPI (Advanced Configuration and Power Management Interface) Function. Settings are *Enabled* and *Disabled*. Default is *Enabled*.

Sleep State
This item specifies the power saving modes for ACPI function. Options are:

S1/POS	The S1 sleep mode is a low power state. In this state, no system context is lost (CPU or chipset) and hardware maintains all system context.
S3/STR	The S3 sleep mode is a lower power state where the information of system cofiguration and open applications/files is saved to main memory that remains powered while most other hardware components turn off to save energy. The information stored in memory

will be used to restore the system when an "wake up" event occurs.

Default value is *S1/POS*.

Power Management Option
This item is used to select the degree (or type) of power saving and is related to these modes: Doze Mode, Suspend Mode and HDD Power Down. There are three options for power management:

Min Saving	Minimum Power Management. Doze Mode = 20 min., Suspend Mode = 20 min., and HDD Power Down = 7 min.
Max Saving	Maximum Power Management. Doze Mode = 1 min., Suspend Mode = 1 min., and HDD Power Down = 1 min.
User Define	Allows end users to configure each mode separately. Each of the ranges are from *1 min.* to *20 min.* and *disabled* except for HDD Power Down which ranges from *1 min.* to *7 min.* and *disabled*.

Default value is *User Define*.

HDD Power Down
If system activity is not detected for the length of time specified in this field, the hard disk drive will be powered down while all other devices remain active. Settings are *Disabled* and *1 Min* through *7 Min*. Default is *Disabled*.

Doze Mode
If system activity is not detected for the length of time specified in this field, the CPU clock will run at slower speed while all other devices still operate at full speed. Settings are *Disabled*, *1 Min*, *2 Min*, *4 Min*, *6 Min*, *8 Min*, *10 Min* and *20 Min*. Default is *Disabled*.

Suspend Mode
If system activity is not detected for the length of time specified in this field,

all devices except CPU will be shut off. Settings are *Disabled*, *1 Min*, *2 Min*, *4 Min*, *6 Min*, *8 Min*, *10 Min* and *20 Min*. Default is *Disabled*.

PM Control by APM
Setting to *Yes* will activate an Advanced Power Management (APM) device to enhance Max Saving mode and stop CPU internal clock. Settings are *Yes* and *No*. Default is *Yes*.

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. Settings are *3*, *4*, *5*, *7*, *9*, *10*, *11* and *NA*.

Soft-Off by PWRBTN
This feature allows users to configure the power button as a normal power-on/-off button or a suspend/resume button. Settings are:

Instant-Off	The power button functions as a normal power-on/-off button.
Delay 4 Sec.	Pressing the power button for more than 4 seconds will place the system in a very low-power-usage state (Soft-Off state), with only enough circuitry receiving power to detect power button activity or Wake Up On LAN/Ring activity.

Default is *Instant-Off*.

IRQ/Event Activity Detect
Press <Enter> to enter the sub-menu and the following screen appears:

IRQ/Event Activity Detect

USB Resume from S3/S4/S5	Disabled	Item Help
VGA	Off	
LPT & COM	LPT/COM	
HDD & FDD	ON	Menu Level ▸ ▸
PCI Master	OFF	
PowerOn by PCI Card	Disabled	
Wake Up On LAN/Ring	Disabled	
RTC Alarm Resume	Disabled	
x Date (of Month)	0	
x Resume Time (hh:mm:ss)	0 0 0	
▸ IRQs Activity Monitoring	Press Enter	

USB Resume from S3/S4/S5 — Allows the activity of USB device to wake up the system from S3, S4 or S5 power saving modes. Settings are *Enabled* and *Disabled*.

***Note**: S3/S4/S5 are three system states for ACPI, which reduce different amount of power consumption. S3 is STR (Suspend to RAM) sleep mode, S4 is Suspend to Disk mode and S5 is Soft-Off state.*

VGA, LPT & COM, HDD & FDD, PCI Master, PowerOn by PCI Card, Wake Up On LAN/Ring — These items specify whether the system will be awakened from power saving modes when activity or input signal of the specified hardware peripheral or component is detected.

***Note**: To use the function of Wake Up On LAN/Ring, you need to install a LAN card/modem supporting power on function.*

RTC Alarm Resume — This is to enable or disable the feature of booting up the system on a scheduled time/date. Settings are *Enabled* and *Disabled* (default).

Date (of Month) — Specifies the date for RTC Alarm Resume. Settings are *0~31*.

Resume Time (hh:mm:ss)	Specifies the time for RTC Alarm Resume. Format is <hour><minute><second>.
IRQs Activity Monitoring	Press <Enter> to enter the sub-menu. A similar screen to the following appears:

IRQs Activity Monitoring

Primary INTR	On	Item Help
IRQ3 (COM2)	Enabled	
IRQ4 (COM1)	Enabled	Menu Level ▸ ▸ ▸
IRQ5 (LPT2)	Enabled	
IRQ6 (Floppy Disk)	Enabled	
IRQ7 (LPT1)	Enabled	
IRQ8 (RTC Alarm)	Disabled	
IRQ9 (Reserved)	Disabled	
IRQ10 (Reserved)	Disabled	
IRQ11 (Reserved)	Disabled	
IRQ12 (PS/2 Mouse)	Enabled	
IRQ13 (Coprocessor)	Enabled	
IRQ14 (IDE channel 0)	Enabled	
IRQ15 (IDE channel 1)	Disabled	

Primary INTR	When this is set to *On*, any event occuring will wake up the system which has been powered down.
IRQ3~IRQ15	Enables or disables the monitoring of the specified IRQ line. If set to *Enabled*, the activity of the specified IRQ line will prevent the system from entering power saving modes or awaken it from power saving modes.

