Contents

Chapter 1 Specification

Introduction

This mainboard 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 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 865G, South Bridge Intel ICH5 supports the LPC I/O, upstream Hub interface, PCI interface, IDE interface, Serial ATA interface, USB 2.0 interface, and the interrupt control. 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 Mainboard SL-XP865G-3IG Layout
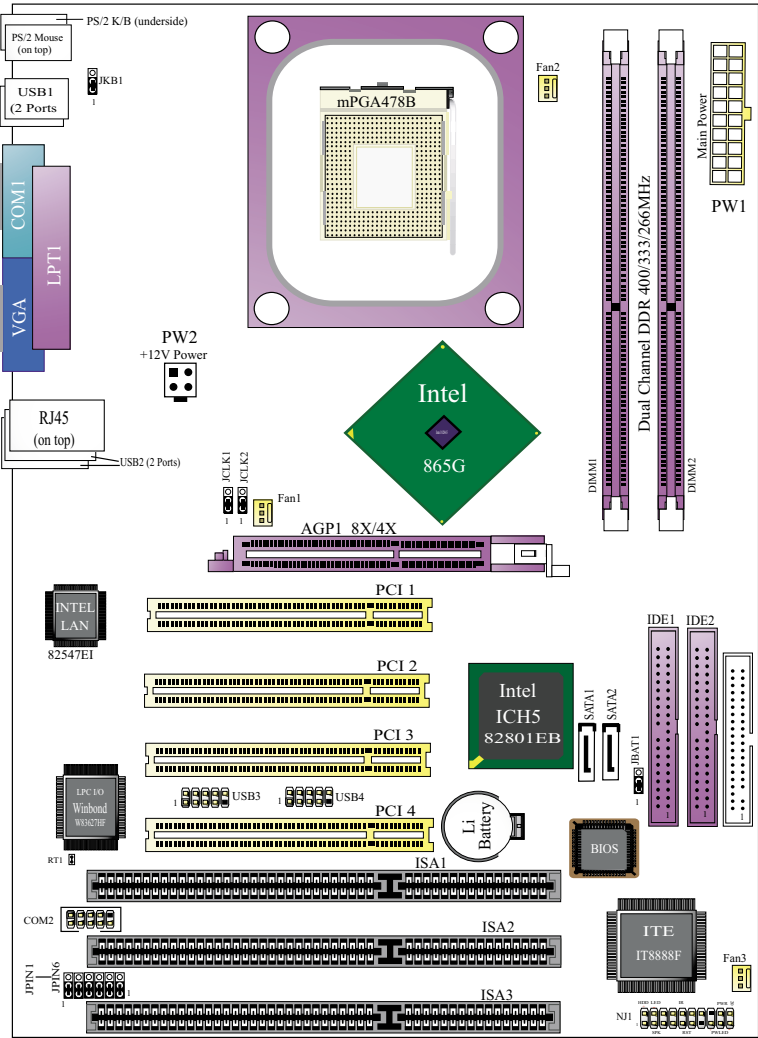
1-2 Chipset System Block Diagram

```
          ┌────────────────────────────────┐
          │    Intel Pentium 4 CPU         │
          │  (Hyper-Threading Included)    │
          └────────────────────────────────┘
                         ↕
                 System Bus 800/533/400MHz

   Intel
   Extreme        ┌──────────────┐        DDR memory
┌─────────┐       │              │        Interface      ┌─────────┐
│ VGA     │ Graphics 2          │  Intel  │                │ System  │
│Connector│──────│ North Bridge │  DDR 400/              │ Memory  │
└─────────┘       │     865G     │  333/266 SDRAM         └─────────┘
┌─────────┐ AGP 8X/4X│          │
│AGP Slot │──────────│          │
│ DVO(digital)       └──────────┘
│ TV Out          266MB/s                 ┌──────────────┐
│ AGP 8X/4X       Hub Interface           │Intel 82547EI │──┌──────┐
│  card                                   │Giga LAN      │  │ RJ45 │
└─────────┘                               └──────────────┘  └──────┘

┌─────────┐ ATA 100/66/33  ┌──────────┐
│ 2 IDE   │────────────────│          │  PCI Bus   ┌──────────┐
│Connectors│               │  South   │────────────│PCI Slots │
└─────────┘  Serial ATA    │  Bridge  │            └──────────┘
┌─────────┐  150Mbytes/sec │          │
│2 SATA ports│─────────────│  ICH5    │            ┌──────────┐  ┌──────────┐
└─────────┘                │          │────────────│ IT8888F  │──│ISA Slots │
┌─────────┐                │          │            └──────────┘  └──────────┘
│ USB     │ USB Bus V2.0   └──────────┘
│ Ports   │────────────────────
└─────────┘

┌──────────────────┐ ┌──────────┐
│RS232/RS422/RS485 │ │ LPC I/O  │
│Serial COM Port   │─│W83627HF  │           ┌──────────┐
└──────────────────┘ └──────────┘           │   BIOS   │
┌──────────────────┐                        └──────────┘
│            IR    │
│           FDD    │
│Mouse/Keyboard    │
│      Serial Port │
│      Printer Port│
│       Game/MIDI  │
│       H/Monitor  │
└──────────────────┘
```

Pentium 4 + Intel 865G + Intel ICH5 Diagram

1-3 Mainboard Specification Table

XP865G-3IG Specifications and Features	
CPU	Socket 478B for P4 CPU(HT CPU included)
North Bridge	Intel 865G, supporting 800/533/400MHz FSB
South Bridge	Intel ICH5
BIOS	AMI BIOS
Memory	Supporting Dual-channel DDR 400/333/266 SDRAM, up to 2GB in 2 DIMM slots
I/O Chip	W83627HF, with Hardware Monitor
Integrated VGA	Intel Extreme Graphics2 integrated in 865G
AGP interface	AGP8X/4X Mode only; 1 AGP Slot on board
IDE Interface	2 UATA 66/100 IDE ports
SATA Interface	2 Serial ATA connectors
PCI Slots	4 PCI Master slots on board
ISA Slot	3 ISA slots on board
I/O Connectors	8 USB2.0 ports, 1 FDD port, 1 COM ports, 1 LPT, 1 RS232/RS422/RS485 Transceiver, 1 IrDA, 1 PS/2 Keyboard, 1 PS/2 Mouse
Networking	Gigabit LAN Controller i82547EI and Connector RJ45
Other Features	Keyboard/Mouse Wake Up

