Contents

Chapter 1 Specification

Introduction

This series of mainboards features an integration of the powerful processor Intel Pentium 4 and the North Bridge Intel 865G. The Intel P4 processor is a rapid execution engine supporting 800/533/400MHz system bus, while North Bridge Intel 865G is a high performance integrated chipset providing Dual Channel DDR 400/333/266 SDRAM memory interface, Hub interface, AGP interface as well as an integrated Graphics Port for VGA display.

Integrated with i865G, South Bridge Intel ICH5/ICH5R supports the LPC I/O, upstream Hub interface, PCI interface, IDE interface, Serial-ATA /SATA RAID, USB 2.0 interface, and interrupt control. (The difference between ICH5 and ICH5R is the RAID interface support). And the 8-channel Audio support is also integrated via the on-board chip ALC850.

This chapter is to introduce to users every advanced function of this high performance integration.

Topics included in this chapter are:
1-1 Mainboard Layout
1-2 Mainboard Specifications**
1-3 Mainboard Specification Table
1-4 Chipset Diagram

** If any difference is found between the mainboard description and the Mainboard you are using, please look up the <u>Errata/ Update Slip</u> enclosed inside for the correction or updated information, or else contact the mainboard Dealer or visit our Web Site for the latest manual update.

1-1 SL-B8E-FG/FGR Mainboard Layout
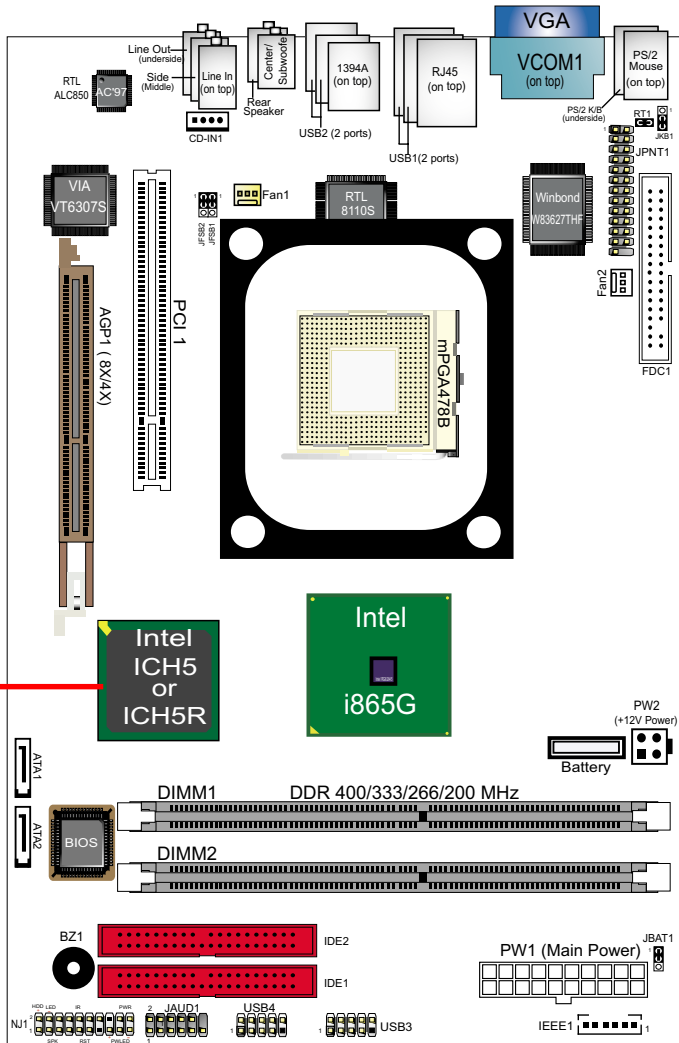
South Bridge Option:
  ICH5 for SATA interface in SL-B8E-FG;
  ICH5R forSATA RAID interface in SL-B8E-FGR

1-2 Mainboard Specifications

1-2.1 CPU Socket

CPU Socket 478B on board, supporting Intel® Pentium 4 processors (including Hyper-Threading and Prescott CPUs) in 478-pin package :
(Willamette 1.75V and Celeron 1.75V CPUs not supported)

-- 800/533/400MHz System Bus;Hyper-pipelined technology;
-- Advanced dynamic execution;Advanced transfer cache;

1-2.2 System Chipsets

North Bridge Intel 865G:
• A high performance integrated chipset providing P4 processor interface (including Hyper-threading Technology), 800/533/400MHz FSB, Dual-channel DDR 400/333/266 SDRAM memory, Hub interface, AGP interface as well as another integrated VGA interface with one on-board display port.
• Showing Hyper-Threading Logo when booting with Hyper-threading CPU

South Bridge Intel ICH5 for SL-B8E-FG:
• Supporting the LPC I/O, upstream Hub interface, PCI interface, IDE interface, Serial ATA interface, USB 2.0 interface, the 8-channel AC'97 V2.3 Audio interface (with ALC850) and the interrupt control

South Bridge Intel ICH5R for SL-B8E-FGR:
• Supporting the LPC I/O, upstream Hub interface, PCI interface, IDE interface, Serial ATA/SATA RAID interface, USB 2.0 interface, 8-channel AC'97 2.3 (with ALC850) Audio interface and the interrupt control

1-2.3 AMI BIOS

Flash Memory for easy upgrade, supporting BIOS Writing Protection, Year 2000 compliant, and supporting various hardware configuration during booting system (See Chapter 4 BIOS Setup):
• Standard BIOS Features(Times, Date, System Information etc.)
• Advanced BIOS Features (CPU,IDE, Floppy, SuperIO, Hardware Health, ACPI, USB, and Frequency/Voltage Control)
• Advanced Chipset Features (NorthBridge, SouthBridge Configuration)
• PCI/PNP Resource Management (IRQ Settings, Latency Timers etc.)
• Boot Configuration Setup (Boot Settings, Boot Device Priority etc.)
• BIOS Security Features (Supervisor Password, User Password)

1-2.4 Memory

2 DDR DIMM 184-pin slots on board :
- Supporting unregistered, non-ECC Dual-channel DDR 400/333/266 SDRAM to 2GBs
- DIMMs to be populated in identical pairs for Dual-channel operation
- SPD (Serial Presence Detect) Scheme for DIMM Detection supported

1-2.5 Integrated Multiplexed AGP and DVO Interface

Integrated multiplexed AGP and DVO interface in Springdale-G,supporting AGP performance and analog/Digital display:
- One AGP slot on board, supporting both Digital Video Out card or AGP8x/4x card for analog/digital display (TMDS,LVDS and TV-out) (See AGP Installation in Chapter 2 of this manual)
- One 15-pin VGA connector on board, supporting analog display
- Hardware motion compensation for software MPEG/DVD decode
- Integrated 2D/3D graphics accelerator
- VGA Driver enclosed in Support CD for user's installation

1-2.6 Multi-I/O Functions

- Serial ATA Controller integrated in ICH5, supporting:
    -- 2 Serial ATA connectors supporting up to 150MByte/s transfer rate
- Serial ATA RAID Controller integrated in ICH5R, supporting:
    -- 2 SATA/SATA RAID connectors supporting up to 150MByte/s transfer rate
- PCI EIDE Controller, supporting:
    -- 2 UATA100/66/33 IDE connectors supporting up to 4 IDE devices
- Dedicated IR Functions:
    -- Third serial port dedicated to IR function either through the two complete serial ports or the third dedicated port Infrared-IrDA (HPSIR) and ASK (Amplitude Shift Keyed) IR
- Multi-mode Parallel Data Transfer:
    -- Standard mode, high speed mode ECP and enhanced mode EPP
- Floppy Disk Connector:
    -- 1 FDD connector supporting 2 floppy drives with drive swap support
- Universal Serial Bus Transfer Mode:
    -- USB V2.0 compliant; 480Mb/s USB Bus, supporting Windows 2000 or later operating systems (no support for Win 9X/Me)
    -- 4 built-in USB Ports and 2 USB Headers which require 2 additional USB cables to provide 4 more optional USB ports

- PS/2 Keyboard and PS/2 Mouse
- UARTs (Universal Asynchronous Receiver / Transmitter):
    -- 1 serial ports on board

1-2.7 Advanced System Power Management

- ACPI 1.0B compliant (Advanced Configuration and Power Interface), including ACPI suspend mode support (See ACPI Configuration of Advanced BIOS Features in BIOS Setup)
- APM V1.2 compliant (Legacy Power Management)
- Keyboard / Mouse Power On/Wake Up (See ACPI Configuration of Advanced BIOS features in BIOS Setup)
- Supporting Wake-on-LAN
- Supporting Real Time Clock (RTC) for date alarm, month alarm, and century field configuration

1-2.8 Gigabit LAN on board

PCI local bus Gigabit Fast Ethernet Controller RTL8110S on board:
- Supporting 10/100/1000Mb data transfer
- Supporting Wake On LAN function through the on-board RJ45 LAN Connector
- LAN Driver enclosed in Support CD for user's installation.

1-2.9 Hardware Monitor on board

- Hardware Monitor supported by W83627THF, providing monitoring and alarm for flexible desktop management of hardware voltage, temperatures and fan speeds.
- Utility Software Soltek Hardware Monitor for displaying system status is enclosed in Support CD for user's installation.

1-2.10 8-channel AC'97 Audio Codec ALC850 on board

ALC850 on board for AC'97 audio

- Supporting 8-channel display of PCM audio output
- 8 channel audio consists of Front Left, Front Right, Back Left, Back Right, Rear Left, Rear Right, Center and Subwoofer for complete surround sound effect
- AC'97 Audio Codec Driver enclosed in Support CD for user's installation

1-2.11 Front Audio-out Connector

- 1 Front Audio-out connector supporting Front Panel S/PDIF Output, Front Panel Mic-In and Front Panel Line-out
- This Front Audio-out distinguishing itself from the Back Panel Audio Connectors

1-2.12 1394A-- high performance serial bus

1394A Interface, via VT6307 PCI PHY/Link Open Host Controller:
- PCI-bus based open host controller, compliant with IEEE 1394A-2000 standard for high performance serial bus
- supporting 2x 1394A ports, each supporting 400/200/100 Mbits transfer rate

1-2.13 Form Factor

- Soltek Mini Form Factor, ATX Power Supply, version 2.03 compliant, supported by 1x Main Power Connector, 1x +12V Power Connector.
- Mainboard size: 180mm x 270mm

1-3 Mainboard Specification Table

B8E-FG/B8E-FGR Specifications and Features	
CPU	Socket 478B for P4 CPU (Hyper-threading and Prescott CPUs included; Willamette 1.75V and Celeron 1.75V CPUs not supported)
North Bridge	Intel 865G, supporting 800/533/400MHz FSB
South Bridge	Intel ICH5 for B8E-FG; ICH5R for B8E-FGR
Memory	Supporting Dual-channel DDR 400/333/266 SDRAM, up to 2GB in 2 DIMM slots
I/O Chip	W83627THF, with Soltek Hardware Monitor
AGP interface	AGP8X/4X Mode only; 1 AGP Slot on board
Audio	AC'97 Audio Codect ALC850, 8-channel audio
IDE Interface	2 UATA 66/100 IDE ports
PCI Slots	1 PCI Master slots on board
I/O Connectors	8 USB V2.0, 1 FDD port, 1 COM ports, 1 LPT, 1 IrDA, 1 PS/2 K/B, 1 PS/2 Mouse
Networking	Gigabit LAN Controller RTL8110S and RJ45
VGA Display	1 x VGA connector on board for analog display
1394A Interface	Built-in 1394A Interface, supporting 2x 1394A Ports
Other common features	Keyboard/Mouse Wake Up ATX 2.03 Power Supply Soltek Mini Form Factor
Optional features	B8E-FG	B8E-FGR
South Bridge	ICH5 (No SATA RAID Interface)	ICH5R (with SATA RAID Interface)

