
Introduction

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The 845 Pro (MS-6529) ATX mainboard is a high-performance computer mainboard based on **Intel® 82845 & 82801BA** chipsets. The 845 Pro (MS-6529) is designed for Intel® Pentium® 4 processor in the 423 pin package that delivers a high performance and professional desktop platform solution.

The Intel® 82845 Memory Controller Hub (MCH) provides the processor interface, SDRAM interface, AGP interface and hub interface. It supports: a single processor with a data transfer rate of 400MHz, SDRAM at 133MHz operation (PC133), AGTL+ host bus with integrated termination supporting 32-bit host addressing, 1.5V AGP interface with 4x SBA/data transfer and 2x/4x fast write capability, and 8-bit, 66MHz 4x hub interface to the Intel ICH2.

The Intel® 82801BA (ICH2) chipset is a highly integrated multifunctional I/O Controller Hub that provides the interface to the PCI Bus and integrates many of the functions needed in today's PC platforms. It communicates with the host controller over a dedicated hub interface and provides added flexibility in designing cost-effective system solutions.

This chapter includes the following topics:

Mainboard Specification	1-2
Mainboard Layout	1-4
Quick Components Guide	1-5
Key Features	1-6
MSI Special Features	1-7

Chapter 1

Mainboard Specification

CPU

- Supports Intel® Pentium 4 processor (423 pin package)
- Supports 1.1GHz, 1.2GHz, 1.8GHz or faster

Chipset

- Intel® 845 chipset (593 FC-BGA)
 - AGP 4x/2x universal slot
 - Supports 100MHz FSB
 - Supports 400MHz Intel NetBurst micro-architecture bus
- Intel® ICH2 chipset (360 BGA)
 - AC'97 Controller Integrated
 - 2 full IDE channels, up to ATA100
 - Low pin count interface for SIO

Main Memory

- Supports three 168-pin DIMM sockets
- Supports 64MB to 1GB technologies up to 3GB

Slots

- One CNR (Communication Network Riser)
- One AGP (Accelerated Graphics Port) 2x/4x slot
- Five PCI 2.2 32-bit Master PCI Bus slots
- Supports 3.3v/5v PCI bus Interface



*Note: The AGP slot **does NOT** support 3.3V AGP 2x card. Use of 3.3V AGP 2x card may cause damages to the mainboard.*

On-Board IDE

- An IDE controller on the ICH2 chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA66/100 operation modes.
- Can connect up to four IDE devices

On-Board Peripherals

- On-Board Peripherals include:
 - 1 floppy port supports 2 FDDs with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes
 - 2 serial ports (COM A + COM B)

Introduction

- 1 parallel port supports SPP/EPP/ECP mode
- 4 USB ports (Rear * 2 / Front * 2), one for USB PC 2 PC Networking function
- 1 Line-In/Line-Out/Mic-In/Game port
- 1 D-Bracket™ header (Optional)

Audio

- S/W Audio ICH2 chip integrated
- AC'97 2.1 Compliant
- Support 2/4 Channel Audio

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

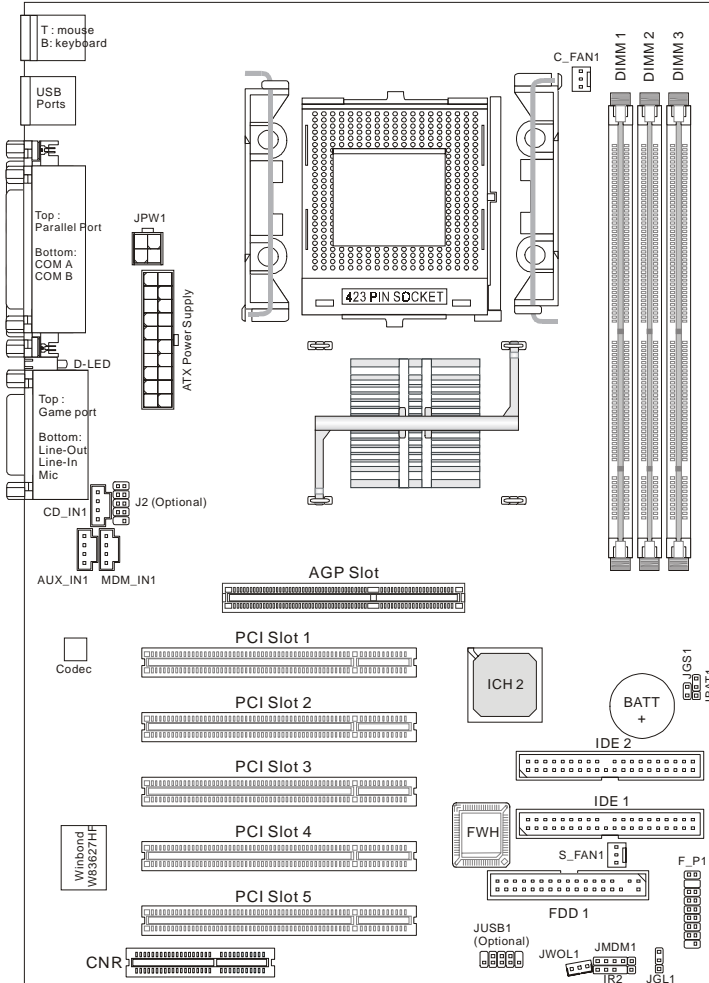
- ATX Form Factor 30.5cm x 21.5cm

Mounting

- 6 mounting holes

Chapter 1

Mainboard Layout



845 Pro (MS-6529) ATX Mainboard

Quick Components Guide

Component	Function	Reference
DIMM1~3	Installing DIMM modules	See p. 2-5~2-6
Socket 423	Installing CPU	See p. 2-2~2-3
C_FAN1	Connecting to CPU FAN	See p. 2-20
S_FAN1	Connecting to SYSTEM FAN	See p. 2-20
ATX Power Supply	Installing power supply	See p. 2-7
JPW1	Connecting to 12V ATX power supply	See p. 2-8
IDE1 & IDE2	Connecting to IDE hard disk drives	See p. 2-14
FDD1	Connecting to floppy disk drive	See p. 2-13
JUSB1	Connecting to USB interfaces	See p. 2-22~2-24
PCI Slot 1~5	Installing PCI expansion cards	See p. 2-28
AGP Slot	Installing AGP cards	See p. 2-28
CNR Slot	Installing CNR cards	See p. 2-29
JMDM1	Connecting to modem module	See p. 2-19
JWOL1	Connecting to LAN module	See p. 2-19
JBAT1	Clearing CMOS data	See p. 2-27
F_P1	Connecting to case	See p. 2-15
JGS1	Connecting to power saving switch	See p. 2-18
JGL1	Connecting to power saving LED	See p. 2-17
IR2	Connecting to IR module	See p. 2-18
J2	Connecting to D-Bracket™	See p. 2-25

Chapter 1

Key Features

- ATX Form Factor
- CPU: Socket 423 for Intel® Pentium® 4 Processors
- Memory: 3 SDRAM DIMMs
- Slot: 1 AGP slot, 1 CNR slot, 5 PCI slots
- I/O: 2 serial ports, 1 parallel port, 4 USB 1.1 ports, 1 floppy port, 1 IrDA connector, 1 Audio/Game port
- PC2001 Compliant
- Vcore/Vio Adjustable
- USB Interface: USB 1.1 PC to PC Networking (Optional)
- LAN Wake up Function
- Modem (Internal) Ring Wake up Function
- D-LED™ -- 4 Diagnostics LEDs embedded on the mainboard
- Supports Optional D-Bracket™ (Optional)
- TOP Tech™ III -- Thermal Overheat Protection Technology
- Fuzzy Logic™ III overclocking utility
- Live BIOS™ -- allows you to update BIOS online
- Live Driver™ -- allows you to update drivers online
- Audio: Chip integrated

MSI Special Features

The MSI special features are designed by MSI R&D which are only available in MSI mainboards. The 845 Pro (MS-6529) mainboard is equipped with Fuzzy Logic™ III, D-LED™, T.O.P. Tech™ III, Live BIOS™ and Live Driver™.

Fuzzy Logic™ III

The Fuzzy Logic™ III utility allows users to overclock the CPU FSB (Front Side Bus) frequency in the Windows environment. Select the CPU frequency you prefer and click Go to apply the frequency or click Save allowing the system to run at the specified frequency each time when the system is powered on.



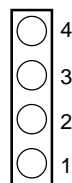
Features:

- Display Current System Status
 - CPU Fan
 - CPU Temp.
 - Vcore
 - Vio
 - Memory Clock
 - CPU Clock
 - AGP Clock
 - PCI Clock
- Adjust CPU FSB Frequency

Chapter 1

D-LED™ & D-Bracket™

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.



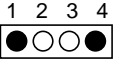



















Diagnostic LED

If your motherboard supports and installs D-Bracket™ which also integrates four Diagnostic LEDs, definitions of the LED signals are the same as D-LED™ as shown below.

● Red ○ Green

D-LED	D-Bracket	Description
		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.

Introduction

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

Chapter 1

T.O.P Tech™ III

The T.O.P Tech™ is an extended sensing device that can 100% accurately detect the CPU's temperature. You can find out the temperature on BIOS setup menu. The PC Alert™ also provides the information.



CPU temperature on Setup menu

AMIBIOS SETUP - Hardware Monitor Setup (C)2001 American Megatrends, Inc. All Rights Reserved			
CPU Ratio Selection	8.0x	+5V SB	4.87V
CPU FSB (Mhz)	100		
Spread Spectrum	Enabled		
CPU Vcore Adjust	No		
CPU Vcore	1.750V		
DRAM Voltage Adjust	3.3V		
Chassis Intrusion	Disabled		
CPU Temperature	29°C/84°F		
System Temperature	39°C/102°F		
CPU Fan Speed	6124 RPM		
System Fan Speed	0 RPM		
Vcore	1.71V		
Vtt	1.50V		
Vio	3.26V		
+5.0V	4.92V	ESC : Quit	↑↓←→ : Select Item
+12.0V	11.40V	F1 : Help	PU/PD/+/- : Modify
-12.0V	-11.56V	F5 : Load Previous Values	
-5.0V	-4.99V	F6 : Load Fail-Safe Defaults	
Battery	3.22V	F7 : Load Optimized Defaults	

Live BIOS™ & Live Driver™

The Live BIOS™ & Live Driver™ is a tool used to detect and update your BIOS and drivers online so that you don't need to search for the correct BIOS or drivers version through the whole web site. To use the function, you need to install the “MSI Live Update Series” application. After installation, the “MSI Live Update Series” icon (as the right view) will appear on the screen.