1-4 Mainboard Specifications

1-4.1 CPU Socket

CPU Socket 478B on board, supporting Intel® Pentium 4 processors (including Intel Hyper-Threading CPUs) in 478-pin package for :

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

1-4.2 System Chipsets

North Bridge Intel 865G:
- A high performance integrated chipset providing P4 processor interface (including Hyper-threading Technology), 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 a Hyper Threading CPU.

South Bridge Intel ICH5:
- Supporting the LPC I/O, upstream Hub interface, PCI interface, IDE interface, Serial ATA interface, USB 2.0 interface, and the interrupt control.

1-4.3 Memory

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

1-4.4 AMI BIOS

Flash Memory for easy upgrade, 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)

1-4.5 Integrated Multiplexed AGP and DVO Interface

Integrated multiplexed AGP and DVO interface in 865G, supporting AGP
performance and analog/Digital display:
 • One AGP slot on board, supporting 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 assist for software MPEG/DVD de-
   code
 • Integrated 2D/3D graphics accelerator
 • VGA Driver enclosed in Support CD for user's installation

1-4.6 Multi-I/O Functions
 • Serial ATA Controller integrated in ICH5, supporting:
       -- 2x Serial ATA connectors supporting up to 150MByte/s transfer rate
 • PCI EIDE Controller, supporting:
       -- 2x 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:
       -- One 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 Windows 9X/ME)
       -- 4 built-in USB connectors 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 port (COM1) on board for RS-232 data transfer;
       -- 1serial pin-header (COM2) on board supporting RS-232/422/485 data
          transfer;
 • ISA Bus: 3x ISA slots integrated on board supported by Chipset
   IT8888F for standard ISA cards setup

1-4.7 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)
- Supporting Wake-on-LAN
- Supporting Real Time Clock (RTC) for date alarm, month alarm, and century field configuration

1-4.8 Gigabit LAN on board

Gigabit Fast Ethernet Controller Intel 82547EI 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.

1-4.9 Hardware Monitor on board

- Hardware Monitor supported by W83627HF, 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.

1-4.10 RS232/RS422/RS485 Interface supported

- COM2 is a serial com port supporting RS232/RS422/RS485 interface serial data communications;
- JPIN1 to JPIN6 are jumpers designed to set COM2 to RS232/RS422/ RS485 interface.

1-4.11 Form Factor

- ATX Form Factor, ATX Power Supply, version 2.03 compliant, supported by one Main Power Connector, one +12V Power Connector.
- Mainboard size: 305mm x 220mm

Memo

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 Serial ATA Connectors Installation
2-7 Floppy Drive Connector Installation
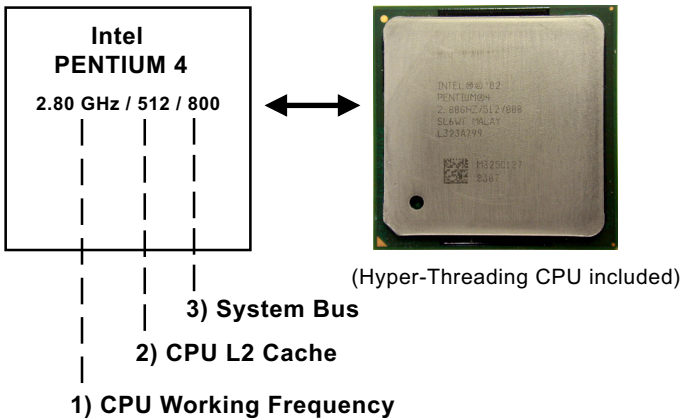**2-8 ATX V2.03 Power Supply Installation**
2-9 Jumper Settings
2-10 Other Connectors Configuration
2-11 PCI/ISA Slot Setup

2-1 CPU Installation with Socket 478B

2-1.1 To Identify a Pentium 4 CPU

(Hyper-Threading CPU included)

3) System Bus

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. The Intel P4 processor with three differeent System Bus mode provides a variety of speeds ranging from 2A Ghz to 3.2Ghz.
   400MHz System Bus: 2.60, 2.50, 2.40, 2.20, 2A GHz
   533MHz System Bus: 3.06, 2.80, 2.66, 2.53, 2.40, 2.26 GHz
   800MHz System Bus: 3.20, 3, 2.80C, 2.60C, 2.40C GHz

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 Bus: this part depicts the System Bus (Front Side Bus) is provided by CPU clock x 4. For example,
   800MHz = 200MHz(CPU clock) x 4; 533MHz = 133MHz x 4
   400MHz = 100MHz x 4

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

Pentium 4 with Hyper Threading Technology :
The new P4 processors at 2.40C, 2.60C, 2.80C, 3, 3.20GHz with an advanced 800MHz system bus and P4 processor at 3.06Ghz with 533MHz system bus support Hyper Threading Technology.

2-1.2 CPU Installation with Socket 478B

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

• Follow the steps described in this section to install the 478-pin Pentium 4 CPU into the on board Socket 478.

• 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.)
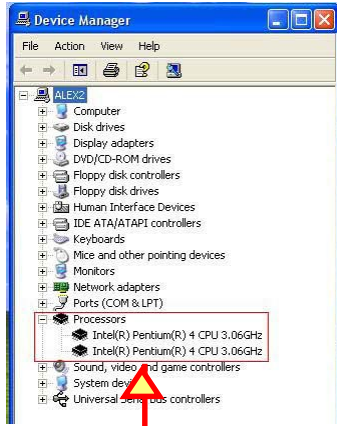
(If Hyper-threading CPU is installed successfully with O/S Win XP, the O/S will enable the dual-in-one CPU function.)