1-4 Chipset System Block Diagram

```
┌─────────────────────────────────┐
│      Intel Pentium 4 CPU        │
│  (Hyper-Threading and Prescott  │
│        CPUs  Included)          │
└─────────────────────────────────┘
```

System Bus 800/533/400MHz

| VGA Connector | **VGA Interface** | **Intel i865G North Bridge** | **Dual-channel DDR memory Interface** | System Memory |

DDR 400/333/ 266 SDRAM;

AGP Slot
— DVO(digital)
— TV Out
— AGP 8X/4X card

AGP 8X/4X

266MB/s Hub Interface

| 2 IDE Connectors | **ATA 100/66/33** | **ICH5 (82801EB) or ICH5R 82801ER South Bridge** | **PCI Bus** | PCI Slot | 1394A / VT6307S |

| 2 SATA/RAID ports | **SATA RAID (ICH5R only)** | | | **RTL8110S Gigabit LAN, 10/100/1KMb** | RJ45 |

| 2 SATA ports | **Serial ATA (ICH5)** |

| **USB Ports** | **USB Bus V2.0** | | | ALC850 Audio Codec (8-channel) |

S/PDIF in/out

IR
FDD
Mouse/Keyboard
Serial Ports
Printer Port
H/Monitor
Smart Fan

LPC I/O W83627THF

BIOS

Pentium 4 + Intel i865G + Intel ICH5/ICH5R Diagram

Chapter 2 Hardware Setup

To Get Things Ready for Hardware Setup !

1. We recommend to install your CPU before any other components. For detailed installation instructions of processor, you can also refer to the pamphlet enclosed in your CPU package.
2. Installing a cooling fan with a good heat sink is a must for proper heat dissipation for your CPU. Get ready an appropriate fan with heat sink for proper installation. Improper fan and installation will damage your CPU.
3. In case CPU Vcore, CPU clock or Frequency Ratio is adjustable on board, please follow the instructions described in the User's manual for proper setup. Incorrect setting will cause damage to your CPU.

The following topics are included in this chapter:

2-1 CPU Installation with Socket 478B
2-2 Pentium 4 CPU Fan Installation
2-3 Memory Installation
2-4 VGA / AGP 8X/4X Slot Installation
2-5 IDE Connectors Installation
2-6 Floppy Drive Connector Installation
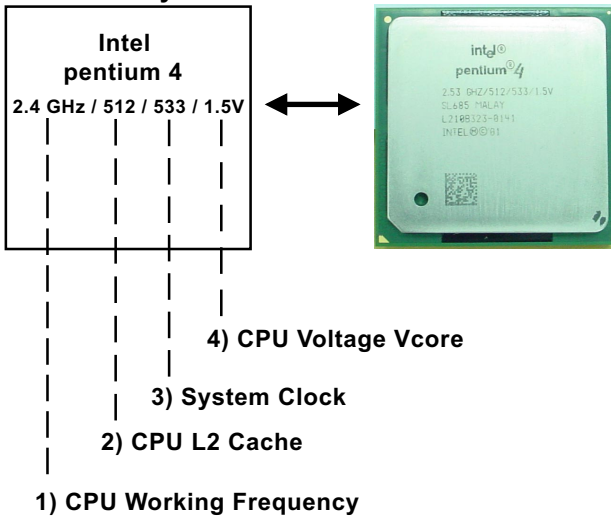**2-7 SATA /RAID Connectors Installation**
2-8 ATX V2.03 Power Supply Installation
2-9 Jumper Settings
2-10 Other Connectors Configuration

2-1 CPU Installation with Socket 478B

2-1.1 To Identify a Pentium 4 CPU

**Intel
pentium 4**

2.4 GHz / 512 / 533 / 1.5V

4) CPU Voltage Vcore

3) System Clock

2) CPU L2 Cache

1) CPU Working Frequency

On the heatsink side of a Pentium 4 CPU, there printed a line of figures to identify its specifications. The line consists of 4 parts:
1. CPU Working Frequency: this part depicts the working frequency of the CPU. For example,
   2.4 GHz depicts that this CPU is locked to 2.4 GHz working frequency (18 x 133MHz CPU clock);
   2A GHz depicts that this CPU is an A version, locked to 2.0 GHz working frequency (20 x 100MHz CPU clock)
   3.06GHz depicts that this is a 3.06GHz hyper-threading CPU
2. CPU L2 Cache: this part depicts the L2 Cache size. For example,
   512 stands for 512 KB L2 Cache; 256 stands for 256 KB L2 Cache
3. System Clock: this part depicts the System Clock (Front Side Bus) provided by the CPU. For example,
   533 stands for a 533MHz system clock provided by a 133MHz CPU times 4;
   400 stands for a 400 system clock provided by a 100 MHz CPU x 4.
4. CPU Voltage Vcore: this part depicts the CPU Voltage. For example,
   1.5V stands for a CPU of 1.5V Vcore.

Note: System Clock vs CPU Clock
P4 CPU is a quadpumped CPU. The system bus is provided by the CPU clock x 4. Therefore, users can figure out the P4 CPU clock by the System Clock divided by 4.

2-1.2 CPU Installation with Socket 478B

This mainboard is built with CPU Socket 478B (478-pin) supporting the Intel Pentium 4 CPU:

• After installation of Pentium 4 CPU, you must also install the specific Pentium 4 CPU fan designed in tandem with this CPU. This CPU Fan installation is described in next section.

• This mainboard supports Hyper-threading dual-in-one CPU, the function of which can be enabled by Windows XP. (See illustration on the right.)
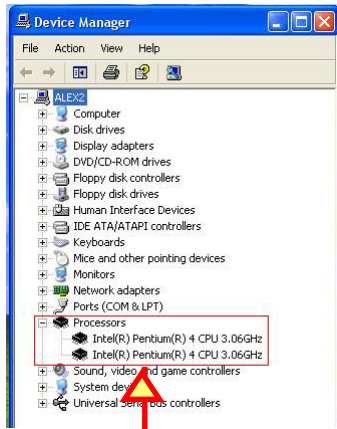
(If Hyper-threading CPU is installed successfully with O/S Win XP, the O/S will enable the dual-in-one CPU function.)

1. First pull sideways the lever of Socket 478, and then turn it up 90^0 so as to raise the upper layer of the socket from the lower platform.
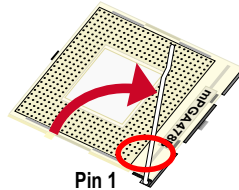
Pin 1

2. Configure Pin 1 of CPU to Pin 1 of the Socket, just as the way shown in the diagram on the right. Adjust the position of CPU until you can feel all CPU pins get into the socket with ease.

Pin 1
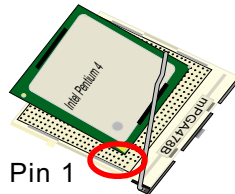
3. Make sure that all CPU pins have completely entered the socket and then lower down the lever to lock up CPU to socket.

18
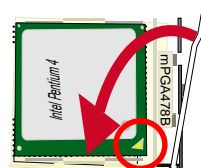
2-2 Pentium 4 CPU Fan Installation

CPU Fan Connector　　**Pentium 4 Fanbase**
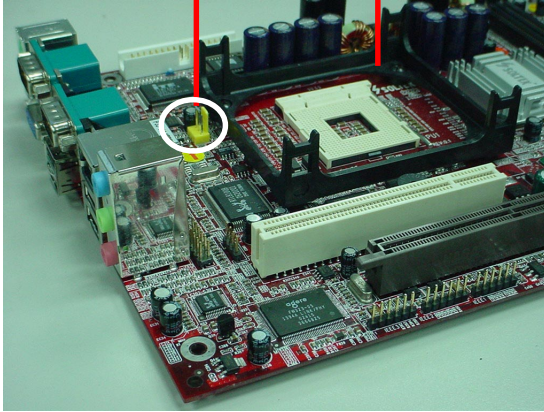
Press down the spring locks to lock up the fan
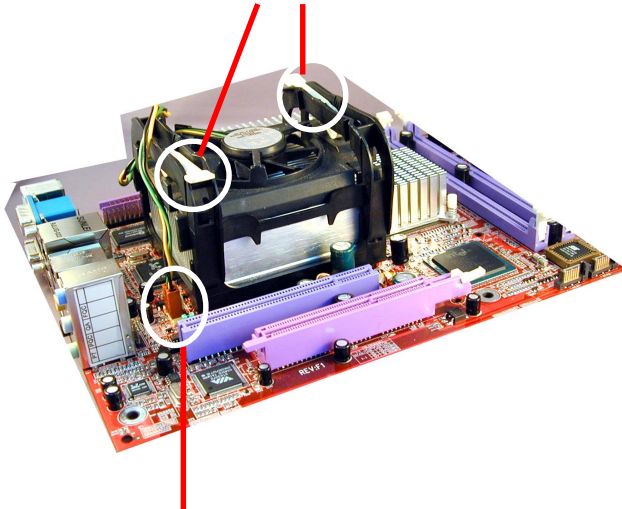
**Connect Cooling Fan cable
to CPU FAN connector**

The above pictures are taken from sample mainboards as installation illustration. The layout in the pictures may be different from your mainboard.

2-3 Memory Installation

How to tackle the memory Modules:
• Make sure to unplug your power supply before adding or removing memory module.
• Pay attention to the orientation of the DIMM slots.

2-3.1 Dual-Channel DIMM Installation

• Dual Channel memory configuration provides higher performance than Single Channel configurations
• Matched DIMMs with identical density, DRAM technology, DRAM bus width, and equal number of memory banks are needed .
• This series supports up to 2GB unbuffered Dual-channel DDR 400/333/266 SDRAM, with 2 DDR DIMM slots on board. Do not insert other type of modules into these slots.
• The dual memory controller can double the DDR memory bandwidth up to 6.4GB/s with DDR400, 5.4GB/s with DDR333 and 4.2GB/s with DDR266.
• To enable Dual-channel memory function, users should insert totally identical (size and frequency) DDR module pair into the bank-pair.
• DDR DIMM slot has 184 pins and one notch. Insert a DDR SDRAM vertically into the 184-pin slot with the notch-to-rib matching.

184-Pin DIMM Notch Key Definitions

DRAM Key Position   Voltage Key Position

DDR Rib   (2.5V Voltage Key)DDR Notch
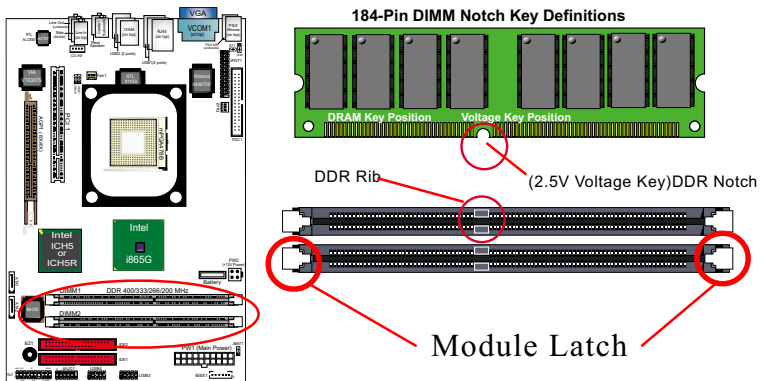
Module Latch

2-3.2 To Remove a DIMM

Power off the system first, and then press down the holding latches on both sides of slot to release the module from the DIMM slot.