Double click the “MSI Live Update Series” icon, and the following screen will appear.



Four buttons are placed on the left column of the screen. Click the desired button to start the update process.

- **Live BIOS** – Updates the BIOS online. If your motherboard does not support the function, the “sorry” message is displayed.
- **Live Driver** – Updates the drivers online. If your motherboard does not support the function, the “sorry” message is displayed.
- **Live VGA BIOS** – Updates the VGA BIOS online. If your VGA device does not support the function, the “sorry” message appears.
- **Live VGA Driver** – Updates the VGA driver online. If your VGA device does not support the function, the “sorry” message is displayed.

For more information on the update instructions, insert the companion CD and refer to the “Live Update Series Guide” under the “Manual” tab.

Hardware Setup

2

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.

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)	2-2
Memory	2-5
Power Supply	2-7
Back Panel	2-9
Connectors	2-13
Jumpers	2-27
Slots	2-28

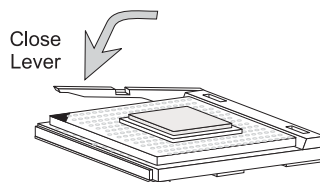
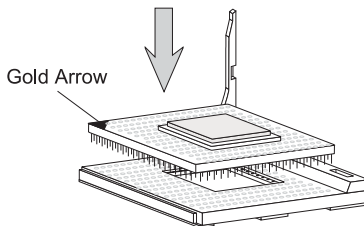
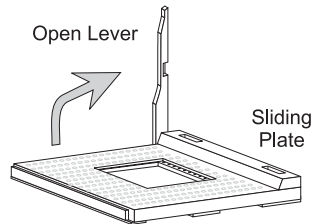
Chapter 2

Central Processing Unit: CPU

The mainboard supports Intel® Pentium® 4 processor. The mainboard uses a CPU socket called Socket 423 for easy CPU installation. Make sure that the CPU has a Heat Sink and a cooling fan attached to prevent overheating. If you do not find the Heat Sink and cooling fan, contact your dealer or purchase 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. Look for the gold arrow. The gold arrow should point towards the end of lever. The CPU will only fit in the correct orientation.
3. Hold the CPU down firmly, and then close the lever to complete the installation.



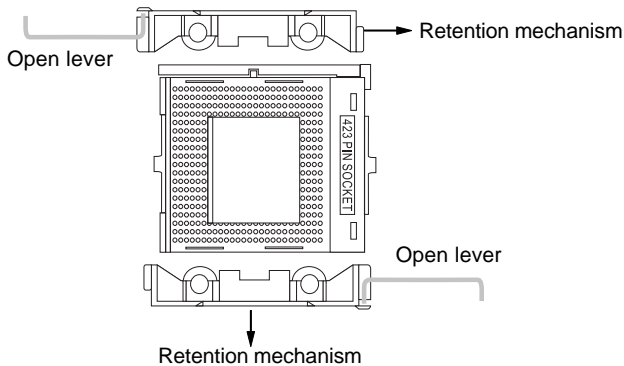
WARNING!

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

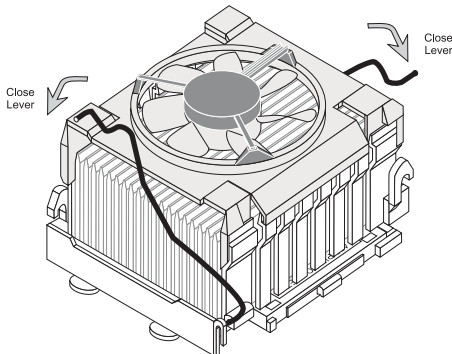
Installing the CPU Fan

As processor technology pushes to faster speeds and higher performance, thermal management becomes increasingly important. To dissipate heat, you need to attach the CPU cooling fan and heatsink on top of the CPU. The Pentium 4 has its specific CPU fan. Unproper CPU fan may lead to overheating problem that will damage the CPU. Therefore, make sure you use the appropriate CPU fan. Follow the instructions below to install the Heatsink/Fan:

- 1.** Open the levers of the retention mechanism.



- 2.** Position the fan module onto the retention mechanism. Close the levers to fix the attachment.



Chapter 2

CPU Core Speed Derivation Procedure

If	CPU Clock	=	100MHz
	Core/Bus ratio	=	14
then	CPU core speed	=	Host Clock x Core/Bus ratio
		=	100MHz x 14
		=	1.4GHz



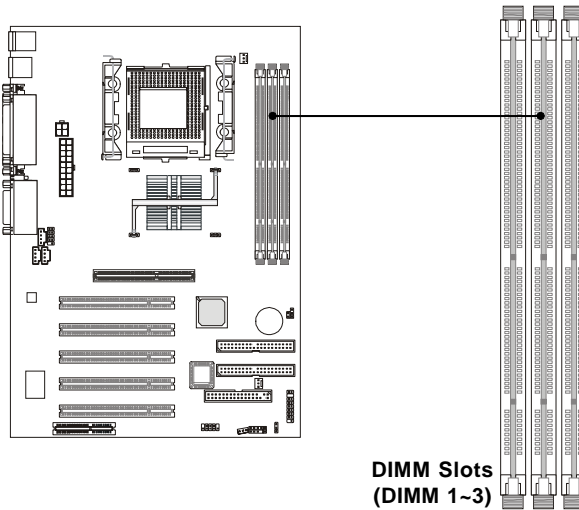
Overclocking

*This motherboard is designed to support overclocking. However, please make sure your components are able to tolerate such abnormal setting, while doing overclocking. Any attempt to operate beyond product specifications is not recommended. **We do not guarantee the damages or risks caused by inadequate operation or beyond product specifications.***

*If you overclock the CPU FSB clock **over 160MHz**, the use of **PCI50 or better DRAM modules** is strongly recommended.*

Memory

The mainboard supports a maximum memory size of 3GB. It provides three 168-pin **unbuffered** SDRAM DIMM (Double In-Line Memory Module) sockets and supports 64MB to 1GB technology.



Introduction to SDRAM

Synchronous DRAM (SDRAM) is a type of dynamic RAM memory chip that has been widely used starting in the latter part of the 1990s. SDRAMs are based on standard dynamic RAM chips, but have sophisticated features that make them considerably faster. First, SDRAM chips are fast enough to be synchronized with the CPU's clock, which eliminates wait states. Second, the SDRAM chip is divided into two cell blocks, and data is interleaved between the two so that while a bit in one block is being accessed, the bit in the other is being prepared for access. This allows SDRAM to burst the second and subsequent, contiguous characters at a rate of 10ns, compared to 60ns for the first character.


SDRAM provides 800 MBps or 1 GBps data transfer depending on whether the bus is 100MHz or 133MHz.

Chapter 2

DIMM Modules Combination

You can install one or more DIMM modules in the following combination:

DIMM Socket	Memory Module	Total Memory
Socket 1 (Bank 0 & Bank 1)	64MB, 128MB, 256MB, 512MB, 1GB	64MB ~ 1GB
Socket 2 (Bank 2 & Bank 3)	64MB, 128MB, 256MB, 512MB, 1GB	64MB ~ 1GB
Socket 3 (Bank 4 & Bank 5)	64MB, 128MB, 256MB, 512MB, 1GB	64MB ~ 1GB
Total System Memory		64MB ~ 3GB

 **Note:** As 845 chipset does not properly support the PC100 memory, it is strongly recommended to **install PC133 DIMM modules for the better system performance and stability**. We do not guarantee the system stability when installing PC 100 DIMM modules.

Installing DIMM Modules

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

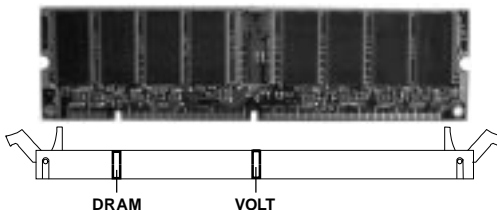


Front View



Rear View

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



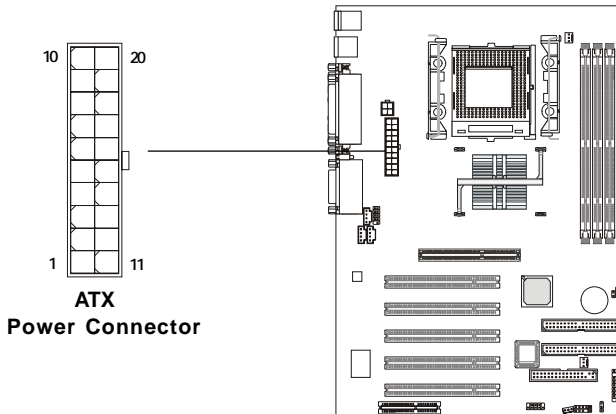
3. The plastic clip at each side of the DIMM slot will automatically close.

Power Supply

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

ATX 20-Pin Power Connector

This connector allows you to connect to an ATX power supply. To connect to the ATX power supply, make sure the plug 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.



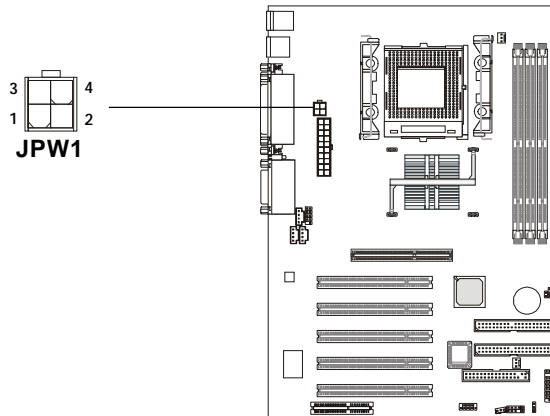
**ATX
Power Connector**

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


Chapter 2

ATX 12V Power Connector: JPW1

Attaching the ATX power supply to the connector helps offering sufficient voltage to Pentium 4 CPU.

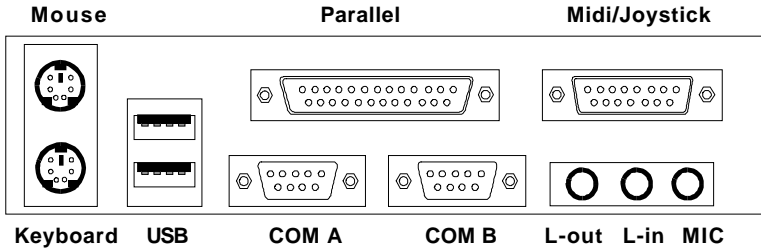


PIN	SIGNAL
1	GND
2	GND
3	12V
4	12V

 **Note:** We strongly recommend users to purchase and use the ATX power supply that comes with the **12V connector**. Otherwise, the system might become unstable without connection of the 12V power connector after a period of time .