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.
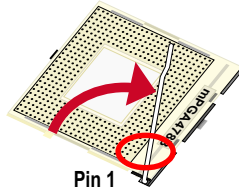
Pin 1

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
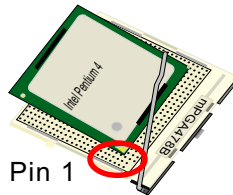
3. Make sure that all CPU pins have completely entered the socket and then lower down the lever to lock up CPU to socket.
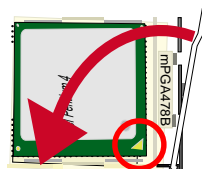
2-2 Pentium 4 CPU Fan Installation

CPU Fan Connector   Pentium 4 Fanbase
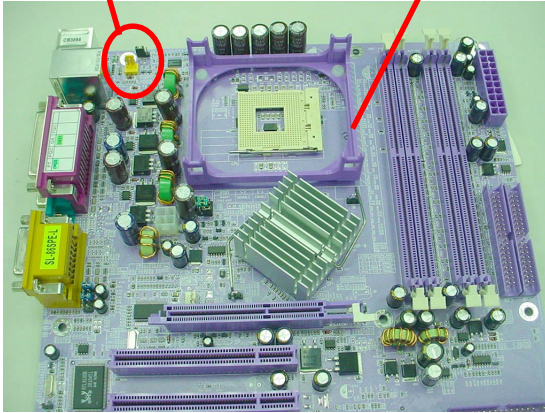
Press down 2 Spring Locks to lock fan to fanbase
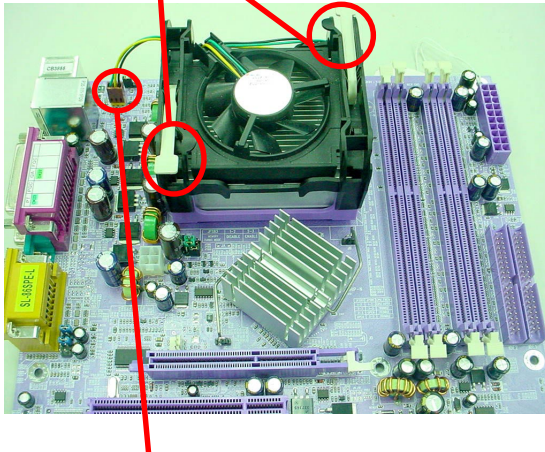
Connect Fan Connector to CPU FAN connector

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

2-3.1 To Install DDR SDRAM Module

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

184-Pin DIMM Notch Key Definitions

DRAM Key Position   Voltage Key Position

(2.5V Voltage Key)DDR Notch

DDR Rib

DIMM1

DIMM2

Module Latch

DIMM1+DIMM2 = Dual Channel Memory
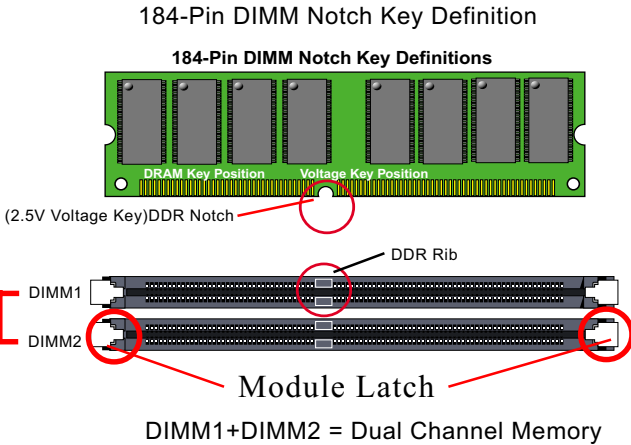
2-3.2 Dual Channel Memory Modules Setup

• To enable Dual Channel memory function, <u>users should insert totally identical (size and frequency) DDR module pair into the bank-pair.</u>
• Dual Channel memory configuration provides higher performance than Single Channel configurations
• Matched DIMMs need to have identical density, DRAM technology, DRAM bus width, and equal number of memory banks.
• This series supports up to 2GB unbuffered Dual-channel DDR 400/333/266 SDRAM, with 2 DDR DIMM slots on board. <u>Do not insert other type of modules into these slots.</u>
• 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.

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 AGP 8X/4X card / 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
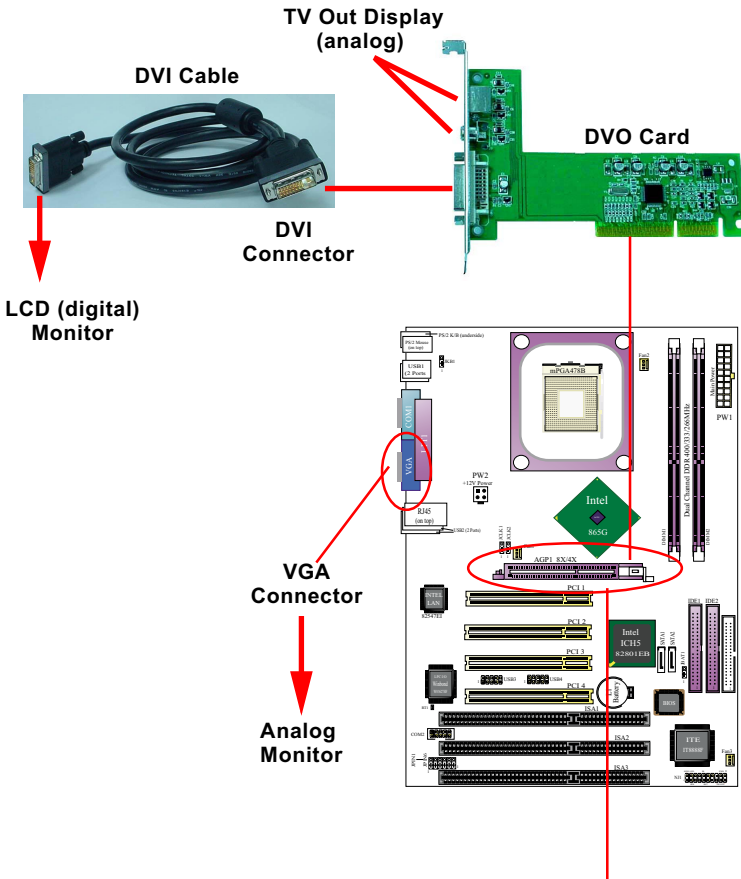
Insert an AGP 8X/4X card / DVO / TV Out card to AGP slot for AGP / DVO / TV Out Display