***Note**: IRQ (Interrup Request) lines are system resources allocated to I/O devices. When an I/O device needs to gain attention of the operating system, it singals this by causing an IRQ to occur. After receiving the signal, when the operating system is ready, the system will interrupt itself and perform the service required by the I/O device.*

Sleep State LED

This item sets how the system uses Sleep/Suspend LED to indicate the sleep/suspend state. Settings are:

Blinking	The Sleep/Suspend LED blinks to indicate the sleep/ suspend state.
Single	The Sleep/Suspend LED remains the same color.
Dual	The Sleep/Suspend LED changes its color to indicate the sleep/suspend state.

Default is *Single*.

PnP/PCI Configurations

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
PnP/PCI Configurations

PNP OS Installed:	No	Item Help
Reset Configuration Data	Disabled	
Resources Controlled By	Auto (ESCD)	Menu Level ▸
x IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	Disabled	Select Yes if you are using a Plug and Play capable operation system Select No if you need the BIOS to configure non-boot devices
Assign IRQ For VGA	Enabled	
Assign IRQ For USB	Enabled	
Assign IRQ For ACPI	Auto	

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

PNP OS Installed
When set to *YES*, BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Windows® 95 or 98. When set to *NO*, BIOS will initialize all the PnP cards. So, select *Yes* if the operating system is Plug & Play aware.

Reset Configuration Data
The ESCD (Extended System Configuration Data) is a method that the BIOS uses to store resource information for both PNP and non PNP devices in a bit string format. When *Enabled*, the system will re-built ESCD and you will see the message "ESCD Update Successfully" on boot up.

Resources Controlled By
If select *Auto(ESCD)*, BIOS will automatically configure all the boot and PnP (Plug & Play) compatible devices and assigns system resources like IRQ to these devices. However, this feature means absolutely nothing unless you

are using a Plug and Play operating system such as Windows®95/98. If you want to configure by yourself, select *Manaul*. Default is *Auto(ESCD)*.

IRQ Resources
This item is adjustable only when **Resources Controlled By** is set to *Manual*. Press <Enter> and you will enter the sub-menu of this item. The item lists IRQ3 ~ 15 and allows you to set each IRQ a type depending on the type of device using the IRQ. Settings are *PCI Device* and *Reserved*.

PCI/VGA Palette Snoop
When set to *Enabled*, multiple VGA devices operating on different buses can handle data from the CPU on each set of palette registers on every video device. Bit 5 of the command register in the PCI device configuration space is the VGA Palette Snoop bit (0 is disabled). For example, if there are two VGA devices in the computer (one PCI and one ISA) and the:

VGA Palette Snoop Bit Setting	Action
Disabled	Data read or written by the CPU is only directed to the PCI VGA device's palette registers.
Enabled	Data read or written by the CPU is directed to both the PCI VGA device's palette registers and the ISA VGA device's palette registers, permitting the palette registers of both VGA devices to be identical.

The setting must be set to *Enabled* if any ISA adapter card installed in the system requires VGA palette snooping. The Setup and BIOS default values are *Disabled*.

Assign IRQ For VGA/USB
Set to *Enabled* allows BIOS to assign an IRQ to VGAcard/USB device. Choose *Disabled* if you want to release the IRQ. Default is *Enabled*.

Assign IRQ For ACPI
Selecting *Auto* allows BIOS to automatically assign an IRQ for SCI (System Control Interrupt) of ACPI spec. Settings are *Auto*, *IRQ 9*, *IRQ 10* and *IRQ 11*.

PC Health Status

This section is to monitor the current hardware status including CPU temperature, CPU Fan speed, Vcore etc. This is available only if there is hardware monitoring onboard.

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PC Health Status

CPU Warning Temperature	Disabled	Item Help
Current System Temp	32°C/89°F	
Current CPU Temperature	58°C/132°F	
Current Top Tech. III Temp.	32°C/89°F	Menu Level ▸
Current CPUFAN1 Speed	2310RPM	
Current CPUFAN2 Speed	4200RPM	
Current CPUFAN3 Speed	4560RPM	
Vcore	1.66V	
VTT	1.47V	
3.3V	3.29V	
+ 5V	5.02V	
+12V	12.05V	
- 12V	-11.56V	
- 5V	-4.99V	
VBAT (V)	3.22V	
5VSB (V)	4.87V	
Shutdown Temperature	Disabled	

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

CPU Warning Temperature
This item is used to specify a thermal standard for CPU. If CPU temperature reaches the specified standard, the system will issue a warning and allows you to prevent the CPU overheat problem. Settings are *Disabled*, *50°C/122°F*, *53°C/127°F*, *56°C/133°F*, *60°C/140°F*, *63°C/145°F*, *66°C/151°F and 70°C/158°F.* Default is *Disabled.*

Current System Temp, Current CPU Temperature, Current CPUFAN1/2/3 Speed, Vcore, VTT, 3.3/+ 5/+ 12/- 12/- 5V, VBAT(V), 5VSB(V)
These items display the current status of all of the monitored hardware devices/components such as CPU voltages, temperatures and all fans's speeds.

Shutdown Temperature
The item allows the system to automatically shutdown if the system temperature reaches a thermal level specified here. This can prevent the system components from being damaged due to overheat. Settings are *Disabled*, *80°C/176°F*, *85°C/185°F*, *90°C/194°F*. Default is *Disabled*.