Back Panel

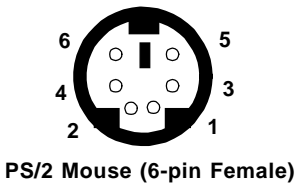
The Back Panel provides the following connectors:



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.

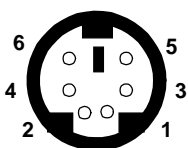
Pin Definition		
PIN	SIGNAL	DESCRIPTION
1	Mouse DATA	Mouse DATA
2	NC	No connection
3	GND	Ground
4	VCC	+5V
5	Mouse Clock	Mouse clock
6	NC	No connection



Chapter 2

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.



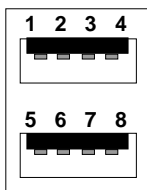
PS/2 Keyboard (6-pin Female)

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 this connector.



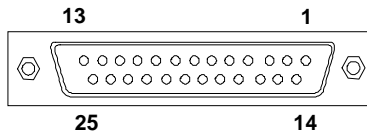
USB Ports

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	Negative Data Channel 1
7	+Data 1	Positive 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.



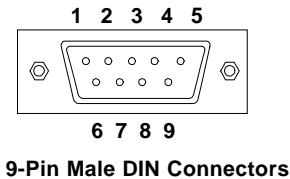
Pin Definition

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	FE	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	Ground

Chapter 2

Serial Port Connectors: COM A & COM B

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

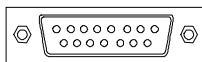


Pin Definition

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

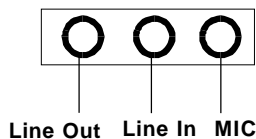
Joystick/Midi Connector

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.

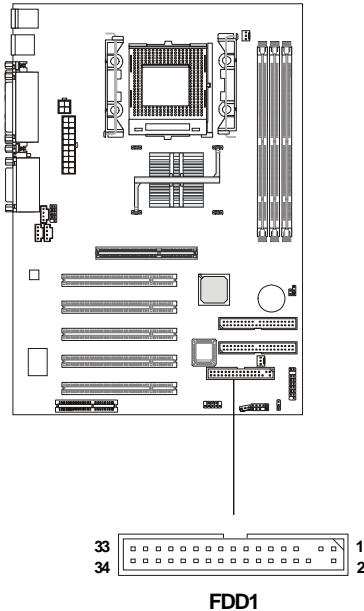


Connectors

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

Floppy Disk Drive Connector: FDD1

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



Chapter 2

Hard Disk Connectors: IDE1 & IDE2

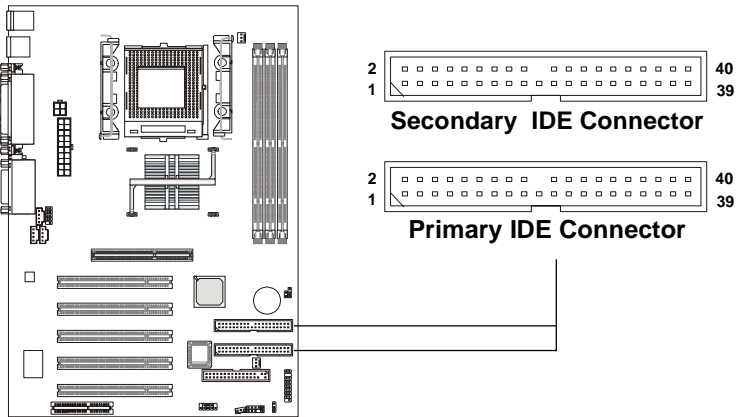
The mainboard uses an IDE controller on the Intel® ICH2 chipset that provides PIO mode 0-4, Bus Master, and Ultra DMA 66/100 modes. It has two HDD connectors IDE1 (Primary) and IDE2 (Secondary). You can connect up to four hard disk drives, CD-ROM or 120MB Floppy to IDE1 and IDE2.

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)

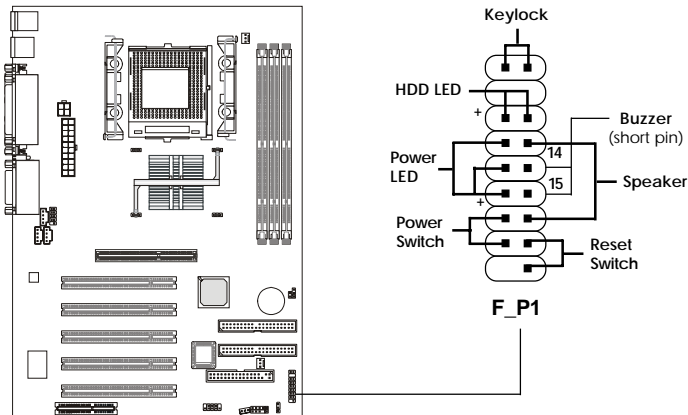
- You can connect a Master and a Slave drive to IDE2.



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: F_P1

The case connector block F_P1 allows you to connect to the Power Switch, Reset Switch, Speaker, Power LED, Keylock and HDD LED on the case.



Power Switch

Connect to a 2-pin push button switch.

Reset Switch

Reset switch is used to reboot the system rather than turning the power ON/OFF. Avoid rebooting while the HDD is working. 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. There are two types of LEDs you can connect from the system case to the pin:

- 2-pin dual color power LED:** Connected to pin 5 & 6. The 2-pin power LED changes its color to indicate different system states:
 - GREEN color indicates full-on mode.
 - ORANGE color indicates suspend/sleep mode.

Chapter 2

3-pin dual color power LED: Connected to pin 4, 5 & 6. The 3-pin power LED changes its color to indicate different system states:

GREEN color indicates full-on mode.

ORANGE color indicates suspend/sleep mode.

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 connected to the IDE1 or IDE2 connector. Avoid turning the power off while the HDD is working.

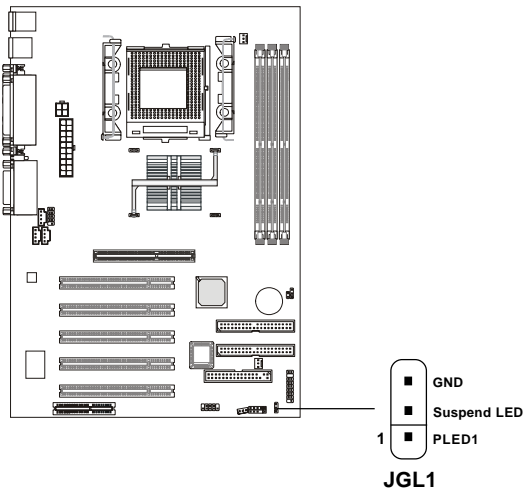
You can connect the HDD LED from the system case to this pin.

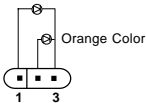
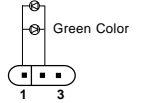
Keylock

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

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 dual color or 2-pin dual color LED. When connected to a dual color LED, the LED light is green when system is turned on, and turns to orange color while entering the suspend/sleep state.

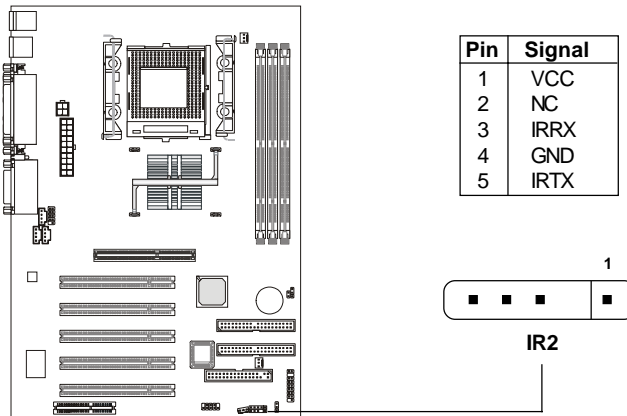


3-Pin LED	2-Pin LED
<p>Green Color</p>  <p>Orange Color</p> <p>1 3</p>	<p>Orange Color</p>  <p>Green Color</p> <p>1 3</p>
<p>Green: Full-on Mode Orange: Sleep Mode</p>	<p>Dual Color</p>

Chapter 2

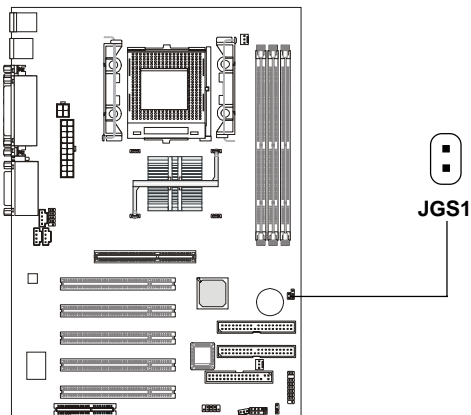
IrDA Infrared Module Connector: IR2

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.



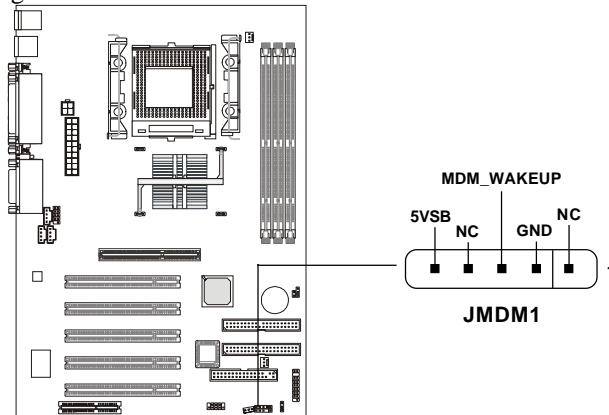
Power Saving Switch Connector: JGS1

Attach a power saving switch to this connector. Pressing the switch once will have the system enter the sleep/suspend state. Press any key to wake up the system.



Wake On Ring Connector: JMDM1

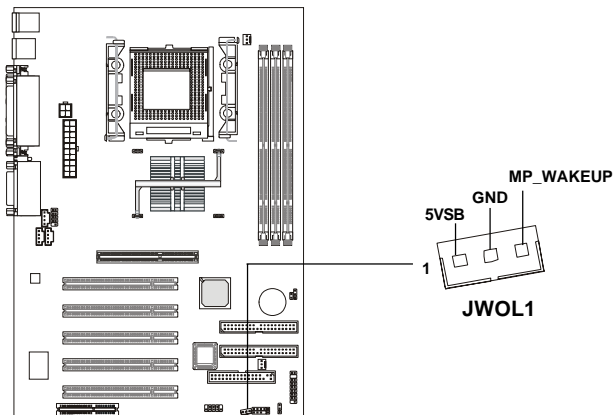
This connector allows you to connect to a modem card with Wake On Ring function. The connector will power up the system when a signal is received through the modem card.