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2-5 IDE Connectors Installation

To install IDE Connector, you may connect the blue connector of IDE cable to the primary (IDE1) or secondary (IDE2) connector on board, and then connect the gray connector to your slave device and the black connector to your master device. If you install two hard disks, you must configure the second drive to Slave mode by setting its jumpers correctly. Please refer to your hard disk documentation for the jumper settings.

IDE1

IDE2

Hard Disk Drive Connector

Orient the red line on the IDE Flat Cable to Pin1.

Pin 1 (to Red Line)

Gray connector
(To Slave device)

80-conductor cable

Black connector
(To Master Device)

Blue connector
(To Mainboard)

Red line
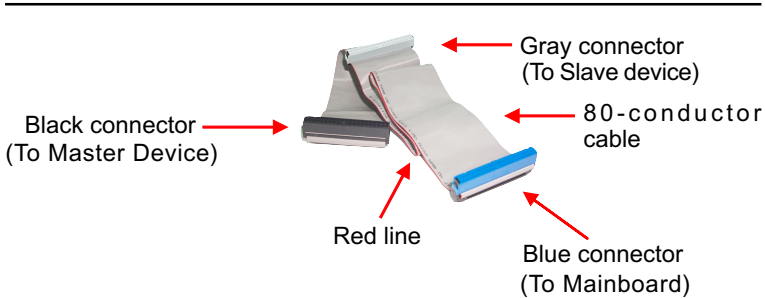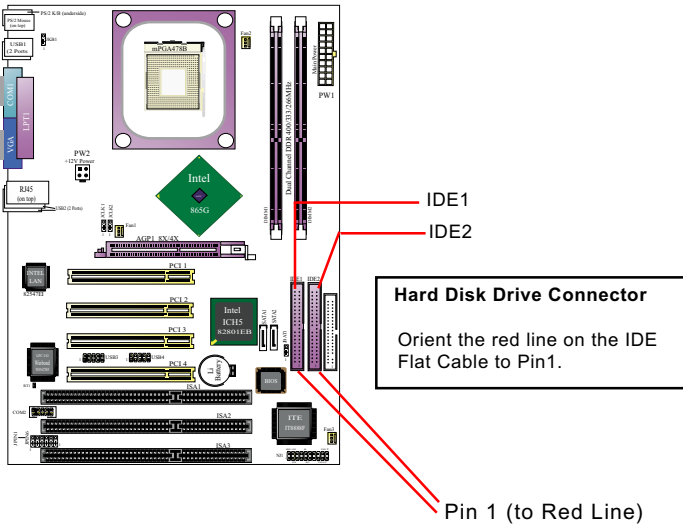
IDE Flat Cable

2-6 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 ICH5 SATA Controller for SATA Hard Disk Drives.

Serial ATA Connectors

Serial ATA Cable

To Power Supply

SATA Power Connectors

Serial ATA Hard Disk

Serial ATA Power Cable
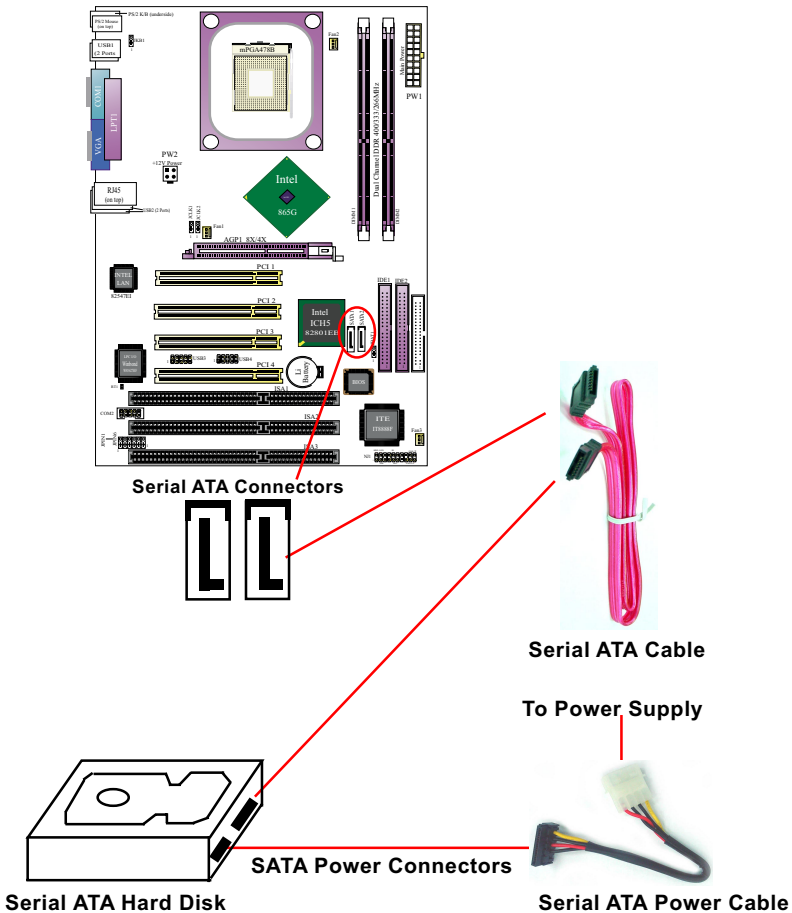
2-7 Floppy Drive Connector Installation