2-4 VGA / AGP 8X/4X Slot Installation

1. To install on-board VGA, please connect your monitor directly to VGA connector on board.

2. To install Digital-Video-Out(DVO) / TV Out display, please insert an AGP / DVO /TV Out card into the AGP slot. This AGP slot supports AGP 8X/4X card(analog), DVO card and TV Out card, respectively but not simultaneously.

TV Out Display (analog)

DVI Cable

DVO Card

DVI Connector

LCD (digital) Monitor

VGA Connector

Analog Monitor

Insert an AGP 8X/4X card / DVO / TV Out card to AGP slot for AGP / DVO / TV Out Display
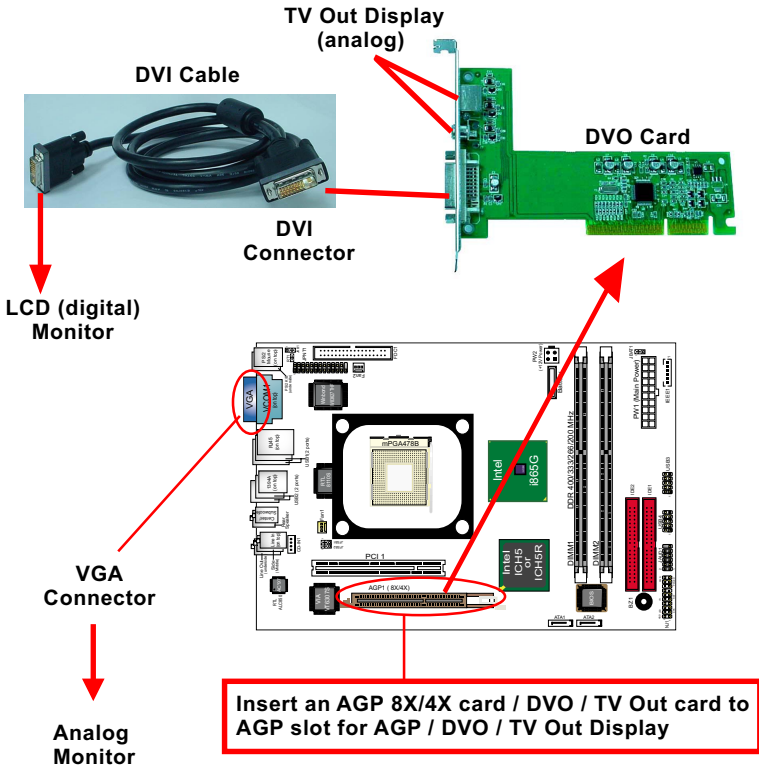
3. If user wants AGP display, please insert 1.5V AGP 8X/4X card into the AGP slot to boot system. A Rib is specifically added to the 8X/4X slot so as to match the AGP 8X/4X card. <u>To insert a 3.3V AGP 2X card into the AGP 8X/4X slot will damage the system chip and burn the 1.5V circuitry.</u>
An AGP 8X card will support a data transfer rate up to 2GB/sec, while an AGP 4X card will provide 1GB/sec transfer rate.

Insert an AGP 8X/4X card / DVO / TV Out card to AGP slot for AGP / DVO / TV Out Display
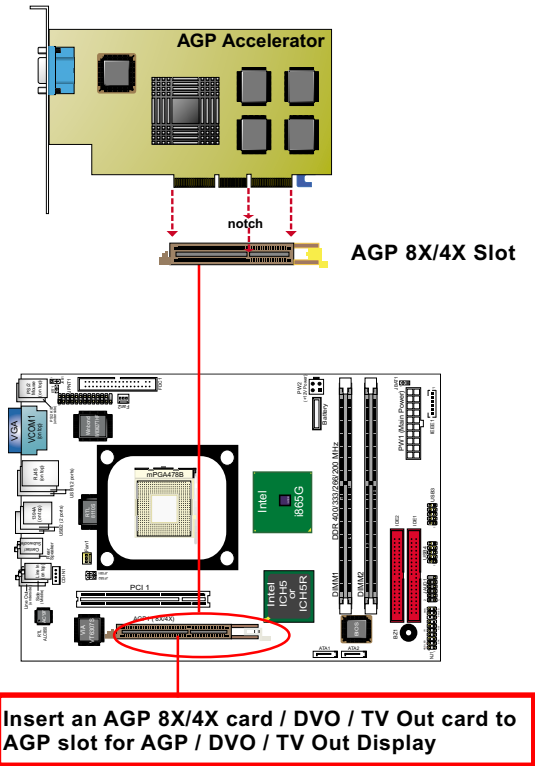
2-5 IDE Connector Installation

IDE1 and IDE2 are 2 IDE connectors supporting 4 IDE devices for up to 133MB/s data transfer.

IDE1 / IDE2
Hard Disk Drive Connector
Orient the red line on the IDE Flat Cable to Pin1.

Pin 1 (to Red Line)   IDE1   IDE2
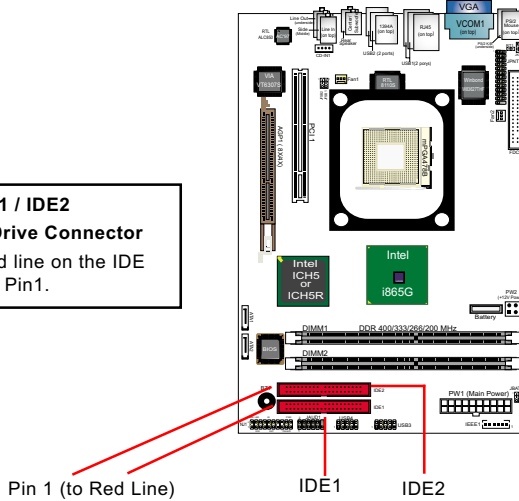
**80-conductor IDE Cable
(for 2 IDE devices)**
This kind of cable is dedicated for Mini-barebone system because the ribbon is bundled up and will not block the air flow in the barebone cabinet.

Gray connector
(To slave device)

Red line

Black connector
(To Master Device)

Blue connector
(To Mainboard)
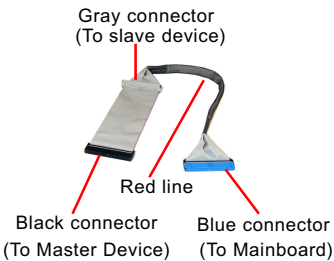
**80-conductor IDE Cable
(dedicated for 1 IDE device)**
This kind of cable is dedicated for Mini-barebone system because the ribbon is bundled up and will not block the air flow in the barebone cabinet.

Bundle Strap   Red line

80-conductor
IDE cable

Blue connector
(To Mainboard)

Black connector
(To Master Device)
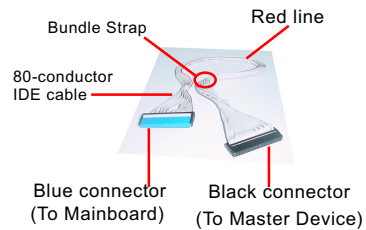
2-6 Floppy Drive Connector Installation

To install FDC, you should connect the end of FDC cable with single connector to the board, and connect the other end with two connectors to the floppy drives.
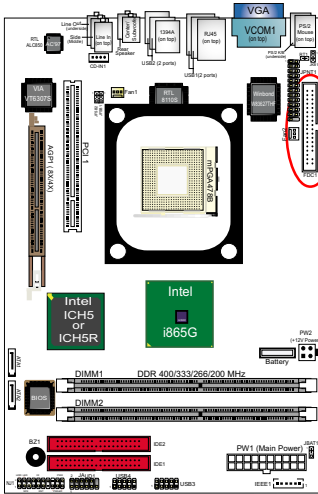
Floppy Drive Connector:

Orient the red line of the Floppy Flat Cable to Pin1.

Pin 1 (to Red Line)

34-pin FDC cable
(Dedicated for Barebone)

This kind of cable is dedicated for Mini-barebone system because the ribbon can be bundled up and will not block the air flow in the barebone cabinet. A dedicated cable with 2nd connector for 2nd floppy drive is an optional item in the Mini-barebone System.

Signal Swap End   Red line

To 1st Floppy Drive   To mainboard

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2-7 Serial ATA Connectors Installation

The Serial ATA is designed to improve the Parallel ATA with the capability of Hot Plug and offer a data bandwidth of 150Mbytes/second. It also reduce voltage and pin count and can be implemented with thin cables which improve the inner ventilaton of PC cases.

2 Serial ATA connectors are built on board, supported by the SATA Controller for SATA Hard Disk Drives.

Serial ATA Connector ATA1 and ATA2

Serial ATA Cable

To Power Supply

SATA Power Connectors

Serial ATA Hard Disk

Serial ATA Power Cable (optional)

2-8 ATX V2.03 Power Supply Installation

+12V Power Connector

+12V		+12V
4	○ ○	3
2	○ ○	1
GND		GND

+12V		+5V
5SB		+5V
PWR OK		-5V
GND		GND
+5V		GND
GND		GND
+5V		PS ON#
GND		GND
+3.3V		-12V
+3.3V		+3.3V
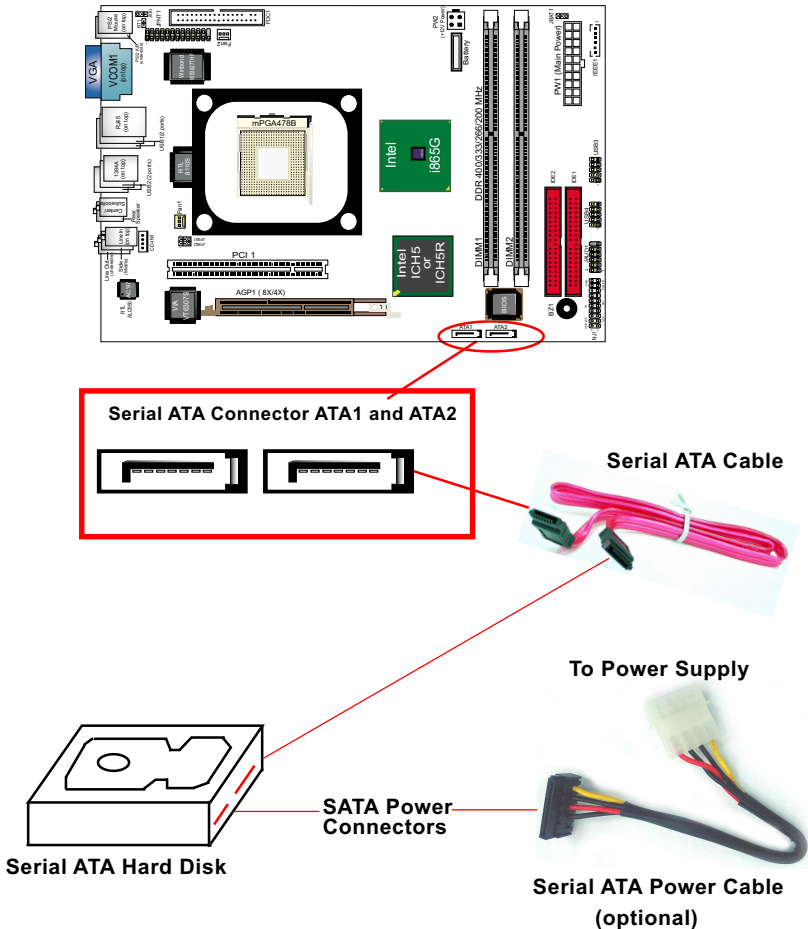
Pin1   Pin11
Main Power Connector
(20-pin)
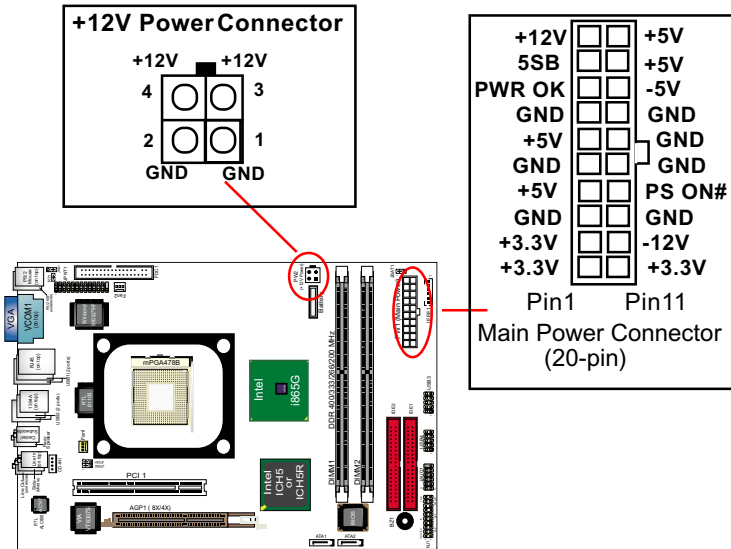
ATX V2.03 Power Supply is strongly recommended for mainboard running with 2GHz or higher CPU.