Note: Modem wake-up signal is active “low”.

Wake On LAN Connector: JWOL1

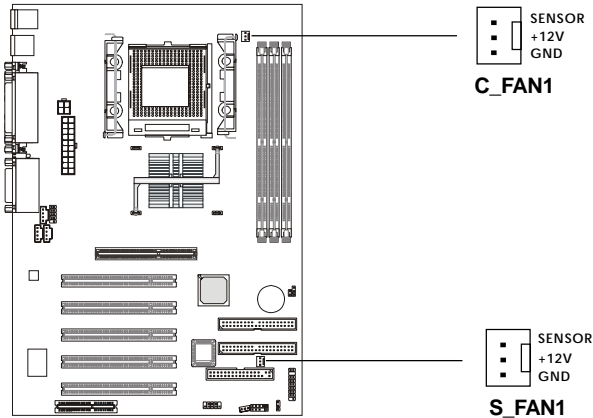
This connector allows you to connect to a LAN card with Wake On LAN function. You can wake up the computer via remote control through a local area network.



Chapter 2

Fan Power Connectors: C_FAN1/S_FAN1

The C_FAN1 (processor fan) and S_FAN1 (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:

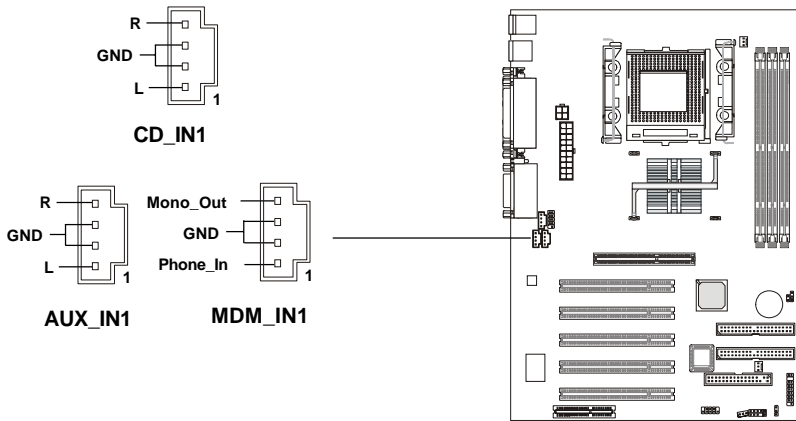
1. Always consult the vendor for proper CPU cooling fan.
2. CPU Fan supports the fan control. You can install the PC Alert utility that will automatically control the CPU Fan speed according to the actual CPU temperature.

CD-In/Aux Line-In/Modem-In Connector: CD_IN1/ AUX_IN1/MDM_IN1

CD_IN1 connector is for CD-ROM audio connector.

AUX_IN1 connector is for DVD add-on card with Line-in connector.

MDM_IN1 connector is for modem with internal audio connector.



Note:

Mono_Out is connected to the Modem speaker-out connector.

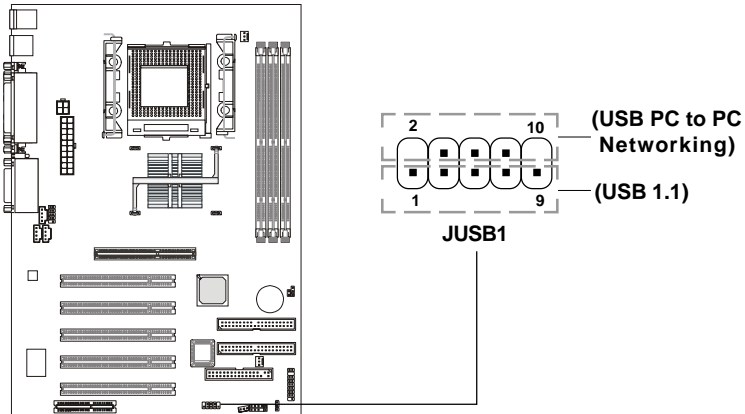
Phone_In is connected to the Modem Microphone-In connector.

Chapter 2

USB PC To PC Connector: JUSB1 (Optional)

The mainboard provides one USB (Universal Serial Bus) pin header that allows you to connect optional USB ports. JUSB1 is **optionally** implemented with USB PC to PC Networking function.

Depending on the model you purchased, the mainboard may offer **three regular USB 1.1 ports** and **one USB PC2PC port**, or just **four regular USB 1.1 ports**. This topic focuses on USB PC To PC function.



JUSB1 Pin Definition

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



Note: If the USB pin header does not support USB PC To PC Networking function, no pins will be removed.



***Note:** USB PC to PC Networking feature allows users to transfer and receive data from other computers or share system resources with others 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.

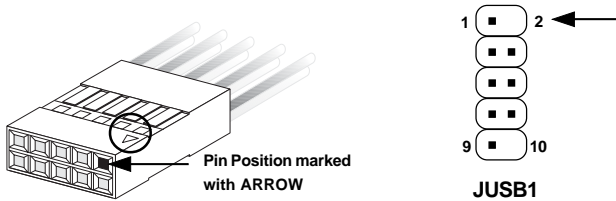


USB PC to PC Bracket

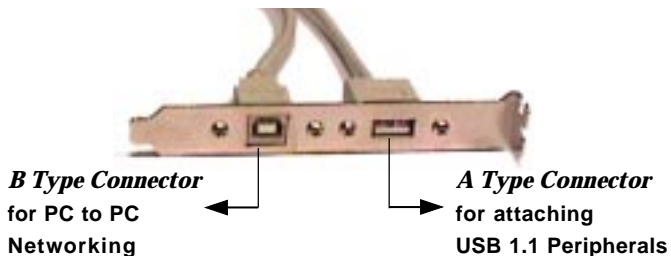


USB PC to PC Cable

2. Connect the USB Bracket's cable to the JUSB1 pin header on the mainboard. Locate the pin position marked with the ARROW on the connector of USB Bracket and Pin# 2 of JUSB1. Then align the marked pin position with Pin# 2 to attach the USB Bracket.

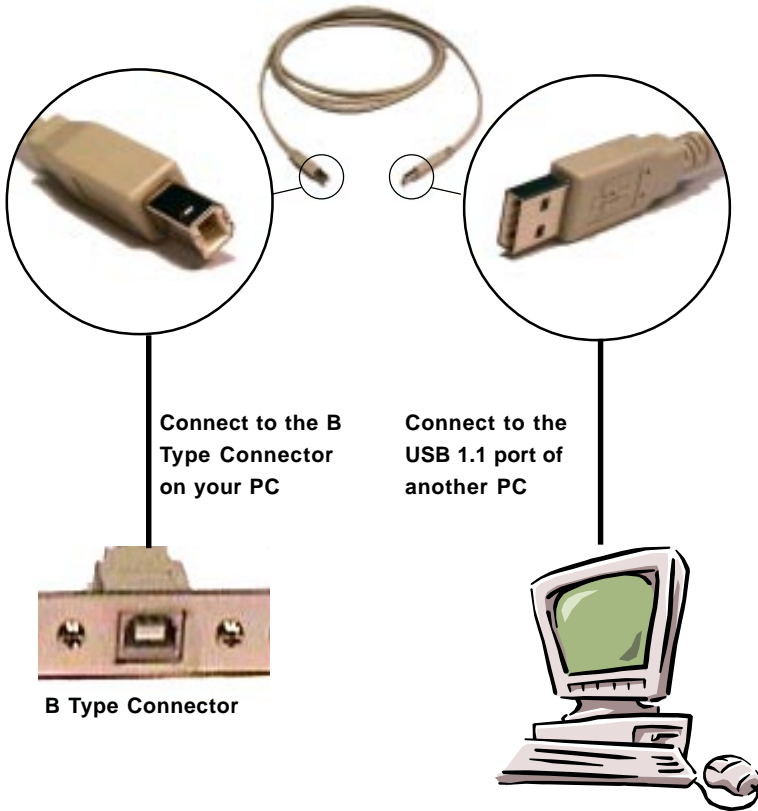


3. Identify the **B Type Connector** on the bracket used for PC to PC Networking function.



Chapter 2

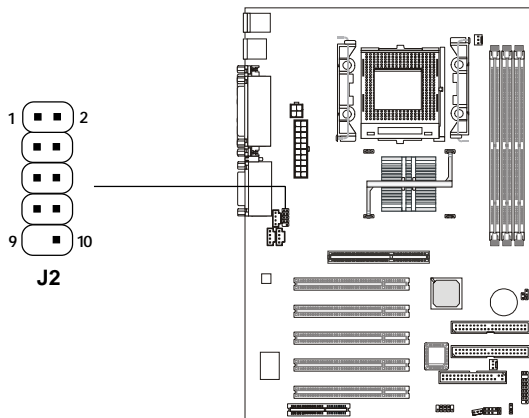
4. Connect your PC to another PC via USB PC to PC cable. The transfer rate will run at USB 1.1 speed (12Mbps/s).



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

D-Bracket™ Connector: J2 (Optional)

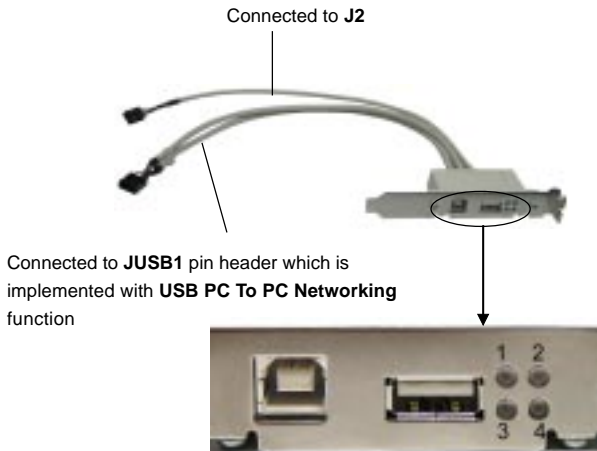
If your motherboard comes with the J2 connector, you can connect a D-Bracket™ to J2. D-Bracket™ is a USB Bracket integrating four LEDs whose functions are similar to D-LED™ and allows users to identify system problem through 16 various combinations of LED signals. For definitions of 16 signal combinations, refer to page 1-8 *D-LED™ & D-Bracket™*.