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)

Signal Swap End

To 2nd Floppy Drive

To 1st Floppy Drive

Red line

To Mainboard

FDD Cable

2-8 ATX V2.03 Power Supply Installation

+12V Power Connector

1	2
GND	GND
+12V	+12V
3	4

Main Power Connector (20-pin)

+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
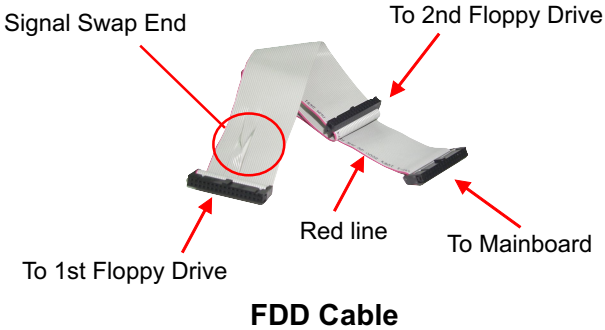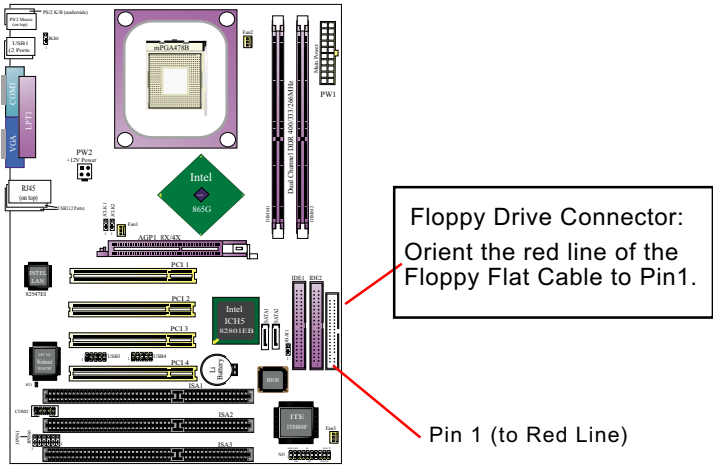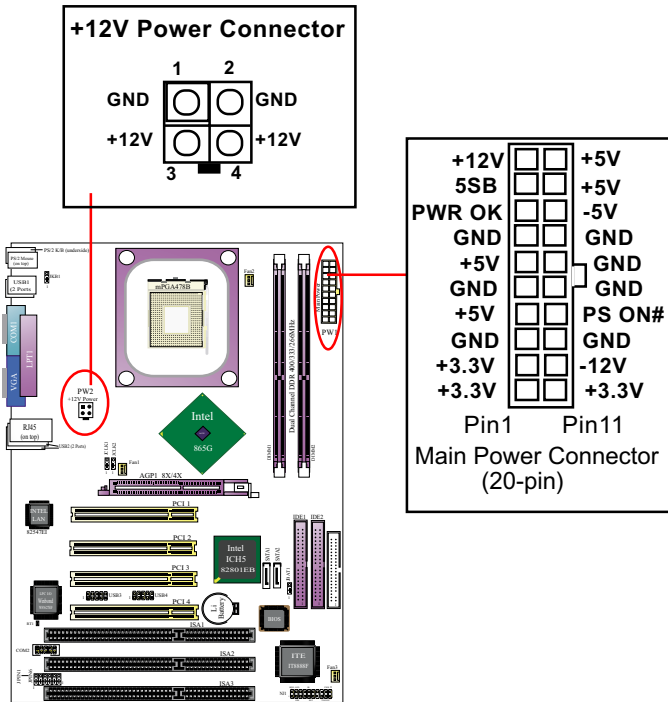
ATX V2.03 Power Supply is strongly recommended for mainboard running with 2GHz or higher CPU.

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.

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2-9 PCI/ISA Slot Setup

• 3xISA slot and 4 PCI slots are designed on board to support PCI/ ISA card installation, which should all be assigned an IRQ for the signal transfer. Generally, the system BIOS will automatically assign an IRQ to every device it can detect at booting. However, in case user wants to assign a typical IRQ for the onboard PCI / ISA device, please enter "PCI/PNP Resource Management of BIOS setup to change the IRQ configuration. (See the BIOS Setup illustration shown below.)

CMOS Setup Utility - Copyright (C) 1985-2002, American Megatrends, Inc.
PCI/PNP Resource Management

Advanced PCI/PNP Settings	Help Item
Warning: Setting wrong values in below sections may cause system to malfunction.	Available: Specified IRQ is available for PCI/PNP devices;
Plug & Play O/S No	Reserved: Specified IRQ is reserved for Legacy ISA devices;
PCI Latency Timer 32	
Allocate IRQ to PCI VGA Yes	
Palette Snooping Disabled	
PCI IDE BusMaster Disabled	
OffBoard PCI/ISA IDE Card Auto	
IRQ3 Available	
IRQ4 Available	
IRQ5 Available	
IRQ7 Available	
IRQ9 Reserved	
IRQ10 Reserved	
IRQ11 Reserved	
IRQ14 Reserved	
IRQ15 Reserved	