Frequency/Voltage Control

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Frequency/Voltage Control

Auto Detect DIMM/PCI Clk	Enabled	Item Help
Spread Spectrum	Enabled	
CPU Clock	133	
CPU Ratio	X 4	Menu Level ▸
Current CPU CLK (FSBxRatio)	533MHz (133x4.0)	
CPU Vcore Regulator	Default	

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

Auto Detect DIMM/PCI Clk
Use this item to enable or disable the feature of auto detecting the clock frequency of the installed DRAM DIMMs and PCI cards. Settings are *Enabled* (default) and *Disabled*.

Spread Spectrum
This item is used to enable or disable the clock generator's Spread Spectrum feature. When overclocking the processor, always set it to *Disabled.* Settings are *Enabled* (default) and *Disabled*.

CPU Clock
This item specifies the clock frequency of CPU host bus (FSB) and provides a method for end users to overclock the processor accordingly. For example, if the CPU is 100MHz, you are allowed to overclock the CPU with settings from 100 to 133MHz; if the CPU is 133MHz, the settings are from 133 to 166MHz.

CPU Ratio
End users can overclock the processor by specifying the CPU ratio (multiplier) in this field. Settings are *3*, *3.5*, *4* (default), *4.5*, *5*, *5.5*, *6*, *6.5*, *7*, *7.5*, *8*, *8.5*, *9* and *9.5*.

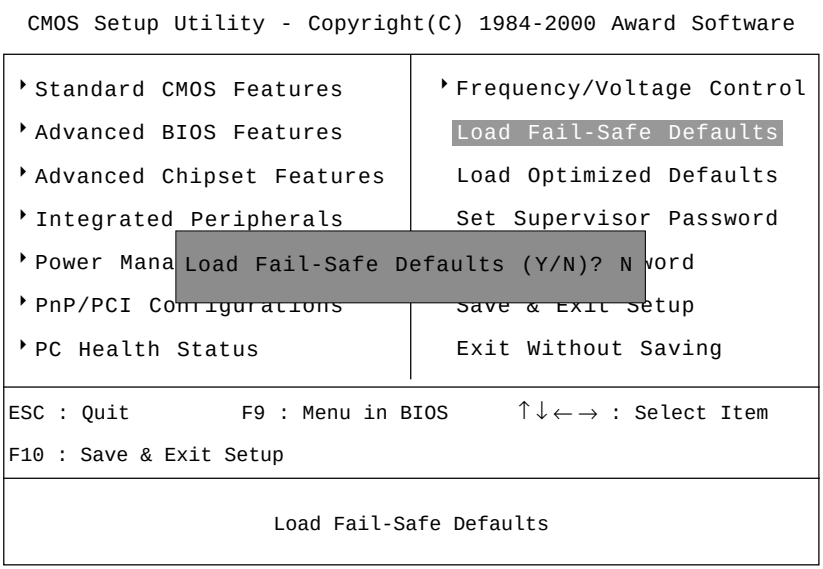
Current CPU CLK (FSBxRatio)
The item displays current CPU clock, CPU FSB frequency and CPU Ratio.

CPU Vcore Regulator
End users can adjust the CPU core voltage through the field. Settings are *-0.10V*, *-0.05V*, *Default* (default), *+0.05V*, *+0.10V* and *+0.15V*.

Load Fail-Safe/Optimized Defaults

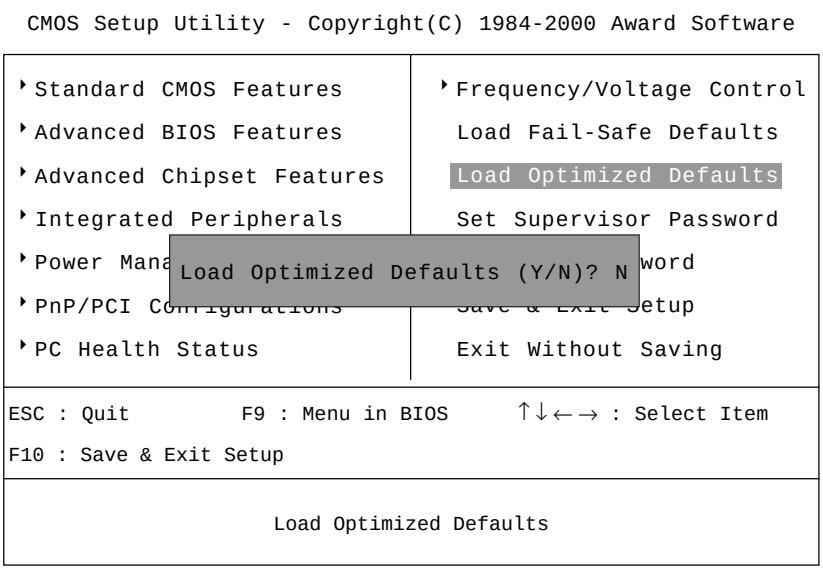
The two options on the main menu allow users to restore all of the BIOS settings to the default Fail-Safe or Optimized values. The Optimized Defaults are the default values set by the mainboard manufacturer specifically for the optimal performance of the mainboard. The Fail-Safe Defaults are the default values set by the BIOS vendor for the stable system performance.

When you select Load Fail-Safe Defaults, a message as below appears:



Pressing *Y* loads the BIOS default values for the most stable, minimal system performance.