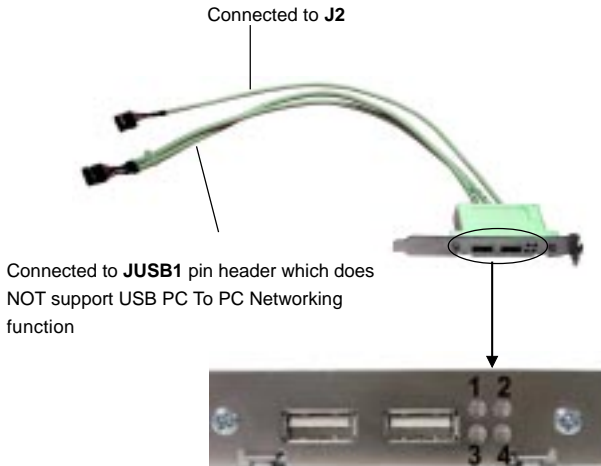
There are two types of D-Bracket™: one supports USB PC to PC Networking function, and the other doesn't (see photos on the next page). You can purchase the one you need from your dealer.

Chapter 2

● D-Bracket™ with one USB PC to PC port and one regular USB port



● D-Bracket™ with two regular USB ports

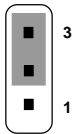
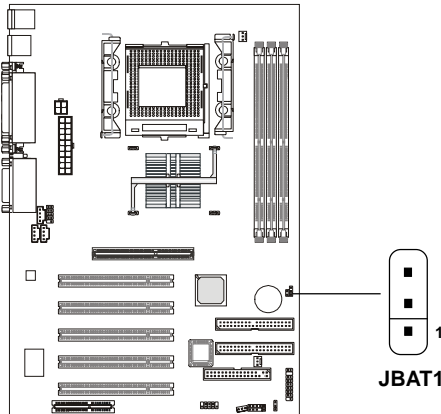


Jumpers

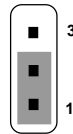
The motherboard provides one jumper for you to set the computer's function. This section will explain how to change your motherboard's function through the use of the jumper.

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. If you want to clear the system configuration, use the JBAT1 (Clear CMOS Jumper) to clear data. Follow the instructions below to clear the data:



clear data



keep data



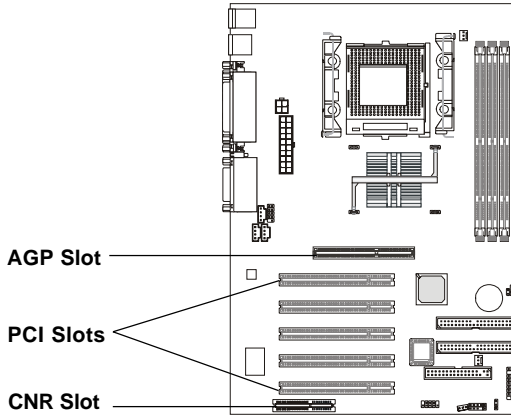
WARNING!

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.

Chapter 2

Slots

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



AGP (Accelerated Graphics Port) Slot

The AGP slot allows you to insert the AGP graphics card. AGP is an interface specification designed for the throughput demands of 3D graphics. It introduces a 66MHz, 32-bit channel for the graphics controller to directly access main memory and provides three levels of throughputs: 1x (266Mbps), 2x (533Mbps) and 4x (1.07Gbps). *The mainboard supports 2x/4x only.*



Warning

*The AGP slot **does NOT support 3.3V AGP 2x card.** Use of 3.3V AGP 2x card may cause damages to the mainboard. To identify the spec of your AGP card, refer to the documentation supplied with the AGP card or check the view of its contact pins (golden fingers) before you install it. If the display works abnormally after you install AGP card, immediately turn off the system to avoid any possible damages.*

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) Slot

The CNR slot allows you to insert the CNR expansion cards. CNR is a specially designed network, audio, or modem riser card for ATX family motherboards. Its main processing is done through software and controlled by the motherboard's chipset.

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" IRQ pins are typically connected to the PCI bus INTA#-INTG# pins as follows:

	Order 1	Order 2	Order 3	Order 4
AGP	INT A#	INT B#	INT C#	INT D#
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 C#	INT D#	INT A#	INT B#
PCI Slot 4	INT D#	INT A#	INT B#	INT C#
PCI Slot 5	INT B#	INT C#	INT D#	INT A#
USB-1	INT D#	/	/	/
USB-2	INT H#	/	/	/
AC97	INT B#	/	/	/

AGP & PCI Slot 1 shared.
USB-1 & PCI Slot 4 shared.
AC97 & PCI Slot 2 & PCI Slot 5 shared.

PCI Slot 1~5: Bus Master

AMI® BIOS Setup

3

The mainboard uses AMI® 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.

Chapter 3 contains the following topics:

Entering Setup	3-2
Selecting the First Boot Device	3-2
Control Keys	3-3
Getting Help	3-4
The Main Menu	3-5
Standard CMOS Features	3-7
Advanced BIOS Features	3-9
Advanced Chipset Features	3-12
Power Management Setup	3-14
PNP/PCI Configurations	3-18
Integrated Peripherals	3-20
Hardware Monitor Setup	3-24
Load High Performance Defaults/ Load BIOS Setup Defaults	3-26
Supervisor/User Password	3-28
IDE HDD AUTO Detection	3-30
Save & Exit Setup	3-31
Exit Without Saving	3-32

Chapter 3

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 key to enter Setup.

DEL:Setup F11:Boot Menu F12:Network boot TAB:Logo

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.

Selecting the First Boot Device

You are allowed to select the 1st boot device without entering the BIOS setup utility by pressing <F11>. When the same message as listed above appears on the screen, press <F11> to trigger the boot menu.

The POST messages might pass too quickly for you to respond in time. If so, restart the system and press <F11> after around 2 or 3 seconds to activate the boot menu similar to the following.

Select First Boot Device	
Floppy	: 1st Floppy
IDE-0	: IBM-DTLA-307038
CDROM	: ATAPI CD-ROM DRIVE 40X M
[Up/Dn] Select	[RETURN] Boot [ESC] cancel

The boot menu will list all the bootable devices. Select the one you want to boot from by using arrow keys and then pressing <Enter>. The system will boot from the selected device. The selection will not make changes to the settings in the BIOS setup utility, so next time when you power on the system, it will still use the original first boot device to boot up.

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
<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 BIOS Setup defaults
<F10>	Save all the CMOS changes and exit

Chapter 3

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.

General Help <F1>

The BIOS setup program provides a General Help screen. You can call up this screen by simply pressing <F1>. The Help screen lists the appropriate keys to use. To exit the Help screen, press <Esc>.

Default Settings

The BIOS setup program contains two kinds of default settings: the BIOS Setup and High Performance defaults. BIOS Setup defaults provide stable performance settings for all devices and the system. High Performance defaults provide the best system performance but may cause a system reliability issue.

The Main Menu

Once you enter AMIBIOS SIMPLE 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.

AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.45 (C)2001 American Megatrends, Inc. All Rights Reserved	
Standard CMOS Features	Load High Performance Defaults
Advanced BIOS Features	Load BIOS Setup Defaults
Advanced Chipset Features	Supervisor Password
Power Management Setup	User Password
PNP/PCI Configurations	IDE HDD AUTO Detection
Integrated Peripherals	Save & Exit Setup
Hardware Monitor Setup	Exit Without Saving
ESC : Quit	↑↓←→ : select Item
F10 : Save & Exit	
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 AMI® special enhanced features.

Advanced Chipset Features

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

Power Management Setup

Use this menu to specify your settings for power management.

Chapter 3

PNP/PCI Configurations

This entry appears if your system supports PnP/PCI.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Hardware Monitor Setup

This entry shows your PC's current status, and allows you to adjust CPU clock, core voltage etc.

Load High Performance Defaults

Use this menu to load the BIOS values for the best system performance, but the system stability may be affected.

Load BIOS Setup Defaults

Use this menu to load factory default settings into the BIOS for stable system performance operations.

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 SETUP menu are divided into 9 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> key to switch to the value you prefer.

AMBIOS SETUP - STANDARD CMOS SETUP	
(C)2001 American Megatrends, Inc. All Rights Reserved	
Date (mm/dd/yyyy) : Mon Jul 02, 2001	
Time (hh/mm/ss) : 00:00:00	
TYPE	SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE
Pri Master	: AUTO
Pri Slave	: AUTO
Sec Master	: AUTO
Sec Slave	: AUTO
Floppy Drive A : 1.44 MB 3½	Base Memory : 640 Kb Other Memory : 384 Kb Extended Memory : 127 Mb Total Memory : 128 Mb
Floppy Drive B : Not Installed	
Boot Sector Virus Protection Disabled	
Month: Jan - Dec	ESC : Exit
Day: 01 - 31	↑↓ : Select Item
Year: 1901 - 2099	PU/PD/+/- : Modify
	(Shift) F2 : Color

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 can be adjusted by users.

Time

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

Chapter 3

Pri Master/Pri Slave/Sec Master/Sec 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.

TYPE	Type of the device.
SIZE	Capacity of the device.
CYLS	Number of cylinders.
HEAD	Number of heads.
PRECOMP	Write precompensation cylinder.
LANDZ	Cylinder location of Landing zone.
SECTOR	Number of sectors.
MODE	Access mode.

Floppy Drive A/B

This item allows you to set the type of floppy drives installed. Available options: *Not Installed*, *360 KB 5¼*, *1.2 MB 5¼*, *720 KB 3½*, and *1.44 MB 3½*.

Boot Sector Virus Protection

The item is to set the Virus Warning feature for IDE Hard Disk boot sector protection. When *Enabled*, BIOS will issue a virus warning message and beep if a write to the boot sector or the partition table of the HDD is attempted. Setting options: *Disabled* and *Enabled*.



Note: *This feature only protects the boot sector, not the whole hard disk.*

Advanced BIOS Features

AMIBIOS SETUP - BIOS FEATURES SETUP (C)2001 American Megatrends, Inc. All Rights Reserved	
Quick Boot	:Enabled
1st Boot Device	:Floppy
2nd Boot Device	:IDE-0
3rd Boot Device	:CDROM
Try Other Boot Devices	:Yes
Full Screen LOGO Show	:Disabled
S.M.A.R.T. for Hard Disks	:Disabled
BootUp Num-Lock	:On
Swap Floppy	:Disabled
Seek Floppy	:Disabled
Password Check	:Setup
Boot OS/2 for DRAM > 64MB	:No
L1 Cache	:Enabled
Flash Protection	:Enabled
System BIOS Cacheable	:Disabled
ESC : Quit ↑↓←→ : Select Item F1 : Help PU/PD/+/- : Modify F5 : Load Previous Values F6 : Load Fail-Safe Defaults F7 : Load Optimized Defaults	

Quick Boot

Setting the item to *Enabled* allows the system to boot within 5 seconds by skipping some check items. Settings: *Enabled* and *Disabled*.