4 PCI slots for PCI cards setup

3 ISA slots for ISA cards setup
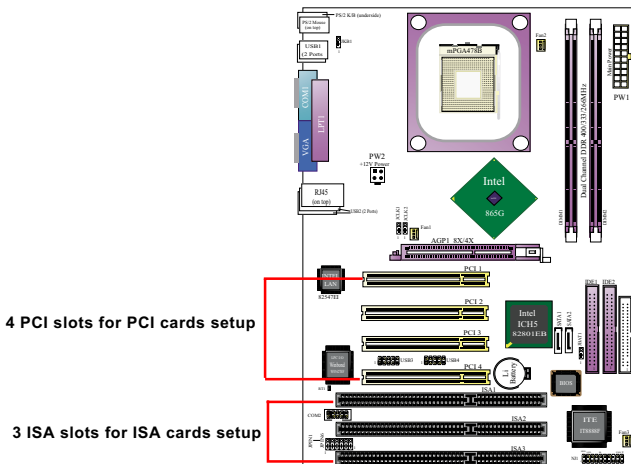
- To see a map of your used and free IRQs in Windows 98, the **Control Panel** in **My Computer**, is incorporated **with System** icon. Click on System icon to reveal a **Device Manager** tab. Double-Clicking on a specific hardware device gives you a **Resources** tab which shows the Interrupt number and address. Double-Clicking **Computer** (on top of the hardware list) to see all the interrupts and addresses of all the hardware devices. Make sure that each ISA device should be assigned to one IRQ respectively. If ISA device shares IRQ with any other device, your computer will easily get into trouble.

Click on "Computer"(on top of hardware list) to reveal IRQ status:

IRQ	Function Description	Priority
IRQ 0	System Timer	1
IRQ 1	Keyboard Controller	2
IRQ 2	Programmable Interrupt	N/A
IRQ 3	Serial Port (COM 2)	11
IRQ 4	Serial Port (COM 1)	12
IRQ 5	Free	13
IRQ 6	Floppy Disk Controller	14
IRQ 7	Parallel Port (LPT1)	15
IRQ 8	Real Time Clock (RTC)	3
IRQ 9	Free	4
IRQ 10	Free	5
IRQ 11	Free	6
IRQ 12	PS/2 Mouse Port	7
IRQ 13	Coprocessor	8
IRQ 14	Primary IDE Channel	9
IRQ 15	Secondary IDE Channel	10

2-10 Jumper Settings

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

JCLK1& JCLK2: CPU Frequency Select			
(default) **AutoDetect** 100/ 133/ 200MHz	**100MHz** (FSB400)	**133MHz** (FSB533)	**200MHz** (FSB800)
JCLK1 ▨ JCLK2 1 1	JCLK1 ▨ JCLK2 1 1	JCLK1 ▨ JCLK2 1 1	JCLK1 ▨ JCLK2 1 1

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

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

COM2

JPIN1-JPIN6 RS-232/422/485 selection for COM2						
JPIN1-JPIN6	JPIN1	JPIN2	JPIN3	JPIN4	JPIN5	JPIN6
Jumpers Settings for RS-232 (default)	1-2	1-2	1-2	1-2	1-2	1-2
Jumpers settings for RS-422	2-3	2-3	2-3	2-3	2-3	1-2
Jumpers settings for RS-485	2-3	2-3	2-3	2-3	2-3	2-3

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2-10.0 How to tackle the Jumpers:

1 2 3

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, <u>this header is called a jumper in this manual.</u>

A 2-pin Jumper Cap

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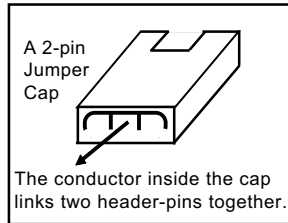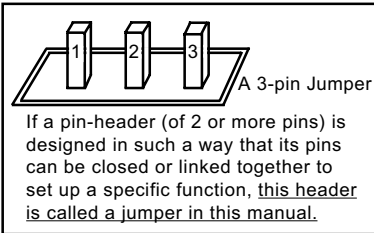
• A Jumper is usually but not necessarily given a "JpX" legend.
• In the Jumper setting diagram, the jumper pins covered with black marks stand for closed pins with jumper cap.

Jp X

1 ◯◼◼◯ 3   1 ◯◯◯ 3   1 ◼◼◯◯ 3

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.

2-10.1 JCLK1 & JCLK2: CPU Frequency Select

JCLK1 & JCLK2 are designed on board to support CPU Frequency selection for booting system.
1. Setting JCLK1 and JCLK2 to 1-2 closed will allow CPU on board to Auto Detect its own frequency.
2. Setting JCLK1 and JCLK2 to 2-3 closed is for 100MHz CPU or 400MHz FSB to boot system..
2. Setting JCLK1 2-3 closed and JCLK2 all open is for 133 MHz CPU.
3. Setting JCLK1 all open and JCLK2 2-3 closed is for 200 MHz CPU.
4. If an overclock is used to boot system, 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.)

JCLK1& JCLK2: CPU Frequency Select			
(default) AutoDetect 100/ 133/ 200MHz	**100MHz** (FSB400)	**133MHz** (FSB533)	**200MHz** (FSB800)
JCLK1 ▨ ▨ JCLK2	JCLK1 ▨ ▨ JCLK2	JCLK1 ▨ ▨ JCLK2	JCLK1 ▨ ▨ JCLK2

2-10.2 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
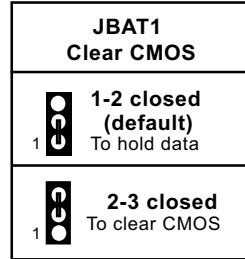
2-10.3 JPIN1-JPIN6: RS-232/422/485 selection for COM2

JPIN1 to JPIN6 are designed to select RS232/RS422/RS485 interface for serial connector COM2 setup.

JPIN1-JPIN6 RS-232/422/485 selection for COM2						
JPIN1-JPIN6	JPIN1	JPIN2	JPIN3	JPIN4	JPIN5	JPIN6
Jumpers Settings for RS-232 (default)	1-2	1-2	1-2	1-2	1-2	1-2
Jumpers settings for RS-422	2-3	2-3	2-3	2-3	2-3	1-2
Jumpers settings for RS-485	2-3	2-3	2-3	2-3	2-3	2-3

2-10.4 JKB1: Keyboard/Mouse Wake Up

Jumper JKB1 is designed on board to en-able or disable the PS/2 Keyboard/Mouse wake-up from suspend mode function.
(USB device Wake-up function is optionally built in. If USB Wake-up function is chosen by users, it should be first enabled vy BIOS setup. See ACPI Configuration in BIOS Setup.)