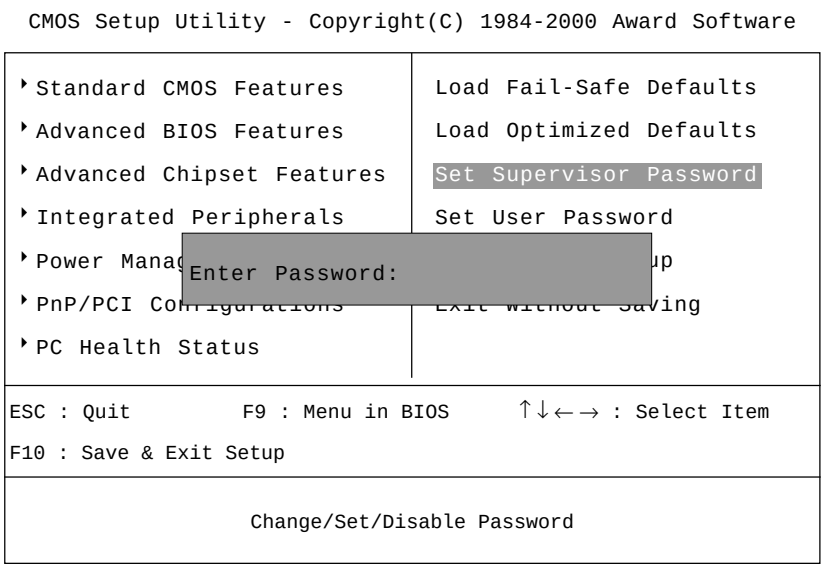
When you select Load Optimized Defaults, a message as below appears:



Pressing *Y* loads the default factory settings for optimal system performance.

Set Supervisor/User Password

When you select this function, a message as below will appear on the screen:



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

To clear a set password, just press <Enter> when you are prompted to enter the password. A message will show up confirming the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup without entering any password.

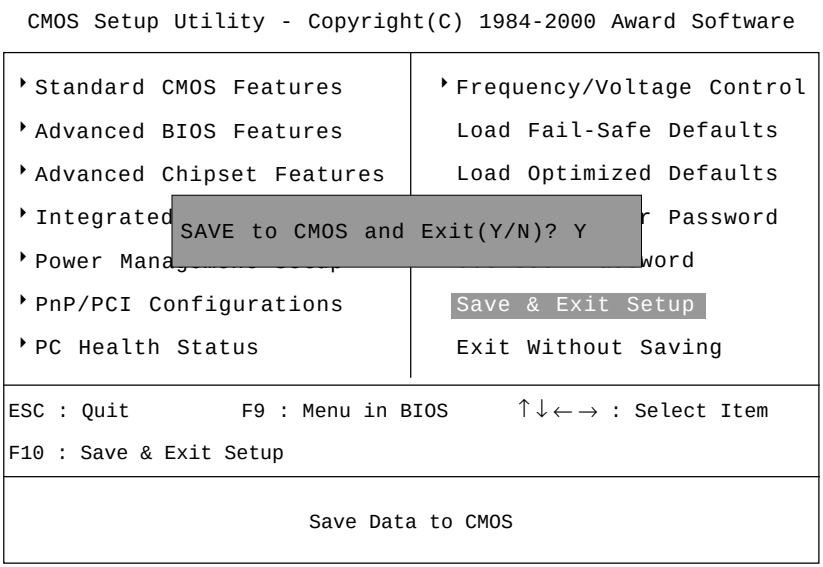
When a password has been set, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also have BIOS to request a password each time the system is booted. This would prevent unauthorized use of your computer. The setting to determine when the password prompt is required is the Security Option of the Advanced BIOS Features menu. If the Security Option is set to *System*, the password is required both at boot and at entry to Setup. If set to *Setup*, password prompt only occurs when trying to enter Setup.

About Supervisor Password & User Password:	
Supervisor password :	*Can enter and change the settings of the setup menus.*
User password:	*Can only enter but do not have the right to change the settings of the setup menus*

Save & Exit Setup

When you want to quit the Setup menu, you can select this option to save the changes and quit. A message as below will appear on the screen:

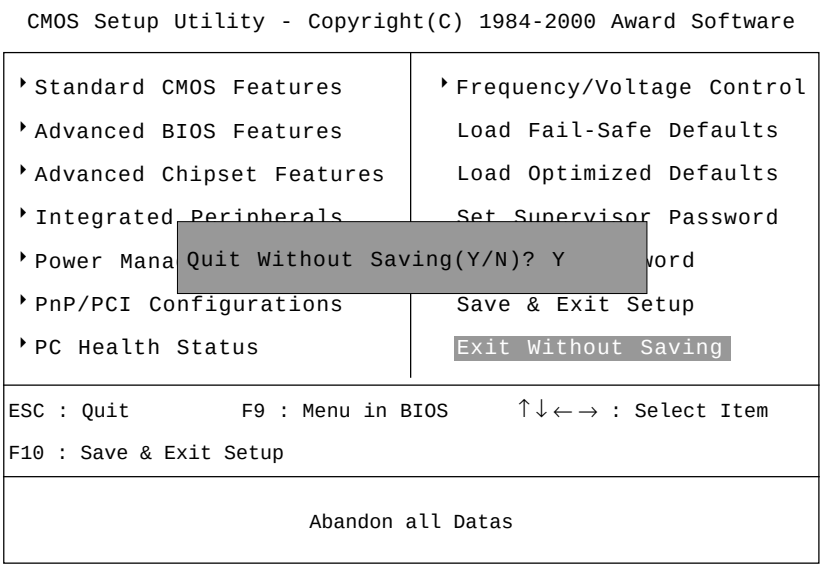


Typing "Y" will allow you to quit the Setup Utility and save the user setup changes to RTC CMOS.