To set up Power Supply on this mainboard:
1. Connect the on-board Main Power Connector (20-pin) to the Main Power Connector (20-pin) of an ATX Power Supply which can be of the latest version 2.03 model, and then connect the square-shaped +12V Power Connector on board to the square-shaped +12V Power Connector of the Power Supply.
   Warning: Both the Main Power Connector and the +12V Power Connector should be connected to Power Supply; otherwise, the system may either not start or be damaged.
2. This ATX Power Supply should be able to provide at least 720mA/ +5V standby power for Wake On Lan function.

2-9 Jumper Settings

The following diagrams show the locations and settings of jumper blocks on the mainboard.

JKB1: KB / Mouse Wake Up
1-2 closed Disabled
2-3 closed (default) Enabled

JBAT1 Clear CMOS
1-2 closed (default) To hold data
2-3 closed To clear CMOS

JFSB1&JFSB2: CPU Frequency Select			
CPU Auto-Detect (default)	(400MHz FSB) 100MHz CPU Selected	(533MHz FSB) 133MHz CPU Selected	(800MHz FSB) 200MHz CPU Selected
JFSB1	JFSB1	JFSB1	JFSB1
JFSB2	JFSB2	JFSB2	JFSB2
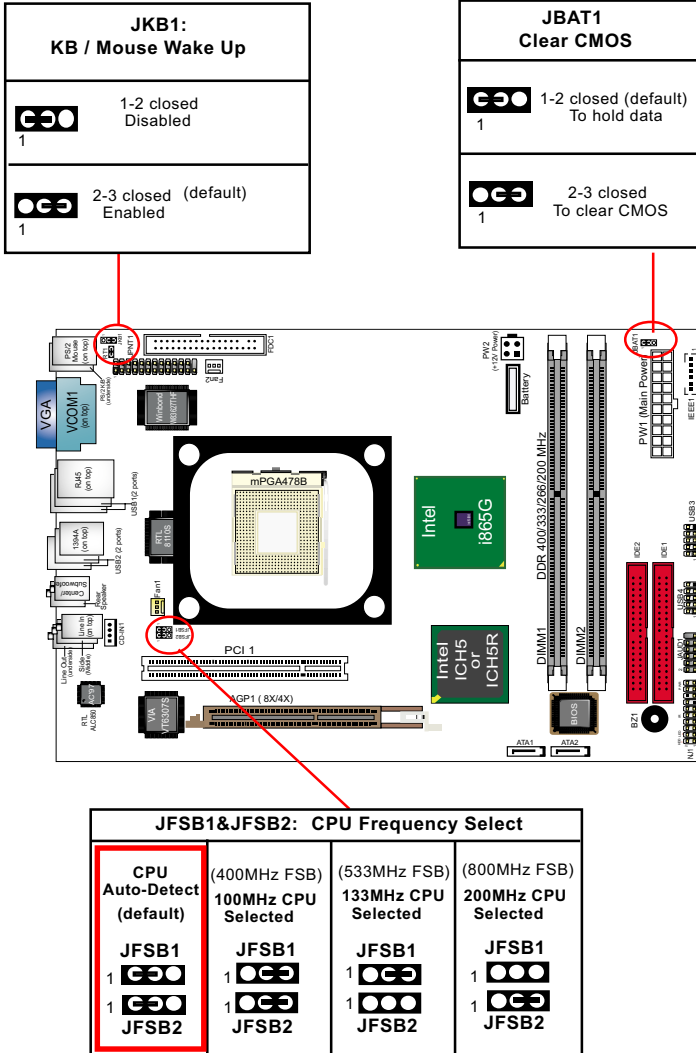
How to tackle the Jumpers:

A 3-pin Jumper

If a pin-header (of 2 or more pins) is designed in such a way that its pins can be closed or linked together to set up a specific function, this header is called a jumper in this manual.

A 2-pin Jumper Cap

The conductor inside the cap links two header-pins together.
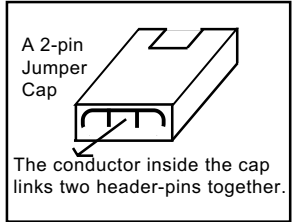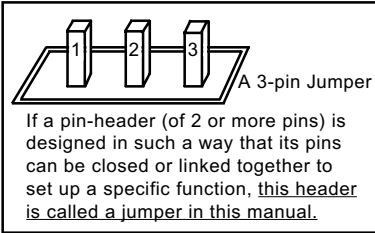
- A Jumper is usually but not necessarily given a "JpX" legend.
- In the Jumper setting diagram, the jumper pins covered with black marks stand for closed pins with jumper cap.

Jp X

Jumper with Pin 2-3 closed

Jumper with all pins opened

Jumper with Pin 1-2 closed

- Do not remove any jumper cap when power is on. Always make sure the power is off before changing any jumper settings. Otherwise, the mainboard will be damaged.

2-9.1 JFSB1 & JFSB2: CPU Frequency Select

JFSB1 and JFSB2 are designed on board for CPU frequency select.

1. Setting JFSB1 1-2 closed and JFSB2 1-2 closed will allow CPU on board to Auto Detect its own frequency and apply it to the System Bus.
2. Setting JFSB1 2-3 closed and JFSB2 2-3 closed is for 100 MHz CPU.
3. Setting JFSB1 2-3 closed and JFSB2 open is for 133 MHz CPU.
4. Setting JFSB1 open and JFSB2 2-3 closed is for 200MHz CPU. If 200MHz is an overclock for your CPU, it may or may not boot your system. If an overclok fails to boot system, you should restore the default setting and then clear CMOS to reboot your system. (See Clear CMOS in next paragraph.)

| JFSB1&JFSB2: CPU Frequency Select			
CPU Auto-Detect (default)	(400MHz FSB) 100MHz CPU Selected	(533MHz FSB) 133MHz CPU Selected	(800MHz FSB) 200MHz CPU Selected
JFSB1	JFSB1	JFSB1	JFSB1
JFSB2	JFSB2	JFSB2	JFSB2

Further Notes on CPU Overclocking:

1. If you have successfully booted system, with or without CPU overclock, you still can try another CPU overclock in BIOS Setup. Please enter BIOS Setup, choose "Frequency/Voltage Control" of Advanced BIOS Features, and configure the "CPU Clock" item to raise your CPU clock.

2. CPU overclocking should take all components on board into account. If you fail in BIOS overclocking, you will not be able to restart system. In such case, Power off system and clear CMOS by JBAT1 and then restart your system. And remember to reconfigure whatever should be reconfigured.

3. If your system is already fixed in a cabinet or case, you may not like to take the trouble to clear CMOS. Then power on your system with the power button on the PC case and simultaneously press down the "Insert" key on the keyboard until you see the initial bootup screen appear. And remember you should also enter CMOS BIOS Setup instantly and choose "Load Optimized Defaults" to restore default BIOS .

2-9.2 JBAT1: Clear CMOS

When you have problem with rebooting your system, you can clear CMOS data and restore it to default value. To clear CMOS with Jumper JBAT1, please follow the steps below:

1. Power off system.
2. Set JBAT1 to Pin 2-3 closed.
3. After 2 or 3 seconds, restore the JBAT1 setting to Pin1-2 closed.
4. CMOS data are restored to default now. Remember never clear CMOS when system power is on.

JBAT1 Clear CMOS
1-2 closed (default) To hold data
2-3 closed To clear CMOS
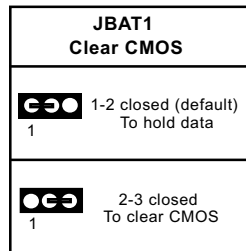
2-9.3 JKB1: KB / Mouse Wake Up

JKB1 is designed on board as a jumper to enable/disable the PS/2 keyboard/mouse Wake Up from suspend mode. Yet user should still enter the " ACPI Configuration" of BIOS setup to choose the Wake Up mode.

USB keyboard/mouse Wake Up function is also supported on this mainboard.

JKB1: KB / Mouse Wake Up
1-2 closed Disabled
2-3 closed (default) Enabled
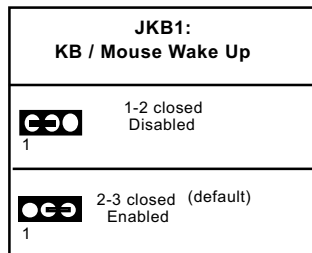
2-10 Other Connectors Configuration

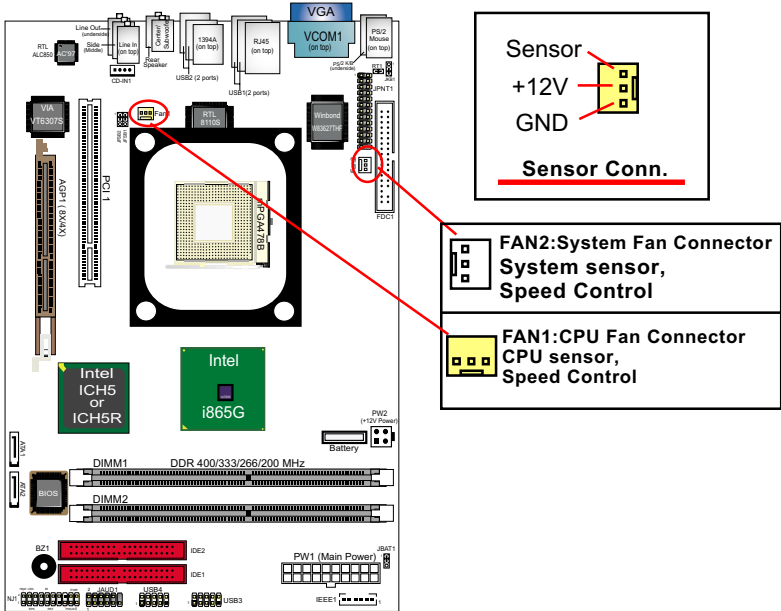This section lists out all connectors configurations for users' reference.