JKB1: Keyboard / Mouse Wake Up
1-2 closed (default) Disabled
2-3 closed Enabled
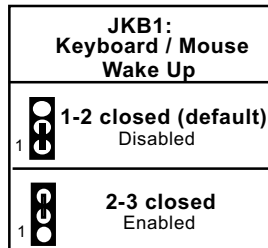
2-11 Other Connectors Configuration

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

2-11.1 On Board Fan Connectors
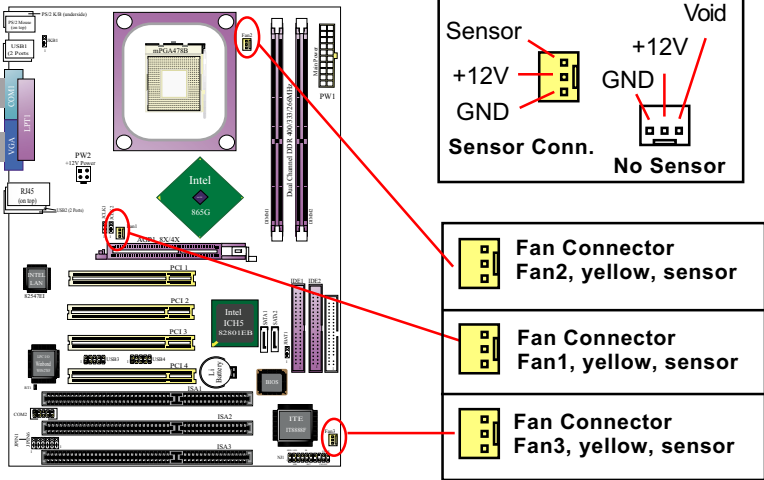
Sensor Fan Connectors support detection of the cooling fan speed.
FAN1: Sensor Fan connector, supporting CPU cooling Fan setup.
FAN2: Sensor Fan connector, supporting chipset or add-on card cool
ing Fan setup.
FAN3: Sensor Fan connector, supporting system cooling Fan setup.

2-11.2 Thermal Detector

RT1 is a thermal detector built on board
to detect system temperature.

Thermal Detector RT1

RT1

RT1 is mounted
with Thermal Detector
by default for detecting
system temperature.

2-11.3 USB Ports and USB Pin-headers

This mainboard provides four USB ports on board supporting various USB devices. In addition, two USB pin-headers are added on board to provide expansion of four more optional USB ports by using two 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 Windows 2000 and up (no support for Windows 9X/ME). Please see Chapter 3 for USB2.0 Installation.

USB connectors(USB2 is under RJ45)

USB Cable (Optional)

USB Port

Red wire

Header USB3 for 2 USB ports   Header USB4 for 2 USB ports

First USB Port Wiring for Front USB

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

USB Header Pin Assignment

10

1

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

Second USB Port Wiring for Front USB

2-11.4 Chassis Panel Connectors
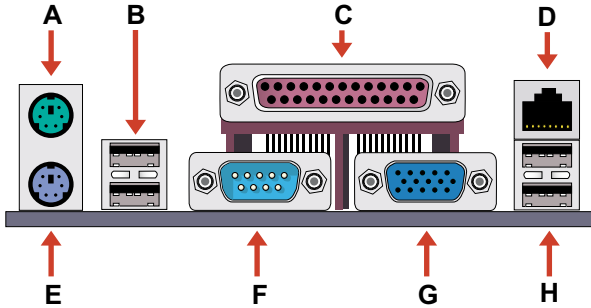
A **: PS/2 Mouse** **F** **: COM1 Connector**
B **: USB 1 (2 ports)** **G** **: VGA Connector**
C **: LPT1 Port** **H** **: USB 2 (2 ports)**
D **: RJ45**
E **: PS/2 Keyboard**

2-11.5 LAN Connector on Back Panel

One RJ45 connector is on Back Panel 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.

2-11.6 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**
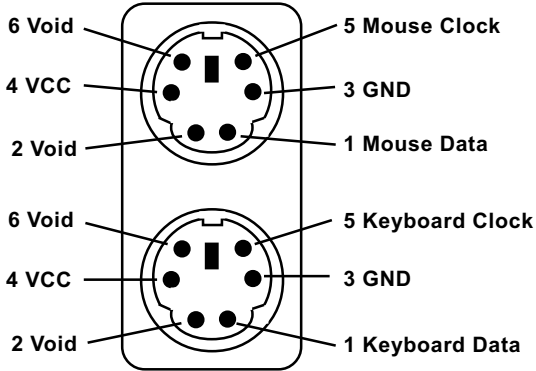
(PS/2 Keyboard Connector: Underside, purple)

2-11.7 COM2 for RS232/RS422/RS485 setup

COM2 is a serial com port supporting RS232/RS422/RS485 interface serial data communications. JPIN1 to JPIN6 are jumpers designed to set COM2 for RS232/RS422/RS485 interface.