Typing "N" will return to the Setup Utility.

Exit Without Saving

When you want to quit the Setup menu, you can select this option to abandon the changes. A message as below will appear on the screen:



Typing "Y" will allow you to quit the Setup Utility without saving any changes to RTC CMOS.

Typing "N" will return to the Setup Utility.

VIA® Chipset Driver 4

The chapter describes how to install the VIA chipset and AC97 audio drivers, and the basic system requirements.

This chapter contains the following topics:

Overview

The Pro266 Master (MS-6366) is paired with the VIA® Apollo Pro266 chipset. Highly advanced, the chipset combines an integrated 2D/3D engine with DVD hardware acceleration, AC-97 audio support for SoundBlaster Pro and FM synthesis legacy audio.

Audio Features

- AC'97 audio support for SoundBlaster Pro
- FM synthesis legacy audio

System Requirements

This section describes system requirements for the VIA driver installation and usage.

Computer	Intel® Celeron™/Pentium® !!! (FC-PGA) processor or higher
Monitor	VGA Support, minimum 640x480 resolution
Operating system	DOS 5.0 or higher, Windows® 95/98, Windows® NT3.51 or 4.0, or OS/2®, Windows® 2000, or Windows® ME
CD-ROM	Double Speed or higher
Chipset	VIA®VT8633/VT8233 chipset

Driver Setup Procedures

Insert the CD disk into your CD-ROM drive. The CD will auto-run and display "VIA Chipset Drivers", "VIA AC97 PCI Sound Drivers" and "Download VIA Drivers" on the screen. Click on the appropriate button for installation.

Note: *Always install the VIA Chipset drivers before VIA AC97 PCI Sound driver.*

Windows® 98SE

Installing VIA® Chipset Driver:

1. Insert the supplied CD disk into the CD-ROM drive.
2. The CD will auto-run and the setup screen will appear.
3. Click on "Via Chipset Drivers" and the screen will show "VIA Service Pack 4.XX".
4. Click "Next" and the screen will show a "VIA Service Pack 1 README" dialog box.
5. Click "Next" and the screen will show four drivers: "VIA Atapi Vendor Support Driver", "AGP VxD Driver," "IRQ Routing Miniport Driver" and "VIA INF Driver 1.XX." Select all four drivers and click on "Next."
6. The setup program will request you to choose "Install VIA Atapi Vendor Support Driver." Select "Install" and click "Next" to continue.
7. Select "Click to enable DMA Mode" and click "Next" to continue.
8. The setup program will request you to choose "Install VIA AGP VxD in turbo mode," "Install VIA AGP VxD in normal mode" or "Uninstall VIA AGP VxD." Select "Install VIA AGP VxD in turbo mode" and click on "Next."
9. Select "Install VIA IRQ Routing Miniport Driver" and click on "Next."
10. The setup program will request you to choose whether to restart the computer or not. Please select "Yes, I want to restart my computer now" and click "Finish". The computer will restart and complete the VIA Chipset Drivers installation.

Installing VIA® AC97 PCI Sound Driver:

1. Make sure the supplied CD disk is in the CD-ROM drive.

2. Go to **My Computer** and double click on the CD-ROM icon. The setup screen will appear again.
3. Click on "VIA AC97 PCI Sound Drivers" and the screen will show "VIA Audio Driver Setup Program 1.XX."
4. Click "Next" to proceed and the screen will show "Install" or "Uninstall." Select "Install" and then click on "Next."
5. Click "Finish" to complete the AC97 Audio Driver Installation.

Windows® 2000

Installing VIA® Chipset Driver:

1. Insert the supplied CD disk into the CD-ROM drive.
2. The CD will auto-run and the setup screen will appear.
3. Click on "Via Chipset Drivers" and the screen will show "VIA Service Pack 4.XX".
4. Click "Next" and the screen will show a "VIA Service Pack 1 README" dialog box..
5. Click "Yes" and the screen will show three drivers: "VIA Bus Master Ultra ATA Driver (Windows 2000)", "AGP VxD Driver" and "VIA INF Driver 1.XX." Select all and click "Next" to proceed.
6. The screen will show a "VIA Bus Master Ultra ATA Driver" dialog box. Select "Install" and then click on "Next."
7. The screen will show a "VIA GART AGP Driver 4.XX" dialog box. Select "Install AGP 4X/133 driver" and click "Next."
8. There is a "Read Only File Detected" dialog box. Click "Yes". A dialog box "Digital Signature Not Found" will appear and ask you "Do you want to continue the installation of the VIA Bus Master Ultra ATA Controller". Click "Yes" to continue.
9. Select "Yes" and then click "Finish" to restart the system.
10. After restart, the system will find a new hardware device and the "Found New Hardware Wizard" dialog box will appear. Click "Next" to the next screen and a "VIA BM Ultra DMA Channel" device will be found.
11. Click "Next" and the driver search result will be shown on the screen. Click "Next".
12. A dialog box "Digital Signature Not Found" will appear. Click "Yes".
13. Click "Finish" and then click "Yes" to restart the syste

14. Repeat **Step 10 through Step 13** again
15. After restart, the VIA Chipset driver installation will be complete.

Installing VIA® AC97 PCI Sound Driver:

1. Make sure the supplied CD disk is in the CD-ROM drive.
2. Go to **My Computer** and double click the CD-ROM icon. The setup screen will appear again.
3. Click on "VIA AC97 PCI Sound Drivers" and the screen will show "VIA AC97 PCI Sound Drivers."
4. Click "Next" to proceed and the screen will show "Install" or "Uninstall." Select "Install" and then click on "Next."
5. A window "Digital Signature Not Found" will appear and ask "Do you want to continue the installation of the VIA AC'97 Audio Controller (WDM) Driver?" Click "Yes" to proceed.
6. Click "Finish" to complete setup.