1st/2nd/3rd Boot Device

The items allow you to set the sequence of boot devices where AMIBIOS attempts to load the operating system. Possible settings are:

- IDE-0* The system will boot from the first HDD.
- IDE-1* The system will boot from the second HDD.
- IDE-2* The system will boot from the third HDD.
- IDE-3* The system will boot from the fourth HDD.
- Floppy* The system will boot from floppy drive.
- ARMD-FDD* The system will boot from any ARMD device, such as LS-120 or ZIP drive, that functions as a floppy drive.
- ARMD-HDD* The system will boot from ARMD device, such as MO or ZIP drive, that functions as hard disk drive.

Chapter 3

<i>CDROM</i>	The system will boot from the CD-ROM.
<i>SCSI</i>	The system will boot from the SCSI.
<i>NETWORK</i>	The system will boot from the Network drive.
<i>BBS-0</i>	The system will boot from the first BBS (BIOS Boot Specification) compliant device.
<i>BBS-1</i>	The system will boot from the second BBS (BIOS Boot Specification) compliant device.
<i>BBS-2</i>	The system will boot from the third BBS (BIOS Boot Specification) compliant device.
<i>BBS-3</i>	The system will boot from the fourth BBS (BIOS Boot Specification) compliant device.
<i>Disabled</i>	Disable this sequence.



Note: Available settings for “1st/2nd/3rd Boot Device” vary depending on the bootable devices you have installed. For example, if you did not install a floppy drive, the setting “Floppy” does not show up.

Try Other Boot Devices

Setting the option to *Yes* allows the system to try to boot from other devices if the system fails to boot from the 1st/2nd/3rd boot device.

Full Screen LOGO Show

This item enables you to show the company logo on the bootup screen.

Settings are:

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

S.M.A.R.T. for Hard Disks

This allows you to activate the S.M.A.R.T. (Self-Monitoring Analysis & Reporting Technology) capability for the hard disks. S.M.A.R.T is a utility that monitors your disk status to predict hard disk failure. This gives you an opportunity to move data to a safe place before the hard disk becomes offline. Settings: *Enabled* and *Disabled*.

BootUpNum-Lock

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. Setting: *On* and *Off*.

SwapFloppy

Setting to *Enabled* will swap floppy drives A: and B:.

Seek Floppy

Setting to *Enabled* will make BIOS seek floppy drive A: before booting the system. Settings: *Disabled* and *Enabled*.

Password Check

This specifies the type of AMIBIOS password protection that is implemented. Setting options are described below.

Option	Description
Setup	The password prompt appears only when end users try to run Setup.
Always	A password prompt appears every time when the computer is powered on or when end users try to run Setup.

Boot OS/2 for DRAM > 64MB

This allows you to run the OS/2® operating system with DRAM greater than 64MB. When you choose *No*, you cannot run the OS/2® operating system with more than 64MB DRAM. But it is possible if you choose *Yes*.

L1 Cache

The item enables or disables the L1 (internal) cache memory for CPU. Setting to *Enabled* will speed up the system performance.

Flash Protection

The item is used to enable or disable the BIOS Flash Protection function. Select *Disabled* when performing BIOS update with the flash utility.

System BIOS Cacheable

AMIBIOS always copies the system BIOS from ROM to RAM for faster execution. Selecting *Enabled* allows the contents of F0000h RAM memory segment to be written to and read from cache memory. Settings: *Enabled* and *Disabled*.

Chapter 3

Advanced Chipset Features

AMIBIOS SETUP - CHIPSET FEATURES SETUP (C)2001 American Megatrends, Inc. All Rights Reserved	
***** DRAM Timing ***** Configure SDRAM Timing by :SPD CAS# Latency :3 Clocks RAS# Precharge :3 Clocks RAS# to CAS# Delay :3 Clocks Precharge Delay :7 Clocks DRAM Integrity Mode :Non-ECC AGP Aperture Size :64MB Delayed Transaction :Enabled	
	ESC : Quit ↑↓←→ : Select Item F1 : Help PU/PD/+/- : Modify F5 : Load Previous Values F6 : Load Fail-Safe Defaults F7 : Load Optimized Defaults



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

Configure SDRAM Timing by

Selects whether DRAM timing is controlled by the SPD (Serial Presence Detect) EEPROM on the DRAM module. Setting to *SPD* enables CAS# Latency, RAS# Precharge, RAS# to CAS# Delay and Precharge Delay automatically to be determined by BIOS based on the configurations on the SPD. Selecting *Manual* allows users to configure these fields manually.

CAS# Latency

This controls the timing delay (in clock cycles) before SDRAM starts a read command after receiving it. Settings are *3 Clocks* and *2 Clocks*. *2 Clocks* increases the system performance while *3 Clocks* provides more stable performance.

RAS# Precharge

This item controls the number of cycles for Row Address Strobe (RAS) to be

allowed to precharge. If insufficient time is allowed for the RAS to accumulate its charge before DRAM refresh, refresh may be incomplete and DRAM may fail to retain data. This item applies only when synchronous DRAM is installed in the system. Available settings: *3 Clocks* and *2 Clocks*.

RAS# to CAS# Delay

This field allows you to set the number of cycles for a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from or refreshed. Fast speed offers faster performance while slow speed offers more stable performance. Settings: *3 Clocks* and *2 Clocks*.

Precharge Delay

The field specifies the idle cycles before precharging an idle bank. Settings: *7 Clocks*, *6 Clocks* and *5 Clocks*.

DRAM Integrity Mode

Select *ECC* (Error-Correcting Code) or *Non-ECC* according to the type of installed DRAM.

AGP Aperture Size

The field 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. Settings are *4MB*, *8MB*, *16MB*, *32MB*, *64MB*, *128MB* and *256MB*.

Delayed Transaction

The chipset has an embedded 32-bit posted write buffer to support delayed transactions cycles so that transactions to and from the ISA bus are buffered and PCI bus can perform other transactions while the ISA transaction is underway. Select *Enabled* to support compliance with PCI specification version 2.1. Settings: *Enabled* and *Disabled*.

Chapter 3

Power Management Setup

AMIBIOS SETUP - POWER MANAGEMENT SETUP (C)2001 American Megatrends, Inc. All Rights Reserved			
IPCA Function	:Yes	Mouse PowerOn Function	:Disabled
ACPI Standby State	:S1/POS	Keyboard PowerOn Function	:Disabled
USB Wakeup From S3	:Disabled	Specific Key for PowerOn	:N/A
Power Management/APM	:Enabled	Power Again	:Last State
Sleep State LED	:Blinking		
Suspend Time Out (Minute)	:Disabled		
FDC/LPT/COM Ports	:Monitor		
Primary Master IDE	:Monitor		
Primary Slave IDE	:Ignore		
Secondary Master IDE	:Monitor		
Secondary Slave IDE	:Ignore		
Power Button Function	:Suspend		
Wake Up On Ring	:Enabled		
Wake Up On LAN	:Disabled		
Wake Up On PME	:Enabled		
Resume By RTC Alarm	:Disabled	ESC : Quit	↑↓←→ : Select Item
RTC Alarm Date	:15	F1 : Help	PU/PD/+/- : Modify
RTC Alarm Hour	:12	F5 : Load Previous Values	
RTC Alarm Minute	:30	F6 : Load Fail-Safe Defaults	
RTC Alarm Second	:30	F7 : Load Optimized Defaults	

IPCA Function

This item is to activate the ACPI (Advanced Configuration and Power Management Interface) Function. If your operating system is ACPI-aware, such as Windows 98SE/2000/ME, select *Yes*. Settings: *Yes* and *No*.

ACPI Standby 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 configuration 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.

USB Wakeup From S3

This item allows the activity of the USB device to wake up the system from S3 sleep state. S3 is the STR (Suspend to RAM) mode. Available settings: *Enabled* and *Disabled*.

Power Management/APM

Setting to *Enabled* will activate the Advanced Power Management (APM) features to enhance power saving modes. Settings: *Enabled* and *Disabled*.

Sleep State LED

This item sets how the system uses Power LED on the case to indicate the suspend/sleep state. Settings are:

- | | |
|-------------------|--|
| <i>Blinking</i> | The Power LED blinks to indicate the suspend/sleep state. |
| <i>Dual Color</i> | The Power LED changes its color to indicate the suspend/sleep state. |

Suspend Time Out (Minute)

The item specifies the length of the period of system inactivity before the system enters the suspend mode from the standby mode. Nearly all power use is reduced in the suspend mode. Settings: *Disabled*, *1*, *2*, *4*, *8*, *10*, *20*, *30*, *40*, *50* and *60* (Minutes).

FDC/LPT/COM Ports, Primary Master IDE, Primary Slave IDE, Secondary Master IDE, Secondary Slave IDE

These items specify if the BIOS will monitor the activity of the listed hardware peripheral or component. If set to *Monitor*, any activity detected on the specified hardware peripheral or component will wake up the system or prevent the system from entering the power saving modes. Settings: *Monitor* and *Ignore*.

Power Button Function

This feature sets the function of the power button. Settings:

- | | |
|----------------|---|
| <i>On/Off</i> | The power button functions as normal on/off button. |
| <i>Suspend</i> | When you press the power button, the computer enters the suspend/sleep mode, but if the button is pressed for more than four seconds, the computer is |

Chapter 3

turned off.

Wake Up On Ring/LAN/PME

When setting to *Enabled*, these features allow your system to be awakened from the power saving modes through an incoming call from the modem, a signal from the LAN, or any event on PME (Power Management Event).

Settings: *Enabled* and *Disabled*.



Note: You need to install a modem/LAN card supporting power on function for Wake up On Ring/LAN function.

Resume By RTC Alarm

This is used to enable or disable the feature of booting up the system on a scheduled time/date. Settings: *Enabled* and *Disabled*.

RTC Alarm Date/Hour/Minute/Second

If **Resume On RTC Alarm** is set to *Enabled*, the system will automatically resume (boot up) on a specific date/hour/minute/second specified in these fields. Available settings for each item are:

RTC Alarm Date	01 ~ 31, Every Day
RTC Alarm Hour	00 ~ 23
RTC Alarm Minute	00 ~ 59
RTC Alarm Second	00 ~ 59



Note: If you change these settings, you must reboot the system until it enters the operating system and then power off the system. By doing so, the changed settings will come into effect next time you power on the system.