2-10.1 On Board Fan Connectors

Sensor
+12V
GND

Sensor Conn.

FAN2:System Fan Connector
System sensor,
Speed Control

FAN1:CPU Fan Connector
CPU sensor,
Speed Control

Please install the cooling fans as illustrated above.
FAN1: FAN1 should be connected to CPU cooling FAN only for CPU temperature detection and CPU Fan speed control.

FAN2: FAN2 should be connected to System cooling Fan for system temperature detection and system Fan speed control.

Wrong application will cause mal-functioning of the fan connectors.

2-10.2 USB Ports and USB Pin-headers

This series provides 4 USB ports on board supporting various USB devices. In addition, 2 USB pin-headers are added on board to provide expansion of 4 more optional USB ports by using 2 additional USB cables. Users can order the optional USB cables from your mainboard dealer or vendor.

When plugging the USB cable to USB Header, users must make sure the red wire is connected to Pin 1.

All 8 USB ports are compliant with 1.1 / 2.0 USB Bus. USB 2.0 supports Win 2000 and up (no support for Win9X / Me). Please see Chapter 3 for USB2.0 Installation.

USB connectors USB1/2 (4 ports)

USB Cable (Optional)

USB Port

Red wire
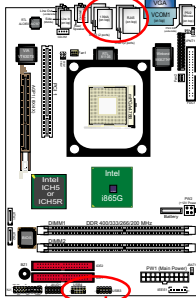
USB Pin-headers USB3/4(4 ports)

1

10
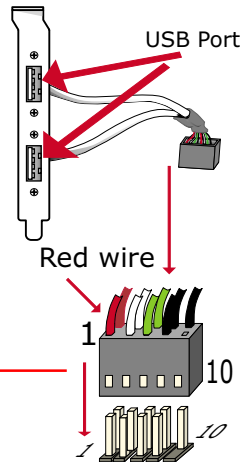
Use a 4-pin connector to connect USB pin-header to 1 USB port

First USB Port Wiring for 1 Front USB port

Red White Green black
+5V   D1-   D1+   GND

USB Header Pin Assignment

10

1

Use 4-pin connector to support 1USB port only.

+5V   D2-   D2+   GND
Red White Green black

Second USB Port Wiring for another Front USB port

2-10.3 Complex Pin-header (Front Panel Connectors)
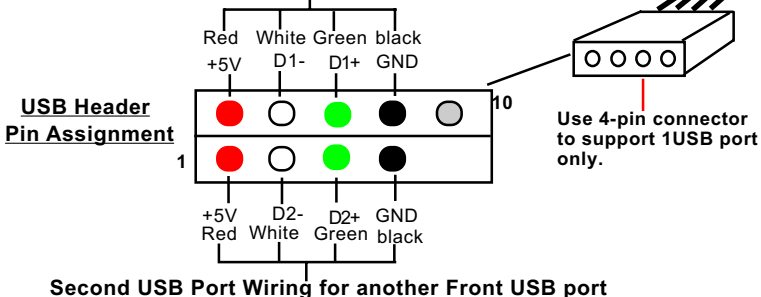
This complex Pin-header consists of the following connectors for various supports. When you have fixed the mainboard to the case, join the connectors of this Complex Pin-header to the case Front Panel.
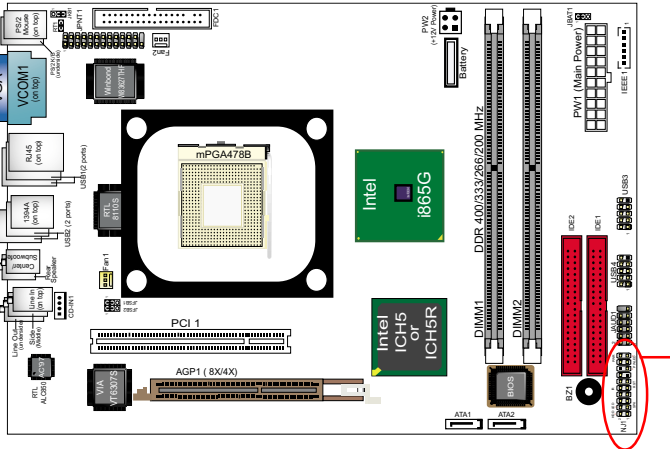
Connect these connectors to Front Panel of the PC case.

(1)Power Switch	PWRBT# / PWRBT	PLED- / NC / PLED+ — Power LED (4)
(2)Infrared(IR)	IR_VCC / NC / IRRX / IRGND / IRTX	RSTGND / RST1 — Reset Switch (5)
(3)HDD LED	HDLED- / HDLED+	SP1 / NC / SP3 / SPVCC — Speaker (6)
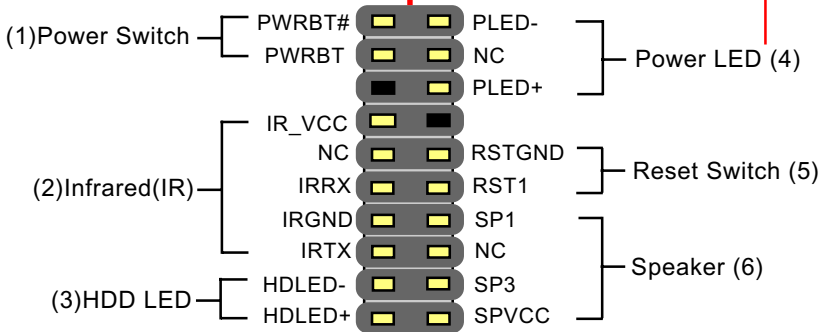
2-10.4 Back Panel Connectors
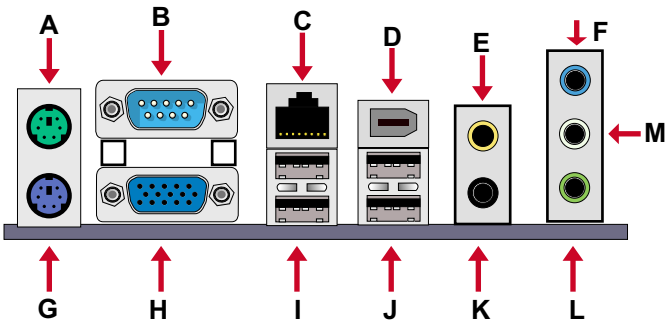
A : **PS/2 Mouse**
B : **VCOM1**
C : **RJ45**
D : **IEEE 1394A**
E : **Center /**
     Subwoofer
F : **Line In**

G : **PS/2 Keyboard**
H : **VGA Connector**
I : **USB1(2 ports)**
J : **USB2(2 ports)**
K : **Rear Speaker-out**
L : **Line Out/Front Speaker Out**
M : **Side Surround Speaker Out**

2-10.5 RJ45 LAN Connector

One RJ45 connector is on board for LAN connection, supporting GiGabit Ethernet 10/100/1000Mb data transfer.
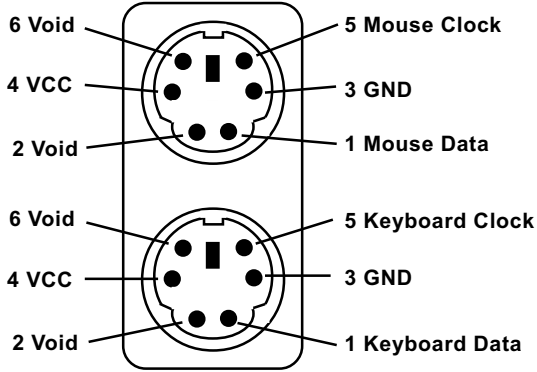
Red/Orange LED blinks to indicate that data transmission is undergoing in 1000 Base T mode.

Yellow LED "On" to indicate Network hub is in connection with the system.

Green LED blinks to indicate that data transmission is undergoing in 10/100 Base T mode.

2-10.6 PS/2 Mouse And PS/2 Keyboard

(PS/2 Mouse: On top of keyboard connector, green)

|		
6 Void		5 Mouse Clock
4 VCC		3 GND
2 Void		1 Mouse Data
6 Void		5 Keyboard Clock
4 VCC		3 GND
2 Void		1 Keyboard Data

(PS/2 Keyboard Connector: Underside, purple)

2-10.7 CD-ROM Audio Connectors

CD-IN1 is an audio connector connecting CD-ROM audio to mainboard.
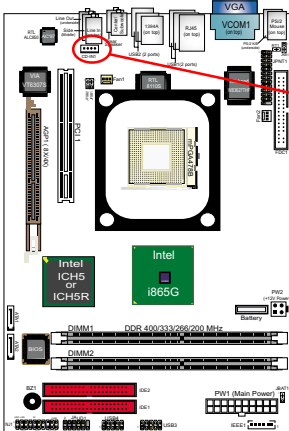
CD-ROM Audio Pin Assignment

CD-IN1	Pin 1	Pin 2	Pin 3	Pin 4
1	Left Channel	GND	GND	Right Channel

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2-10.8 System Buzzer: BZ1

A buzzer BZ1 is designed on board
for sending a beep at starting sys-
tem as well as warning of CPU tem-
perature problems.

System Buzzer BZ1
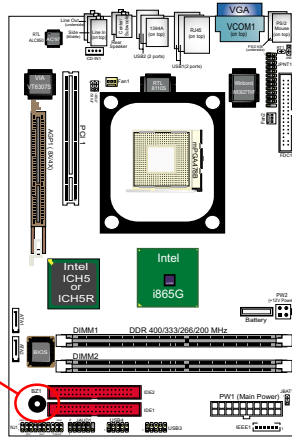
2-10.9 JAUD1: Front Panel Audio Connector

This series is designed with a Front Panel Audio connector "JAUD1.
• Supporting Front Panel S/PDIF Output, Front Panel Mic-In and Front
  Panel Line-out;
• A S/PDIF cable is needed to connect this connector to Front Panel.