Windows® ME

Installing VIA® Chipset Driver:

1. Insert the supplied CD disk into the CD-ROM drive.
2. The CD will auto-run and the setup screen will appear.
3. Click on "Via Chipset Drivers" and the screen will show "VIA Service Pack 4.XX".
4. Click "Next" and the screen will show a "VIA Service Pack 1 README" dialog box..
5. Click "Yes" and the screen will show two drivers: "AGP VxD Driver" and "VIA INF Driver 1.XX." Select all and click "Next" to proceed.
6. The screen will show a "VIA_GART AGP Driver 4.XX" dialog box. Select "Install VIA AGP VxD in Turbo mode" and click "Next."
7. The setup program will request you to choose whether to restart the computer or not. Please select "Yes, I want to restart my computer now" and click "Finish." The computer will restart and finish the VIA Chipset Drivers installation.

Installing VIA® AC97 PCI Sound Driver:

1. Make sure the supplied CD disk is in the CD-ROM drive.
2. Go to **My Computer** and double click the CD-ROM icon. The setup screen will appear again.

3. Click on "VIA AC97 PCI Sound Drivers."
4. Then restart the system manually to make it work.

> ***Note:*** *In Windows 2000/ME, you may see the* ***One Touch Setup*** *button appear on the setup screen. Choosing the button will help you to install more than one driver into the system without going through the installation process step by step and save a lot of time. After clicking on* ***One Touch Setup****, a window will show up listing what drivers will be installed. Install other drivers not included by One Touch Setup manually if any.*

Windows® NT4.0

Note: *Install Windows® NT4.0 Service Pack 6 or above before installing the VIA drivers in Windows® NT.*

Installing VIA® Chipset Driver:

1. Insert the provided CD disk into the CD-ROM drive.
2. The CD will auto-run and the setup screen will appear.
3. Click on "VIA Chipset Drivers" and the screen will show "VIA Service Pack 4.XX."
4. Click "Next" and the screen will show the "VIA Service Pack 1 README" dialog box.
5. Click "Yes" to proceed and then select "Install" to enable (Ultra) DMA for IDE Driver.
6. The "Choose Destination Location" dialog box appears. Click "Next".
7. The "Select Program Folder" dialog box appears. Click "Next".
8. Click on "Yes, I want to restart my computer" and then click "Finish" to restart your computer and complete installation.

Installing VIA® AC97 PCI Sound Driver:

1. Make sure the supplied CD disk is in the CD-ROM drive.
2. Go to **My Computer** and double click the CD-ROM icon. The setup screen will appear again.
3. Click on "VIA AC97 PCI Sound Drivers" and the screen will show the "VIA PCI Audio Drivers" setup screen.
4. The setup program will show "Install" or "Uninstall." Select "Install"

and click on "Next."

5. The setup program will show the following message on the screen:

> Please choose "Add" from the next window and add the following device:
> VIA PCI Audio Controller
> VIA MIDI External Port

Then click "OK."

6. Follow the steps shown in **Step 5** to finish the VIA AC97 PCI Audio Drivers Installation.
7. A window will appear asking "Do you want to install the joystick driver for the Microsoft Sidewinder 3D Pro Joystick?" Please click "No" to continue.
8. Please click "Finish" to restart your computer and complete installation.

USB PC to PC Networking Function

A

USB PC to PC is the best solution for providing the easiest network connection service to you. By connecting multiple PCs through USB PC to PC port, you can build up a local area network without any network adapter. We give this Ethernet emulation environment a name — USB PC to PC. USB PC to PC supports TCP/IP, NetBEUI and IPX protocols. These features make your PCs able to share their resources such as files or printers to each other. Furthermore, USB PC to PC also gives you the ability of connecting to your existing Home or Office LAN for network resource or Internet sharing.

The section includes the following topics:

Installing GeneLink™ LAN Driver

Before you use the function, you need to install the GeneLink™ LAN Driver to all PCs connected via USB PC to PC cables.

Step 1. Installing driver

1. Insert the driver CD and click "USB PC to PC" button to install the driver.
2. The welcome dialog box appears and click Next > button.
3. Choose the destination folder and click Next > button.
4. Select components that you want to install and then click Next > button. (GeneLink™ LAN Driver is used only for those PCs connected via USB PC to PC port so that resources are shared between these PCs; GeneLink™ Software Router allows your PC to connect to another existing Home/Office LAN for network resource or Internet sharing.)
5. The Setup Program will install all necessary components automatically.
6. Setup completes. Then select 'Yes, I want to restart my computer now' and click "FInish" button to reboot your computer for updating your driver configuration.

After you complete the installation procedures, you'll find Setup Program has installed GeneLink™ network driver in your computer. It binds TCP/IP, NetBEUI and IPX protocols to GeneLink™ device.

Step 2 – Connect your PCs via the USB PC to PC cable

Step 3 - Network Login

When you restart your computer, you will be prompted for a user name and password to login your network. Please enter an unique name for your PC.