Mouse PowerOn Function

The item controls which button on the PS/2 mouse can power on the system. Settings are *Disabled*, *Left button* and *Right button*.

Keyboard PowerOn Function

The item controls which button on the PS/2 keyboard can power on the system. Settings are *Disabled*, *PowerKey*, *Any Key*, and *Specific Key*.

Specific Key for PowerOn

If **Keyboard PowerOn Function** is set to Specific Key, you can assign a password for the keyboard to power on the system in the field.

Power Again

This item specifies whether your system will reboot after a power failure or interrupt occurs. Available options:

- | | |
|-------------------|--|
| <i>Power Off</i> | Leaves the computer in the power off state. |
| <i>Power On</i> | Reboots the computer. |
| <i>Last State</i> | Restores the system to the previous status before the power failure or interrupt occurred. |

Chapter 3

PNP/PCI Configurations

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

AMIBIOS SETUP - PNP/PCI CONFIGURATION	
(C)2001 American Megatrends, Inc. All Rights Reserved	
Clear ESCD	:No
PCI VGA Palette Snoop	:Disabled
DMA Channel 0	:PnP
DMA Channel 1	:ISA/EISA
DMA Channel 3	:PnP
DMA Channel 5	:PnP
DMA Channel 6	:PnP
DMA Channel 7	:PnP
IRQ3	:PCI/PnP
IRQ4	:PCI/PnP
IRQ5	:ISA/EISA
IRQ7	:PCI/PnP
IRQ9	:PCI/PnP
IRQ10	:PCI/PnP
IRQ11	:PCI/PnP
ESC : Quit ↑↓←→ : Select Item F1 : Help PU/PD/+/- : Modify F5 : Load Previous Values F6 : Load Fail-Safe Defaults F7 : Load Optimized Defaults	

Clear ESCD

The ESCD (Extended System Configuration Data) NVRAM (Non-volatile Random Access Memory) is where the BIOS stores resource information for both PNP and non-PNP devices in a bit string format. When the item is set to *Yes*, the system will reset ESCD NVRAM right after the system is booted up and then set the setting of the item back to *No* automatically.

PCI VGA Palette Snoop

PCI VGA palette is the set of colors currently used by the video device. Some special VGA cards may not show colors correctly and need to look into the video device's VGA palette to determine what colors are in use. Then you have to turn on the palette "snoop", permitting the palette

registers of both VGA devices to be identical. The setting must be set to *Enabled* if any non-standard VGA adapter card, such as MPEG card, installed in the system requires VGA palette snooping.

DMA Channel 0/1/3/5/6/7

These items specify the bus that the system DMA (Direct Memory Access) channel is used. The settings determine if AMIBIOS should remove a DMA from the available DMAs passed to devices that are configurable by the system BIOS. The available DMA pool is determined by reading the ESCD NVRAM. If more DMAs must be removed from the pool, the end user can reserve the DMA by assigning an *ISA/EISA* setting to it.

IRQ 3/4/5/7/9/10/11

These items specify the bus where the specified IRQ line is used. The settings determine if AMIBIOS should remove an IRQ from the pool of available IRQs passed to devices that are configurable by the system BIOS. The available IRQ pool is determined by reading the ESCD NVRAM. If more IRQs must be removed from the IRQ pool, the end user can use these settings to reserve the IRQ by assigning an *ISA/EISA* setting to it. Onboard I/O is configured by AMIBIOS. All IRQs used by onboard I/O are configured as *PCI/PnP*. If all IRQs are set to *ISA/EISA*, and IRQ 14/15 are allocated to the onboard PCI IDE, IRQ 9 will still be available for PCI and PnP devices. Settings: *ISA/EISA* and *PCI/PnP*.

Chapter 3

Integrated Peripherals

AMIBIOS SETUP - INTEGRATED PERIPHERALS (C)2001 American Megatrends, Inc. All Rights Reserved	
USB Controller	:All USB Port
USB Legacy Support	:Disabled
On-Chip IDE	:Both
AC'97 Audio	:Auto
AC'97 Modem	:Auto
Floppy Controller	:Enabled
Serial Port A	:Auto
Serial Port B	:Auto
Serial Port B Mode	:Normal
IR Duplex Mode	:Half Duplex
IR Pin Select	:IRRX/IRTX
Parallel Port	:Auto
Parallel Port Mode	:ECP
EPP Version	:N/A
IRQ	:Auto
DMA Channel	:Auto
OnBoard Midi Port	:290
Midi IRQ Select	:5
OnBoard Game Port	:200

ESC : Quit ↑↓←→ : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Load Previous Values
F6 : Load Fail-Safe Defaults
F7 : Load Optimized Defaults

USB Controller

This is used to enable or disable the USB ports. Settings are *Disabled*, *USB Port 0&1*, *USB Port 2&3* and *All USB Port*.

USB Legacy Support

Set to *All Device* if you need to use any USB device in the operating system that does not support or have any USB driver installed, such as DOS and SCO Unix. Set to *No Mice* if your need to use any USB device except for the USB mouse.

On-ChipIDE

This allows you to enable or disable on-chip IDE controller. Settings are *Disabled*, *Primary*, *Secondary* and *Both*.

AC'97 Audio

This item is used to enable or disable the onboard AC'97 (Audio Codec'97) feature. Selecting *Auto* allows the mainboard to detect whether an audio device is used. If an audio device is detected, the onboard AC'97 controller

will be enabled; if not, the controller is disabled. Disable the function if you want to use other controller cards to connect an audio device. Settings: *Disabled* and *Auto*.

AC'97Modem

This item is used to enable or disable the onboard MC'97 (Modem Codec'97) feature. Selecting *Auto* allows the mainboard to detect whether a modem is used. If a modem is detected, the onboard MC'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: *Auto* and *Disabled*.

Floppy Controller

This is used to enable or disable the onboard Floppy controller.

Option	Description
Auto	BIOS will automatically determine whether to enable the onboard Floppy controller or not.
Enabled	Enables the onboard Floppy controller.
Disabled	Disables the onboard Floppy controller.

Serial Port A/B

These items specify the base I/O port addresses of the onboard Serial Port A (COM A)/Serial Port B (COM B). Selecting *Auto* allows AMIBIOS to automatically determine the correct base I/O port address. Settings: *Auto*, *Disabled*, *3F8/COM1*, *2F8/COM2*, *3E8/COM3* and *2E8/COM4*.

Serial Port B Mode

This item sets the operation mode for Serial Port B (COM B). Settings: *Normal*, *1.6 uS*, *3/16 Baud* and *ASKIR*.

IRDuplexMode

This field specifies a duplex value for the IR device connected to COM B. Full-Duplex mode permits simultaneous two-direction transmission. Half-Duplex mode permits transmission in one direction only at a time. Settings: *Half Duplex* and *Full Duplex*.

Chapter 3

IR Pin Select

Set to *IRRX/IRTX* when using an internal IR module connected to the IR (**IR2**) connector. Set to *SINB/SOUTB*. when connecting an IR adapter to COMB.

Parallel Port

This field specifies the base I/O port address of the onboard parallel port. Selecting *Auto* allows AMIBIOS to automatically determine the correct base I/O port address. Settings: *Auto*, *Disabled*, *378*, *278* and *3BC*.

Parallel Port Mode

This item selects the operation mode for the onboard parallel port: *Normal*, *Bi-Dir*, *EPP* (Enhanced Parallel Port) or *ECP* (Extended Capability Port).

EPP Version

The item selects the EPP version used by the parallel port if the port is set to *EPP* mode. Settings: *1.7* and *1.9*.

IRQ

The item shows *Auto* indicating that BIOS determines the IRQ for the parallel port automatically.

DMA Channel

This feature is configured only when **Parallel Port Mode** is set to the *ECP* mode. When **Parallel Port** is set to *ECP*, the field will show *Auto* indicating that BIOS automatically determines the DMA channel for the parallel port.

OnBoard Midi Port

The item specifies I/O port address for the onboard Midi port. Settings: *Disabled*, *300*, *330*, *290* and *292*.

Midi IRQ Select

The item specifies the IRQ channel for the onboard Midi port. Settings: *5*, *7*, *9*, *10* and *11*.

OnBoard GamePort

The item specifies I/O port address for the onboard Joystick/Game port.

Settings: *Disabled*, 200 and 208.

Chapter 3

Hardware Monitor Setup

This section describes how to set the CPU FSB frequency, monitor the current hardware status including CPU/system temperatures, CPU/System Fan speeds, Vcore etc. Monitor function is available only if there is hardware monitoring mechanism onboard.

AMIBIOS SETUP - Hardware Monitor Setup (C)2001 American Megatrends, Inc. All Rights Reserved		
CPU Ratio Selection	8.0x	
CPU FSB (Mhz)	100	
Spread Spectrum	Enabled	
CPU Vcore Adjust	No	
CPU Vcore	1.750V	
DRAM Voltage Adjust	3.3V	
Chassis Intrusion	Disabled	
CPU Temperature	29°C/84°F	
System Temperature	39°C/102°F	
CPU Fan Speed	6124 RPM	
System Fan Speed	0 RPM	
Vcore	1.71V	
Vio	3.26V	
+5.0V	4.92V	
+12.0V	11.40V	ESC : Quit ↑↓←→ : Select Item
-12.0V	-11.56V	F1 : Help PU/PD/+/- : Modify
-5.0V	-4.99V	F5 : Load Previous Values
Battery	3.22V	F6 : Load Fail-Safe Defaults
+5V SB	4.87V	F7 : Load Optimized Defaults

CPU Ratio Selection

The item is used to adjust the CPU clock multiplier (ratio). The item enables you to overclock the processor. Settings: 8.0x, and from 10.0x to 24.0x at 1.0x increment.

CPU Front Side Bus (Mhz)

This item is used to set clock frequencies (in MHz) for CPU FSB (Front Side Bus). The field provides you an overclocking method. Settings range from 100 (MHz) to 190 (MHz) at 1 increment.

ClkGen Spread Spectrum

This item is used to configure the clock generator's Spread Spectrum feature. Settings: *Enabled* and *Disabled*. Always disable the feature when

overclocking the processor.

CPU Vcore Adjust

The item is used to enable or disable the CPU Vcore Adjust function. The item enables you to overclock the processor. Settings: *No* and *Yes*.

CPU Vcore

The item is used to adjust the CPU core voltage (Vcore).

DRAM Voltage Adjust

Use the field to select the appropriate DRAM voltage. Settings: from 3.3V to 3.6V at 0.1V increment.

Chassis Intrusion

The field enables or disables the feature of recording the chassis intrusion status and issuing a warning message if the chassis is once opened. To clear the warning message, set the field to *Reset*. The setting of the field will automatically return to *Enabled* later. Settings: *Enabled*, *Reset* and *Disabled*.