JAUD1: Audio-out Pin Assignment

Pin 1 SPDIF IN	Pin 2 Gnd
Pin 3 GND	Pin 4 +5V
Pin 5 +5V	Pin 6 SPDIF OUT
Pin 7 MIC IN	Pin 8 +5VA
Pin 9 LINE OUT R	Pin10 GNDA
Pin11 LINE OUT L	Pin12 KEY
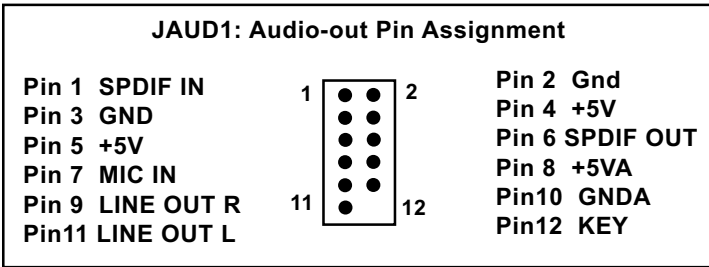
**Connect JAUDI
To Front Panel**
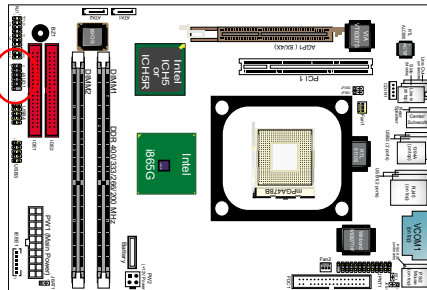
2-10.10 RT1: Thermal Resistor

RT1

RT1 is mounted with Thermal Resistor by default for detecting system temperature.
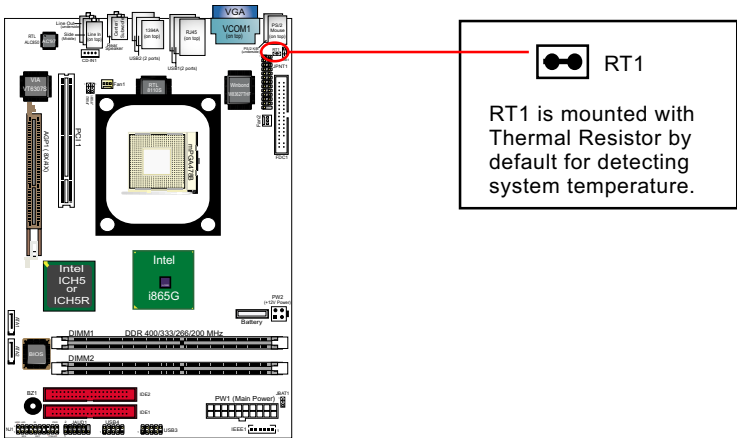
2-10.11 1394A Front Connector : IEEE1

1394A Interface, with VT6307 Open Host Controller on board, supporting 2 x 1394A serial ports:
• Each 1394A port supporting 400/200/100 Mbits transfer rate.
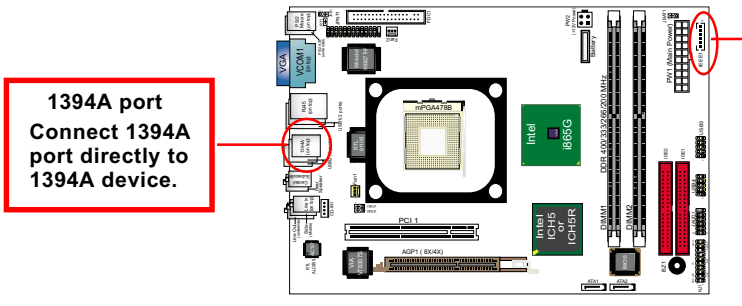
1394A port

Connect 1394A port directly to 1394A device.

• PCI-bus based open host controller, compliant with IEEE 1394A-2000 standard for high performance serial bus

IEEE1 Front Connector Pin Assignment

Pin 1   BPWR(+12V)
Pin 2   GND
Pin 3   TPB(0/1/2)-
Pin 4   TPB(0/1/2)+
Pin 5   TPA (0/1/2)-
Pin 6   TPA (0/1/2)+

Connect to Front Panel with IEEE cable

2-10.12 Printer Port: JPNT1 (optional)

JPNT1 is an optional parallel printer port.

JPNT1: Printer Port (optional)
Pin Assignment

Pin 1	STROBE#	Pin 14	AUTOFD#
Pin 2	LPTDD0	Pin 15	ERROR#
Pin 3	LPTDD1	Pin 16	INITA#
Pin 4	LPTDD2	Pin 17	SLCTIN#
Pin 5	LPTDD3	Pin 18	GND
Pin 6	LPTDD4	Pin 19	GND
Pin 7	LPTDD5	Pin 20	GND
Pin 8	LPTDD6	Pin 21	GND
Pin 9	LPTDD7	Pin 22	GND
Pin 10	ACK#	Pin 23	GND
Pin 11	BUSY	Pin 24	GND
Pin 12	PE	Pin 25	GND
Pin 13	SLCT	Pin 26	Key
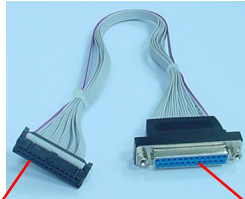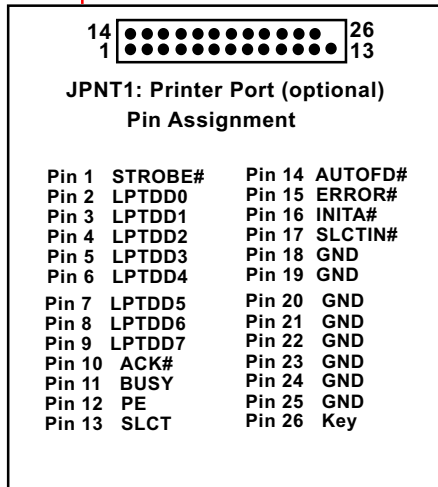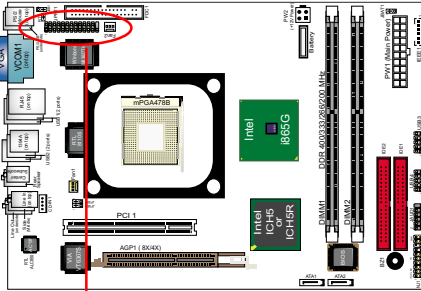
To Printer Connector on board

To Printer

Printer Cable (optional)

Chapter 3 Software Setup

Drivers, Utilities and Software Installation

• Support CD:

This series of mainboards will be shipped with a Support CD which contains those necessary driver files, Application Softwares and some helpful utilities. It is a user-friendly, auto-run CD which will open itself up in a CD-ROM automatically.

This chapter is devoted to describing the installations of all these essential drivers and utilities on Windows 9X, Windows ME, Windows 2000 and Windows XP. And installation on Windows XP as the general illustration hereby.

The priority of drivers to be installed should also be noted. Users are recommended to take the following installation orders :

3-1 To Open up the Support CD

1. Please put the Support CD enclosed in your mainboard package into the CD-ROM drive. In a few seconds, the Main Menu will automatically appear, displaying the contents to be installed for this series:

2. In case your system does not open the Support CD automatically, please click to the following path to enter the Main Installation Menu:

   D:\ Autorun.exe (assuming that your CD-ROM Drive is Drive D)

3. Drivers may be updated from time to time in our web site. If you are installing a newer driver than the one illustrated in this chapter, please be aware that the illustration pictures might be different.

3-2 Intel Chipset Software Installation Utility

1. Following the procedures of opening the Support CD, click to "
Install Intel Chipset software installation Utility" to proceed.

2. The Intel Service Pack InstallShield Wizard will pop up to guide you to the Intel Service pack installation. Press **"Next"** button to continue.
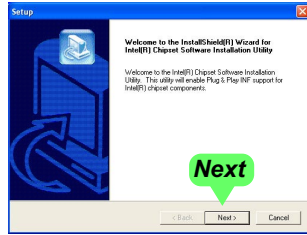
3. **"Intel Software License Agreement"** screen will appear, please click the **"Yes"** button to agree with the Licence Agreement and continue.
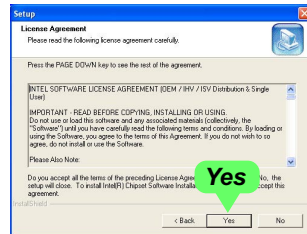
4. After all the setup process is finished, please restart your computer by clicking on "Finish" so as to take the Utility into effect.
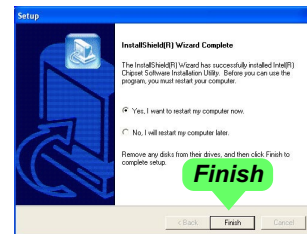
3-3 Graphics Driver Installation

When restarting procedures finish, please open the Support CD with your CD-ROM to enter the Main Installation Menu.

1. For installation of on-board VGA driver, you must first connect the monitor to the on-board VGA connector. Then click to "Install Graphics Driver". The Graphics Driver is specifically for on-board VGA.

2. When the screen of "Intel(R) Extreme Graphics Driver Software Setup" appears, please press "Next" button to continue.
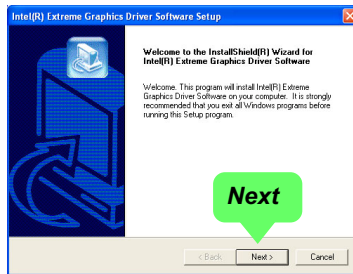
3. On the "Licence Agreement" screen, click on "Yes" to continue.
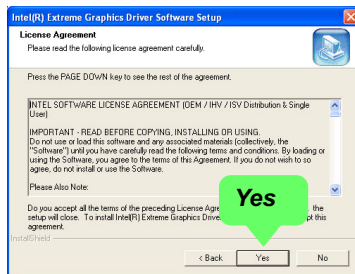
4. After all the setup procedures have completed, click to "Finish" button to exit the Installation program and re-start your system.

41
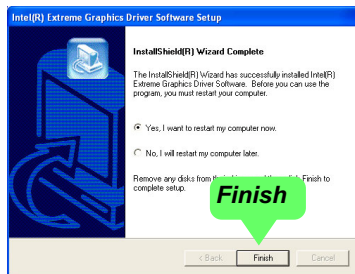
3-4 AC'97 Audio Driver Installation

RTL ALC850 8-channel AC97 Audio Codec on board, AC'97 2.3 compat-ible stereo audio code for PC multimedia systems. AC'97 Audio Codec Driver is provided in Support CD for user's installation.

3-4.1 Installing AC'97 6-channel Audio Driver

1. Following the procedures of opening the Support CD, click to " AC'97 Audio Driver" to proceed.

2. Instantly, the "installShield Wizard" screen appears to guide you through the "AC'97 Audio Setup"".
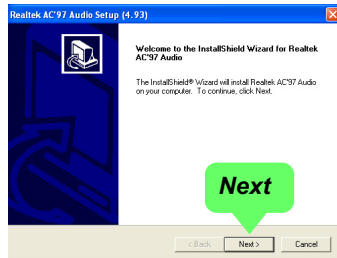
3. instantly, the Setup program proceeds to install the softwares. (If you want to stop setup, click the "Cancel" button.)
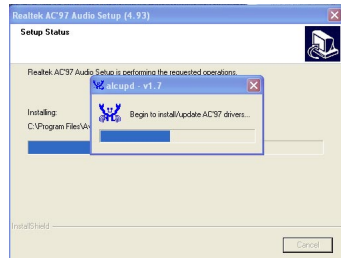
4. After the setup process is finished, please check the radial button "Yes, I want to restart my computer now." And click "Finish" to restart your system.
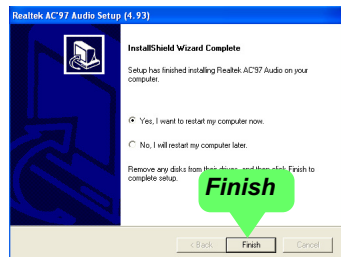
3-4.2 Verifying 6-channel Audio

After installation of AC'97 6-channel Codec, you must configure the 5.1 Speaker connection to enable the 8-channel audio.