Step 4 – Sharing your resources and Connecting to Internet

You need to manually share your resources (files, folders, drives and printers) to make them accessible for other computers. For Internet accessing, you must define which computer (That has already been connected to Internet) should install GeneLink™ Software Router. And all clients accessing Internet resources through GeneLink™ USB port should have installed GeneLink™ LAN driver.

Notice:

1. *You should use the same network protocol (TCP/IP, NetBEUI or IPX) for connecting GeneLink™ LAN to existing Home/Office LAN.*
2. *If you've already configured your [IPX/SPX] and [Client for Netware Networks] before installing GeneLink™ driver, we strongly recommend that you should also install* ***Software Router*** *while installing GeneLink™ driver into your system.*

Using USB PC to PC Networking Function

How to share your files, folders, drives and printers

a. Go to the file, folder, drive or printer that you want to share.
b. Right click your mouse pointer on the resource you want to share, you'll see a POP-UP Menu.

c. Select " Sharing" and you'll see another POP-UP Menu.

d. In "Sharing" tag, select "Share As".
e. Enter a name to help others recognize your sharing file or device (optional).
f. Select "Access Type". If you select " Depend on Password", your need to assign an access password for this device.
g. Click "OK" button.

How to check if you have already shared your resources

Go to the resource and check if Windows had added a hand on its icon or not. If yes, it means you've successfully shared your resource and others can access it through USB PC to PC; if not, you need to repeat the steps described in "**How to share your files, folders, drives and printers"** to complete your sharing processes.

Connecting to your existing Home or Office LAN

To connect your USB PC to PC to another existing Home of Office LAN via USB PC to PC port, you need to install **GeneLink™ Software Router** in addition to GeneLink™ LAN driver. GeneLink™ Software Router is responsible for handling all network packets between USB PC to PC and your Home/Office LAN. So only the computer that is physically connected to both LANs needs to install GeneLink™ Software Router (i.e., this computer should install both GeneLink™ LAN and one network adapter for Home/Office LAN). For those computers on USB PC to PC, you only need to follow installation procedures on the manual to install GeneLink™ LAN driver. The following procedures will show you how to install drivers to the computer that will link both PC and your existing Home/Office LAN:

Notice: If you want to connect your GeneLink™ LAN to your existing Home/Office LAN, you should use the same protocol for the two LANs. For example, if your Home/Office LAN uses TCP/IP protocol, you should also use TCP/IP protocol for your GeneLink™ LAN. Otherwise, these two LANs cannot communicate to each other. The Setup Program installs TCP/IP, NetBEUI and IPX protocols for GeneLink™ LAN by default. If your Home/Office LAN uses other protocol, please install the same protocol for those computers within GeneLink™ LAN.

Connecting to Internet through USB PC to PC & Office/Home LAN

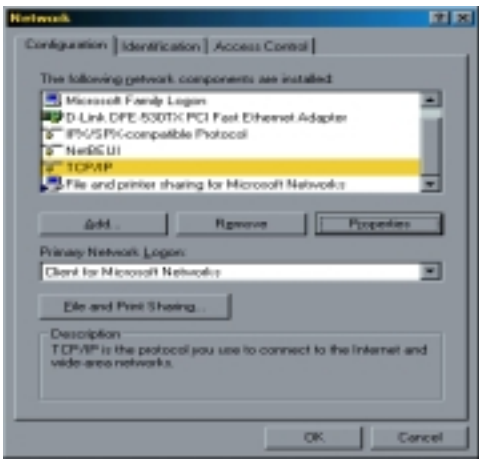
If you would like to access Internet resources through USB PC to PC, here are some things you should notice:

a. You must define which computer should install GeneLink™ Software Router.
b. The computer which has installed GeneLink™ Software Router should have already been connected to internet.
c. All clients which would like to access Internet resources through USB cable should have installed GeneLink™ driver.

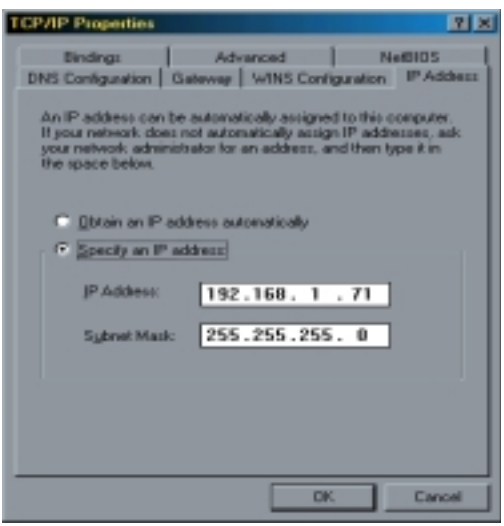
Now we need to make some network configurations on the Desktop/ Notebook which connect to GeneLink™ Software Router to make your Internet access possible (maybe you need to consult you Network Administrator for doing that):

a. If your existing home/office network is NOT using DHCP to assign client's IP address, your need to:
- Move your mouse pointer on Network Neighborhood icon and right click on it. You'll see a pop-up menu.

- Click on “Properties”, you’ll see another menu.



- Choose TCP/IP in Configuration tag, and then press “Properties” button. You’ll see “TCP/IP Properties” menu.



- Now you need to navigate between “IP Address”, “Gateway”, and “DNS Configuration” tags to specify “IP Address”, “Subnet Mask”, “Gateway” and “DNS Server”. If you don’t know their values, pleases consult your Network Administrator.