CPU Temperature, System Temperature, CPU Fan Speed, System Fan Speed, Power Fan Speed, Vcore, Vio, + 5.0V, +12.0V, -12.0V, - 5.0V, Battery, +5V SB

These items display the current status of all monitored hardware devices/ components such as system voltages, temperatures and fan speeds.

Chapter 3

Load High Performance/BIOS Setup Defaults

The two options on the main menu allow users to restore all of the BIOS settings to the default High Performance or BIOS Setup defaults. The High Performance defaults are the default values set by the mainboard manufacturer for the best system performance but probably will cause a stability issue. The BIOS Setup Defaults are the default values also set by the mainboard manufacturer for stable performance of the mainboard.

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

AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.45 (C)2001 American Megatrends, Inc. All Rights Reserved	
Standard CMOS Features	Load High Performance Defaults
Advanced BIOS Features	Load BIOS Setup Defaults
Advanced Chipset Features	Supervisor Password
Power Management	Load High Performance Defaults(Y/N)? N
PNP/ACPI	
Integrated Peripherals	Save & Exit Setup
Hardware Monitor Setup	Exit Without Saving
ESC : Quit	↑↓←→ : Select Item
F10 : Save & Exit	
After enabling this item failed, please clear CMOS	

Pressing 'Y' loads the default BIOS values that enable the best system performance but may lead to system instability.



WARNING!

The option is for power or overclocking users only. If the system crashes or hangs after enabling the feature, please CLEAR CMOS DATA to resolve the problem. For more information, refer to "Clear CMOS Jumper:JBAT1" on page 2-27.

Additionally, when a password is enabled, you can also have AMIBIOS 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 PASSWORD CHECK option of the ADVANCED BIOS FEATURES menu. If the PASSWORD CHECK option is set to *Always*, the password is required both at boot and at entry to Setup. If set to *Setup*, password prompt only occurs when you try to enter Setup.

About Supervisor Password & User Password:



Supervisor password : Can enter and change the settings of the setup menu.

User password: Can only enter but do not have the right to change the settings of the setup menu.

Chapter 3

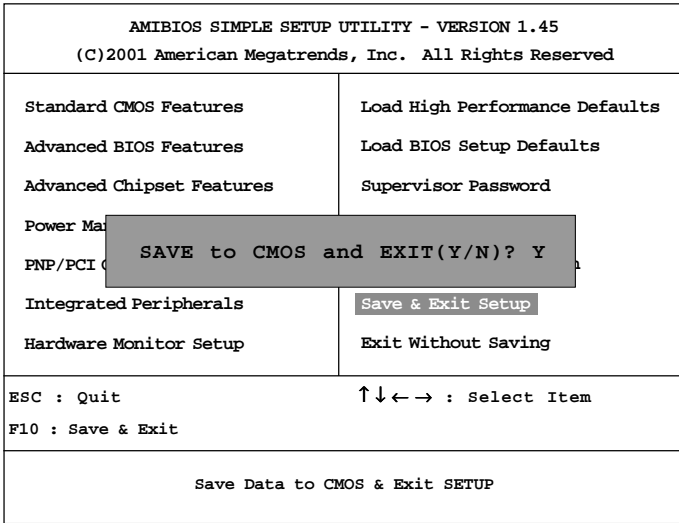
IDE HDD AUTO Detection

You can use this utility to AUTOMATICALLY detect the characteristics of most hard drives.

AMIBIOS SETUP - STANDARD CMOS SETUP (C)2001 American Megatrends, Inc. All Rights Reserved							
Date (mm/dd/yyyy) : Mon Jul 02, 2001							
Time (hh/mm/ss) : 00:00:00							
	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR MODE
Pri Master	: AUTO						
Pri Slave	: AUTO						
Sec Master	: AUTO						
Sec Slave	: AUTO						
Floppy Drive A : 1.44 MB 3½							
Floppy Drive B : Not Installed							
Boot Sector Virus Protection Disabled				Base Memory : 640 Kb Other Memory : 384 Kb Extended Memory : 127 Mb Total Memory : 128 Mb			
Month: Jan - Dec				ESC : Exit			
Day: 01 - 31				↑↓ : Select Item			
Year: 1901 - 2099				PU/PD/+/- : Modify (Shift) F2 : Color			

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.

Chapter 3

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.

AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.45 (C)2001 American Megatrends, Inc. All Rights Reserved	
Standard CMOS Features	Load High Performance Defaults
Advanced BIOS Features	Load BIOS Setup Defaults
Advanced Chipset Features	Supervisor Password
Power Management Setup	User Password
PNP/PCI Co	Quit without saving(Y/N)? N
Integrated	Exit Without Saving
Hardware Monitor Setup	
ESC : Quit	↑↓←→ : Select Item
F10 : Save & Exit	
Abandon all Datas & Exit SETUP	

Typing *Y* will allow you to quit the Setup Utility without saving any changes to RTCMOS.

Typing *N* will return to the Setup Utility.

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	A-2
Using USB PC to PC Networking Function	A-4

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.*

- 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 or 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.

Appendix A

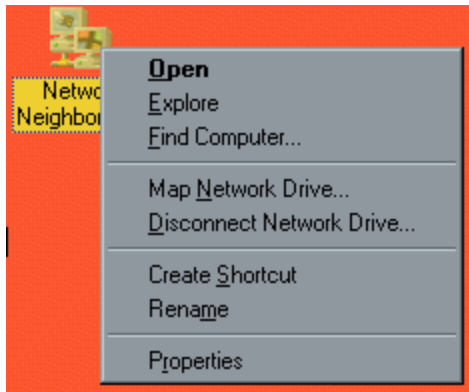
Connecting to Internet through USB PC to PC & Office/Home LAN

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.

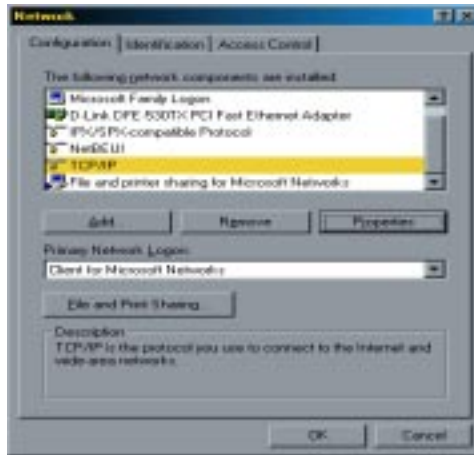
Now we need to make some network configurations on the Desktop/ Notebook which connect to GeneLink™ Software Router to make your Internet access possible (maybe you need to consult you Network Administrator for doing that):

- 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.



USB PC to PC Networking Function

- 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.



Appendix A

- 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, please 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.



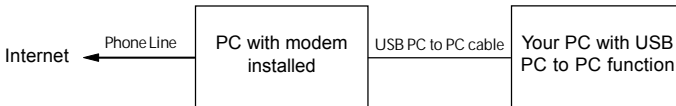
SPECIAL NOTICE for those users who have already installed Network Adapter in their system:

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.

Appendix A

Connecting to internet through USB PC to PC & remote 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.**



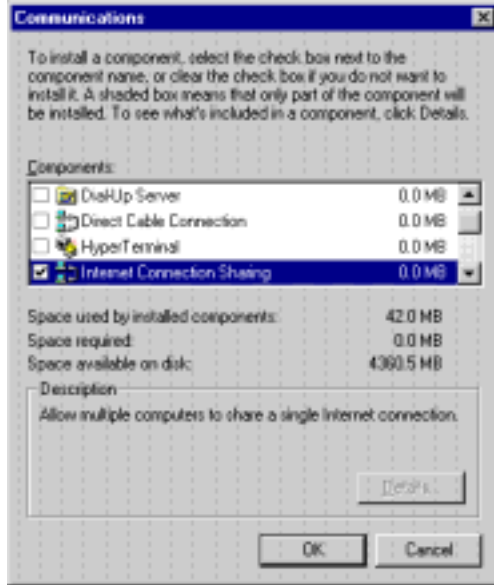
To access internet through another computer with modem, you need to setup “Internet Connection Sharing” on all computers connected via USB PC to PC cables. Instructions are as follows:

- Go to “Control Panel”.
- Double click “Add/Remove Programs” and the “Add/Remove Programs Properties” window appears.
- Select “Windows Setup” tag and double click



USB PC to PC Networking Function

- d. “Communications”. The “Communications” window appears.
Check “Internet Connection Sharing” and click “OK”.

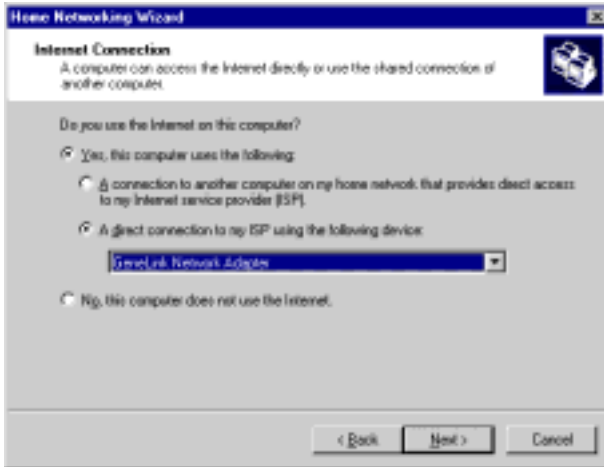


- e. The “Home Networking Wizard” starts. Click “Next”.



Appendix A

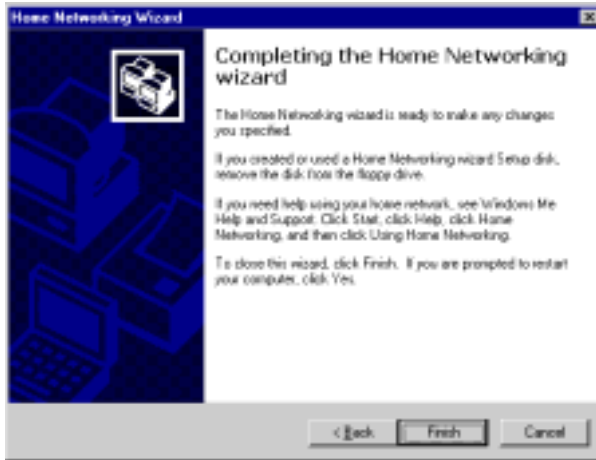
- f. Click “A direct connection to my ISP using the following device”, and select “GeneLink Network Adapter” from the pull-down menu. Click “Next”.



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®.