1. Connect your on-board Audio Connector to your 8-channel speakers as depicted in the figure below:

Line In

Pink Connector Center/ Subwoofer Speaker Out

Gray Connector to Side Speaker

Black Connector To Rear Speaker Out

Light Green Connector to Front Speaker
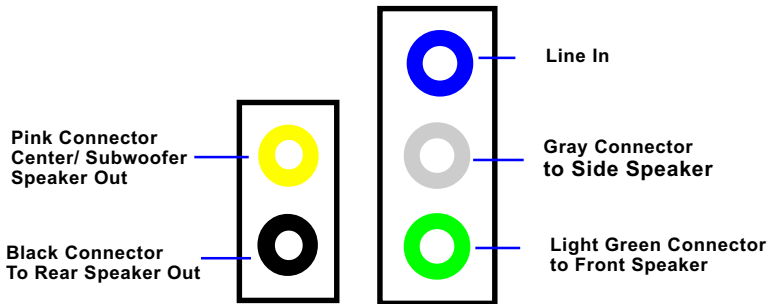
Back Panel Audio Connectors

2. After Connection is done, start your Windows system and double click the Sound manager icon to enter 8-channel configuration:

Sound Effect Manager icon on Windows XP

3. The AC'97 Audio Configuration" screen will pop out. Clikc the "Speaker Configuration" bar with your mouse.
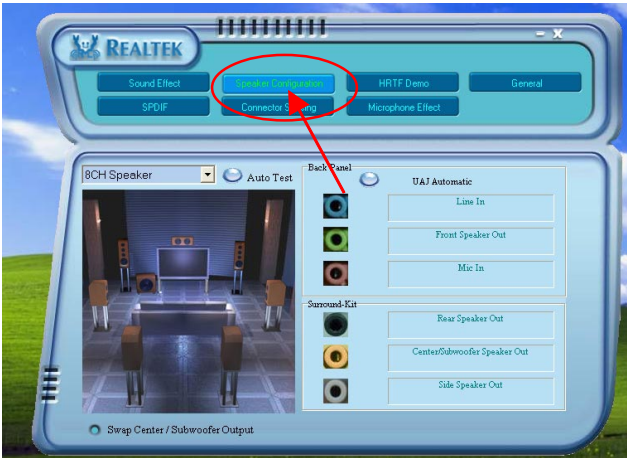
4. Instantly, the "Speaker Configuration" screen will pop out. Pick the items "8-channelSpeaker" and then click on the Auto Test button. Instantly, the Speaker Auto-test starts until all speakers installed are tested.

3-5 To Install RTL8110S Gigabit Ethernet Drivers

RTL8110S Gigabit LAN driver for Windows 98/ME / 2000 / XP. After restarting system, click on the Onboard Giga LAN Driver to start setup.

1. Instantly, the InstallShield Wizard pop out. Click Next to continue.
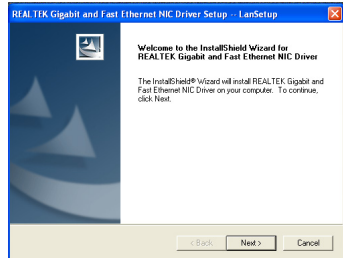
2. Next, the program starts to copy files.
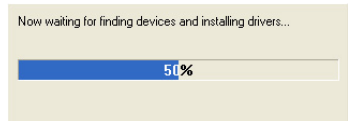
3. In a few seconds, setup completes. Restart system and complete setup.

45
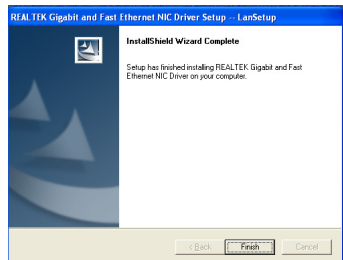
3-6 IAA RAID Driver (for Win2000/XP only)

Click on the IAA RAID Driver Only for Win2000/XP to start setup.

2. Instantly, the InstallShield Wizard pops out to start setup.
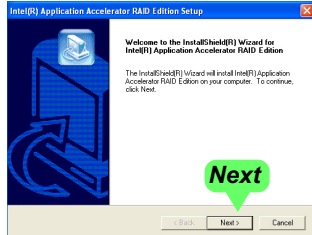
2. Click Yes to the License Agreement and continue.
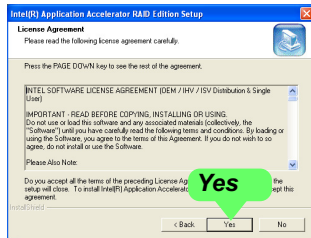
3. The program is copying files.
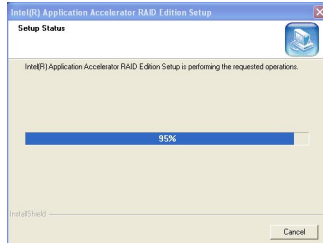
4. In a few seconds, setup completes.
   Click "Finish" to restart system and complete setup.

3-7 To Install Hardware Monitor Utility

3-7.1 Installation

Hardware Monitor is built on this mainboard. Its installation is pro-grammed to a fully automated mode on Windows 9X/Me/NT4/2000/XP. Users can follow the model installation below for its installation on various Windows System.

1. Following the procedures of opening the Support CD, click to " Hardware Monitor Utility" to proceed.

2. The Soltek Hardware Monitor InstallShield Wizard will pop up to guide you to the Intel Service pack installation. Press **"Next"** button to continue.
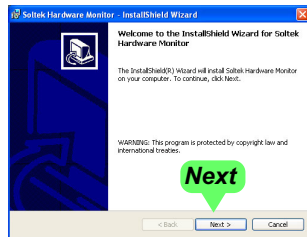
3. The **InstallShield Wizard** screen will show the current setting, please click the **"Install"** button to continue.
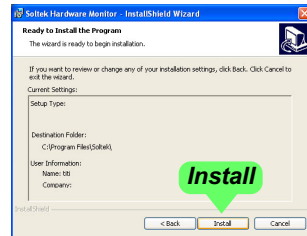
4. After all the setup process is finished, click "Finish" to exit the wizard.
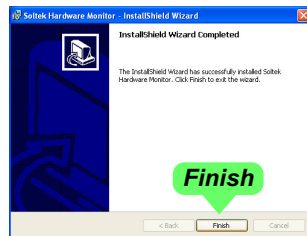
3-7.2 Verification

1. After installing Soltek Hardware Monitor, double click "SoltekHM" icon on the desktop to open the main window of the Soltek Hardware Doctor.
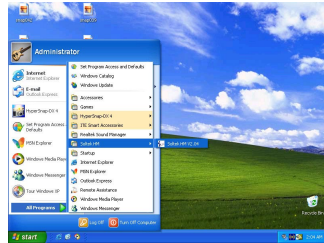
2. Then the pop-up screen will show all information about CPU Temperature, Fan Speed and various Voltages.

Showing the Fan Speed(s) that is supported by the mainboard.

Showing the temperature(s), the function of which is supported by the mainboard.

Click on "Soltek" button to display the function menu.

Showing the Voltage(s) that is supported by the mainboard.

Status Warning LED

*Note: Not all items or functions showing in the above picture will show up. Only those items or functions that are supported by the mainboard will reveal themselves in the above screen.

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3-8 To Install USB 2.0 Driver for Windows 2000/XP

USB V2.0 with its 480Mb/s transfer rate supports operating system Windows 2000 and Windows XP via the Windows 2000 and Windows XP Service Pack. <u>For achieving Intel USB 2.0 support, users should install the latest Service Pack for Windows 2000 or Windows XP. (Intel USB 2.0 does not support Windows 9X/Me)</u>

1. After installation of Intel Chipset software installation Utility in Windows 2000 or Windows XP, start to install the latest Service Pack version into the operating system. The installation of the latest Service Pack will support USB2.0 in Windows 2000 or Windows XP now.(The latest Service Pack can be found in Microsoft Web Site.)

2. To verify USB2.0 installation, please enter "Device Manager" of "My Computer". On the "Device Manager" screen, you should be able to see the item "Standard Enhanced PCI to USB Host Controller", verifying USB2.0 Driver is installed successfully.
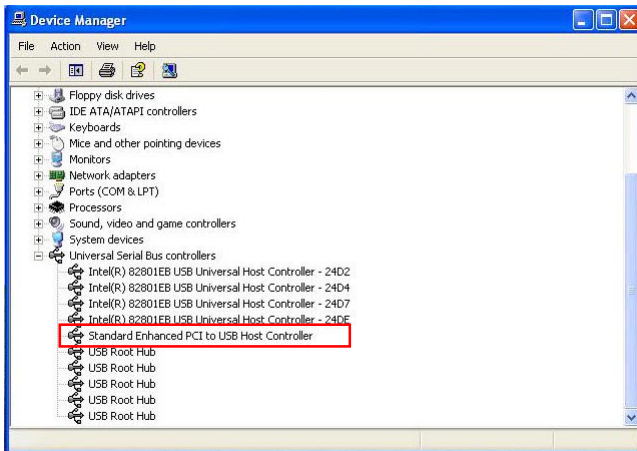
Chapter 5 SATA RAID Setup

ICH5R RAID Controller & RAID Driver

Intel ICH5R RAID (Redundant Array of Independent Disks) Controller is built in the South BridgeICH5R. With this RAID Controller, the IntelSATA RAID BIOS is built into the system to help configure the Redundant Disk Array. <u>ICH5R supports RAID 0 and RAID 1 configuration.</u>

This Chapter is to introduce the SATA RAID Configurations :

5-0 About DiskArray

5-0-1 Disk Array Interpretation

A "Disk Array" is formed from a group of 2 or more disk drives with the RAID (Redundent Array of Independent Disks) technology. The aim of a Disk Array is to provide better performance and/or data fault tolerance.

5-0-2 Disk Array Member

The individual disk drive in an array is called a "member". Each member of a specific disk array is coded in their "reserved sector" with configuration information that identifies the drive as a member. All disk members in a formed disk array are recognized as a single physical drive to the system.

5-0-3 Disk Array Types Supported by ICH5R

Different types or modes of Disk Array have different formation models and functions. The South Bridge on this mainboard supports only two types of Disk Arrays: RAID 0 and RAID 1, but not RAID 0+1.

1. RAID 0 (or Striping mode):

    RAID 0 is a group of 2 to 4 Disk Drives configured together with RAID technology to provide better data transfer performance than a single drive since the workload is balanced between the array members. Reads and Writes of RAID 0 data are interleaved between multiple drives. When any disk member fails, it affects the entire array. The disk array size is equal to the number of drive members times the smallest member capacity. For example, one 1GB and three 1. 2GB drives will form a 4GB (4x1GB) disk array.

2. RAID 1 (or Mirroring mode):

    RAID 1 is a group of 2 Disk Drives configured together with RAID Technology to provide the fault tolerance function. Writes duplicate data on to RAID 1 while reads are performed in parallel. If one of the mirrored drives suffers a mechanical failure (e.g. spindle failure) or does not respond , the remaining drive will continue to function. This is called Fault Tolerance.

    The drive capacity of RAID 1 is half the total drive capacity of two equal-size drive.

5-1 Enable SATA RAID in System BIOS

Chipset ICH5R supporting SATA RAID Interfaces.

2 SATA connectors supporting 2 SATAHard Disks for RAID mode.
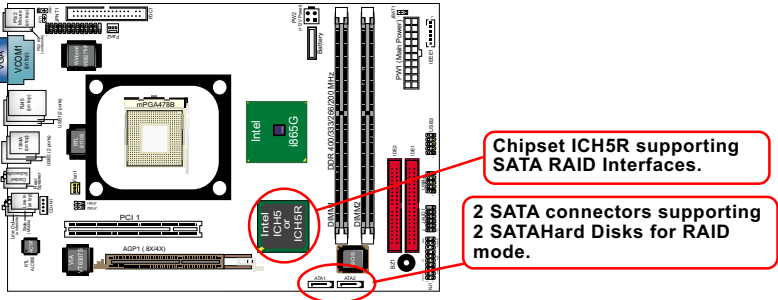
To enable SATA RAID controller, boot the system and watch for the following initial screen to appear:

```
Inrel RAID for Serial ATA-RAID BIOS vxxxxxxx
 Copyright (C) 2003 Intel Corporation. All right reserved.

RAID Volumes:
None defined.

Non-RAID Disks:
Port Drive Model        Serial #       Size         Status        Bootable
  0 ST380023AS          XXXXXXXXX      115.0GM      Normal        Yes
  1 Maxtor 6Y120M0      XXXXXXXXX      114.0GM      Normal        Yes

Press <CTRL-I to enter  Configuration Utility..

(The above message indicates that the SATA hard disks on board are detected by the
RAID BIOS.)
```

As soon as the above screen appears, press < Delete > key (not <CTRL-I> key) to enter CMOS BIOS Setup. Choose "Advanced BIOS Features" and "IDE Configuration" to configure S-ATA as RAID.