- Press “OK” button to go back to “Network” pop-up menu. Choose “Identification” tag. Specify an unique name for your computer if it doesn’t have and fill in the name of your workgroup. If you are not sure what’s the name of your computer or Workgroup, please consult your Network Administrator.

- Press “OK” to complete your network configuration. Restart your computer and you’ll be ready to connect to Internet.

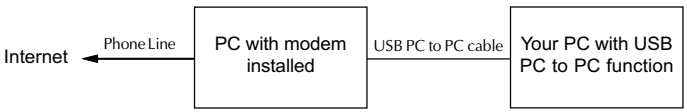
b. If your existing HOME/OFFICE network is using DHCP to assign client’s IP address, your Network Sever will configure your network configuration automatically. So you can skip those procedures described in the previous session.

SPECIAL NOTICE for those users who have already installed Network Adapter in their system:

If you've already configured your [IPX/SPX] and [Client for Netware Networks] before installing GeneLink™ driver, we strongly recommend that you should also install ***Software Router*** when you install GeneLink™ driver into your system. If you decide not to install ***Software Router***, then the OS will not allow two IPX/SPX configurations co-exist in the same system. This will cause GeneLink™ Driver Install Program overwrite your original IPX/SPX configuration and make your original network configuration malfunction.

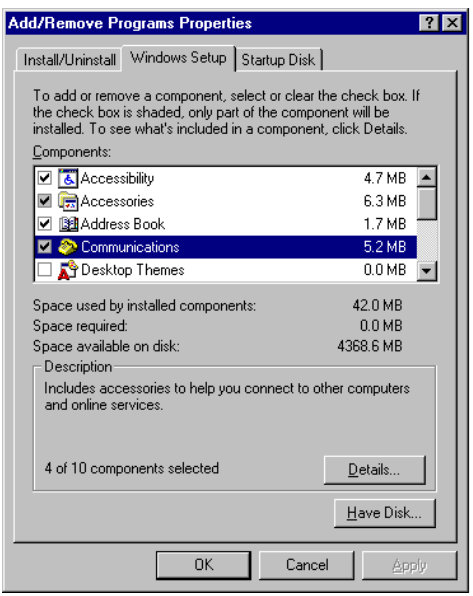
Connecting to internet through USB PC to PC & another PC with modem

If there is no existing Office/Home LAN and your computer does not have a modem, you still can connect USB PC to PC to internet through another computer with a modem installed. **The function is available in Windows® 98SE and ME.**



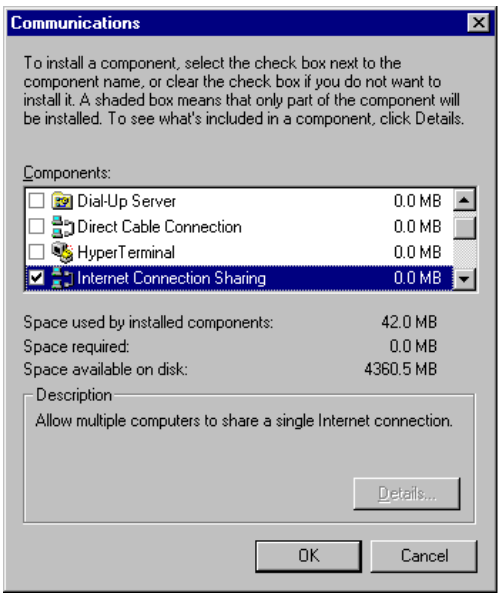
To access internet through another computer with modem, you need to setup "Internet Connection Sharing" on all computers connected via USB PC to PC cables. Instructions are as follows:

a. Go to "Control Panel".
b. Double click "Add/Remove Programs" and the "Add/Remove Programs Properties" window appears.
c. Select "Windows Setup" tag and double click



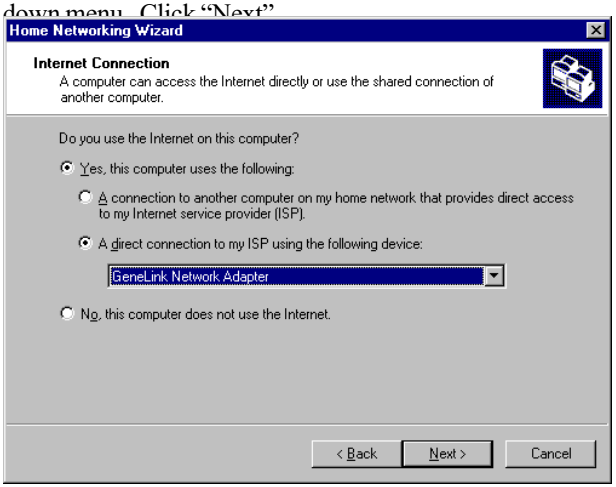
"Communications". The "Communications" window appears.

d. Check "Internet Connection Sharing" and click "OK".



e. The "Home Networking Wizard" starts. Click "Next".

f. Click “Adirect connection to my ISP using the following device”, and select “GeneLink Network Adapter” from the pull-down menu. Click “Next”.



Note: For the computer with a modem installed, you need to select “**My Connection**” instead of “GeneLink Network Adapter” on the step, and after finishing installation of “My Connection”, select “GeneLink Network Adapter” when the

above window returns.

g. Continue to click “Next”.

h. Click “Finish.”

i. Restart the computer.

Note: In Windows® 98SE, you can access internet through the shared connection of another computer, but it is unable for you to control the remote modem. However, in *Windows® ME*, you are allowed to dial the remote modem of another computer using the dialing program built in Windows® ME.