IDE Configuration

IDE Configuration		Help Item
IDE Configuration	P/S-ATA (Auto)	Choose "yes" to enable SATA RAID configuration.
S-ATA Running Enhanced Mode	Yes	
P-ATA Channel Selection	Both	
S-ATA Ports Definition	P0-3rd./P1-4th	
Configure S-ATA as RAID	Yes	
▶ Primary IDE Master	Hard Disk	
▶ Primary IDE Slave	ATAPI CDROM	
▶ Secondary IDE Master	Not Detected	
▶ Secondary IDE Slave	Not Detected	
▶ Third IDE Master	Not Detected	
▶ Fourth IDE Master	Not Detected	

5-2 To EnterIntel RAID BIOS Utility Setup

Boot the system with "SATA-RAID " enabled in system BIOS Setup and watch for the following initial screen to appear:

```
Inrel RAID for Serial ATA-RAID BIOS vxxxxxxx
 Copyright (C) 2003 Intel Corporation. All right reserved.

RAID Volumes:
None defined.

Non-RAID Disks:
Port Drive Model          Serial #          Size          Status          Bootable
  0 ST380023AS            XXXXXXXXX         115.0GM        Normal          Yes
  1 Maxtor 6Y120M0        XXXXXXXXX         114.0GM        Normal          Yes

Press <CTRL-I to enter  Configuration Utility..

(The above message indicates that the SATA hard disks on board are detected by the
RAID BIOS.)
```

As soon as the above screen appears, <u>press < CTRL-I > key</u> to enter Intel RAID Configuration Utility.

In a few seconds, the Intel RAID Setup Utility appears as shown below:

```
                Intel(R) for Serial ATA-RAID Configuration Utility
        Copyright 2003 Intel Corporation.  All Right Reserved.   vxxxxxxxxx
                                [ MAIN MENU ]

                        1.    Create RAID Volume
                        2.    Delete RAID Volume
                        3.    Reset Disks to Non-RAID
                        4.    Exit


                        [ Disk/Volume Information ]

      RAID Volumes:
      None Defined.

      Non-RAID Disks:
      Port Drive Model          Serial #          Size      Status      Bootable
        0 ST380023AS            XXXXXXXXX         115.0GM   Normal      Yes
        1 Maxtor 6Y120M0        XXXXXXXXX         114.0GM   Normal      Yes

        [ ↑ ↓ ]-Select        [ESC] - Exit       [Enter] - Select Menu
```

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5-3 To Create DiskArray

(5-3-1) When you press <Enter> on the "1. Create RAID Volume" bar, the following screen shows up. Enter a name for the volume to be created.

Intel(R) for Serial ATA-RAID Configuration Utility
Copyright 2003 Intel Corporation. All Right Reserved.   vxxxxxxxxx

[Create Array MENU]

Name: RAID Volume 1
RAID Level: RAID1(Mirror)
Strip Size: 128KB
Capacity: 228.9GB
            Create Volume

[Help]

Enter a string between 1 and 16 characters in length that can be used to uniquely identify the RAID volume. This name is case sensitive and cannot contain special characters.

[↑ ↓]-Change [Tab] - Next   [ESC] - Previous Menu   [Enter] - Select Menu

(5-3-2) Next, press <Tab> key to jump to RAID Level bar and press Arrow key to select the RAID mode.

Intel(R) for Serial ATA-RAID Configuration Utility
Copyright 2003 Intel Corporation. All Right Reserved.   vxxxxxxxxx

[Create Array MENU]

Name: RAID Volume 1
RAID Level: RAID1(Mirror)
Strip Size: 128KB
Capacity: 228.9GB
            Create Volume

[Help]

Choose the RAID level best suited to your usage model.

RAID0(Stripe) - Create a volume where equal portions of the volume are spread accross all the disks. This creates a volume with higher performance by accessing all disks at once.

RAID1(Mirror)) - Create a volume where a redundant copy of the data is stored on each disk. This creates a volume protected from a single hard disk failure.

[↑ ↓]-Change [Tab] - Next   [ESC] - Previous Menu   [Enter] - Select Menu

(5-3-3) After selecting the RAID mode, press <Enter> to confirm your choice. Then press <Enter> again on the Create Volume bar to proceed.

```
         Intel(R) for Serial ATA-RAID Configuration Utility
    Copyright 2003 Intel Corporation.  All Right Reserved.   vxxxxxxxxx
                        [ Create Array MENU ]

                Name:          RAID Volume 1
                RAID Level:    RAID1(Mirror)
                Strip Size:    128KB
                Capacity:      228.9GB
                   Create Volume

                            [ Help ]



            Press "Enter" to Create the Specified volume.




  [ ↑ ↓ ]-Change  [Tab] - Next     [ESC] - Previous Menu   [Enter] - Select Menu
```

(5-3-4) Press <Y> on the following screen to proceed.

```
         Intel(R) for Serial ATA-RAID Configuration Utility
    Copyright 2003 Intel Corporation.  All Right Reserved.   vxxxxxxxxx
                        [ Create Array MENU ]
                Name:          RAID Volume 1
                RAID Level:    RAID1(Mirror)
                Strip Size:    128KB
                Capacity:      228.9GB
                   Create Volume

        Are you sure you want to create this volume? (Y/N):


            Press "Enter" to Create the Specified volume.



  [ ↑ ↓ ]-Change  [Tab] - Next     [ESC] - Previous Menu   [Enter] - Select Menu
```

(5-3-5) Instantly, the RAID 1 mode is set up and shown on the screen.
Then press <Esc> key to exit the screen.

Intel(R) for Serial ATA-RAID Configuration Utility
Copyright 2003 Intel Corporation. All Right Reserved.   vxxxxxxxxx

[MAIN MENU]

1. Create RAID Volume
2. Delete RAID Volume
3. Reset Disks to Non-RAID
4. Exit

[Disk/Volume Information]

RAID Volumes:

ID	Name	Level	Strip	Size	Status	Bootable
0	RAID_Volume1	RAID1(Mirror)	N/A	114.4GB	Normal	Yes
	ST380023AS	XXXXXXXXX	Port0	114.4GB	Normal	
	Maxtor 6Y120M0	XXXXXXXXX	Port1	115.0GM	Normal	

[↑ ↓]-Select   [ESC] - Exit   [Enter] - Select Menu

(5-3-6) On the next screen, enter Y to confirm exit.

Intel(R) for Serial ATA-RAID Configuration Utility
Copyright 2003 Intel Corporation. All Right Reserved.   vxxxxxxxxx

[MAIN MENU]

1. Create RAID Volume
2. Delete RAID Volume
3. Reset Disks to Non-RAID

[Confirm Exit]

Are you sure you want to exit? (Y/N):

RAID Volumes:

ID	Name	Level	Strip	Size	Status	Bootable
0	RAID_Volume1	RAID1(Mirror)	N/A	114.4GB	Normal	Yes
	ST380023AS	XXXXXXXXX	Port0	114.4GB	Normal	
	Maxtor 6Y120M0	XXXXXXXXX	Port1	115.0GM	Normal	

[↑ ↓]-Select   [ESC] - Exit   [Enter] - Select Menu

5-4 To Install SATA RAID Driver

SATA-RAID Driver is incorporated in Support CD/Floppy Diskette for user's installation. This driver is intended forWinXP/2K only.
Since Intel has not yet provided RAID driver for Win98, ICHR RAID system run with Win98 is not recommended

5-4-1 To Install SATA RAID Driver on Windows 2000/XP

(1) Get ready the Floppy Diskette holding the RAID Driver.
    (This Driver Diskette should have been enclosed in the mainboard Package.)
(2) Check that SATA Hard Disks are connected properly to the SATA Connectors.
(3) Start your PC system and use RAID BIOS Setup Utility to configure RAID 0 or RAID 1 to the hard disks. (For SATA Interface, skip the RAID configuration.)
(4) Restart System and format the bootable hard disks.
(5) Now, apply the Windows 2000/XP CD to CD-ROM for operating system installation.
(6) On the Windows 2000 Setup screen, press "F6" key to set up RAID driver for Windows 2000/XP.

Windows Setup

Press F6 if you need to install a third party SCSI or RAID driver....

(7) On next screen when you are instructed to insert the RAID Driver Diskette into Floppy drive, follow the instruction to continue and complete the installation.

(7) On next screen press "S" to confirm the mass storage device setup.

Windows Setup

**Setup could not determine the type of one or more mass storage
devices installed in your system, or you have chosen to manually
specify an adapter. Currently, Setup will load support for the
following mass storage devices(s):**

<none>

*** To specify additional SCSI adapters, CD-ROM drives, or
special disk controllers for use with Windows, including
those for which you have a device support disk from a
mass storage device manufacturer, press S.**

*** If you do not have any device support disks from a mass
storage device manufacturer, or do not want to specify
additional mass storage devices for use with Windows,
press ENTER.**

S=Specify Additional Device   Enter=Continue   F3=Exit

(8) On next screen apearing, insert the RAID Driver Diskette to Drive
"A" and then press <Enter>.

Windows Setup

Please insert the disk labeled

Manufacturer-supplied hardware support disk

into Drive A:

*   Press ENTER when ready.

Enter=Continue   ESC=Cancel   F3=Exit

(9) On the next screen, you are prompted to install the "Intel(R) 82801ER Controller" driver.
So, press <Enter> on to continue.

Windows Setup

You have chosen to configure a SCSI Adapter for use with Windows, using a device support disk provided by an adapter manufacturer.

Select the SCSI Adapter you want from the following list, or press ESC to return to the previous screen.

Intel(R) 82801ER SATA RAID Controller

Enter=Select   F3=Exit

(10) Next screen will show that you have chosen the RAID device driver to set up. Press Enter to continue, and the Installation Program will then guide you through the rest of system setup.

Windows Setup

Setup will load support for the following mass storage driver(s):

Intel(R) 82801ER SATA RAID Controller

* To specify additional SCSI adapters, CD-ROM drives, or special disk controllers for use with Windows, including those for which you have a device support disk from a mass storage device manufacturer, press S.

* If you do not have any device support disks from a mass storage device manufacturer, or do not want to specify additional mass storage devices for use with Windows, press ENTER.

S=Specify Additional Device   Enter=Continue   F3=Exit

(11) When the system is completely installed, the RAID driver will also be installed into the system.

5-4-2 To run Windows 98SE/ME without ICH5R RAID driver

(1) You may also install Win98/Me on ICH5R RAID system, but there is
no ICH5R RAID driver to support Win98/Me.

(2) In the Win98 system run with RAID configuration, take the following
path to check the system performance:

My Computer/Propertie/Device manager

Click on Performance

**The question mark here
indicates that RAID
Controller Driver
is not installed yet.**
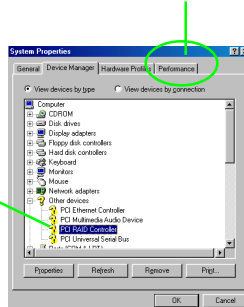
(3) Instantly, the "Performance " page shows up, stating that
Compatibility mode reduces overall system performance.
Win98/Me run in ICH5R RAID configuration is not recommended.

**The system
performance is
reduced.**