**COM2
Pin Assignment
for RS-232**

Pin 6 DSR-
Pin 7 RTS
Pin 8 CTS
Pin 9 RI-

Pin 1 DCD-
Pin 2 SIN
Pin 3 SOUT
Pin 4 DTR-
Pin 5 GND

**COM2
Pin Assignment
for RS-422/485**

Pin 6 DSR-
Pin 7 RTS
Pin 8 CTS
Pin 9 RI-

Pin 1 TxDC-
Pin 2 TxDC+
Pin 3 RxDC+
Pin 4 RxDC-
Pin 5 GND

1

COM2 Header

Serial Cable
(optional)

9-pin Serial Connector

Red Line to Pin 1

COM2 female
Connector

JPIN1-JPIN6 RS-232/422/485 selection for COM2						
JPIN1-JPIN6	JPIN1	JPIN2	JPIN3	JPIN4	JPIN5	JPIN6
Jumpers Settings for RS-232 (default)	1-2	1-2	1-2	1-2	1-2	1-2
Jumpers settings for RS-422	2-3	2-3	2-3	2-3	2-3	1-2
Jumpers settings for RS-485	2-3	2-3	2-3	2-3	2-3	2-3

2-11.8 Complex Pin-header

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.
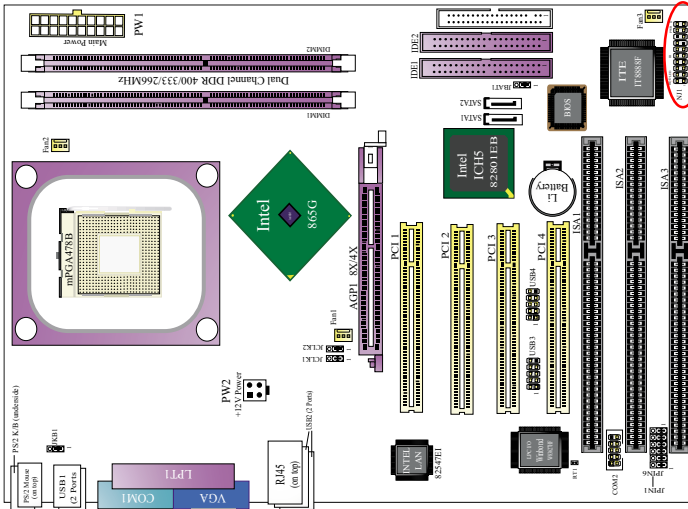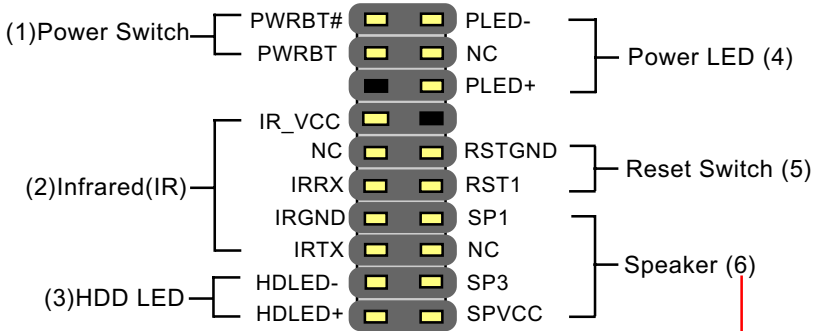
(1) Power Switch Connector:

Connection**:** Connected to a momentary button or switch.
Function: Manually switching the system between "On" and "Soft Off". Pressing the momentary button for more than 4 seconds will also turn the system off.

(2) IR Connector (Infrared Connector):

Connection: Connected to Connector IR on board.
Function: Supporting wireless transmitting and receiving module on board.

(3) HDD LED Connector:

Connection: Connected to HDD LED.
Function: To supply power to HDD LED.

(4) Power LED Connector:

Connection: Connected to System Power LED.
Function: To supply power to "System Power LED".

(5) Reset Switch Connector:

Connection: Connected to case-mounted "Reset Switch".
Function: To supply power to "Reset Switch" and support system reboot function.

(6) Speaker Connector:

Connection: Connected to the case-mounted Speaker.
Function: To supply power to the case-mounted Speaker.

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 introduce the installations of all these essential drivers and utilities on Windows 9X, Windows ME, Windows 2000 and Windows XP. And installation on Windows 2K is taken as the general illustration hereby.

3-1 To Open up the Support CD
3-2 To Install Intel Chipset Software Installation Utility
3-3 To Install DirectX
3-4 To Install Graphics Driver
3-5 To Install Hardware Monitor Utility
3-7 To Install LAN Drivers
3-8 To Install Intel USB V2.0 Drivers

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 will 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.
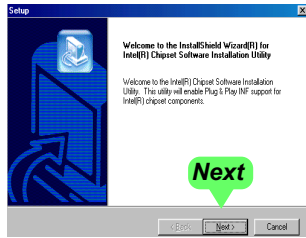
3. **"Intel Software License Agreement"** screen will appear, please click the **"Yes"** button to agree with the Licence Agreement and continue.
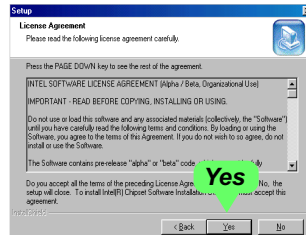
4. After all the setup process is finished, please restart your computer by clicking on "Finish" so as to take the Utility into effect.
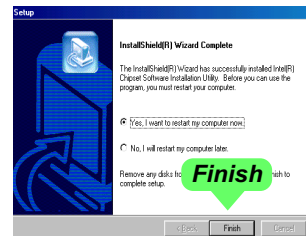
3-3 DirectX Installation (for Win98se/Me)

Following the installation of INF, you have to restart system so that your system can be reconfigured with the driver just installed. When restarting procedures finish, please open the Support CD with your CD-ROM to enter the Main Installation Menu.

Then click to "Install DirectX". This utility will support a better graphic display of the built-in VGA interface. Please note that DirectX installation is neededfor Windows 98SE/ME only, because WinXP/2K is already incorporated with DirectX.

1. When the screen of "Microsoft DirectX 8.X Setup" appears, please press "Yes" button to continue.
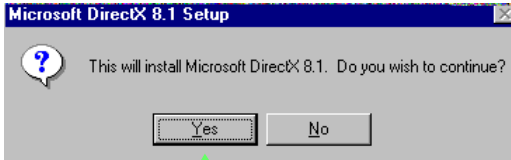
2. After all the setup procedures have completed, click to "OK" button to exit the Installation program and re-start your system.
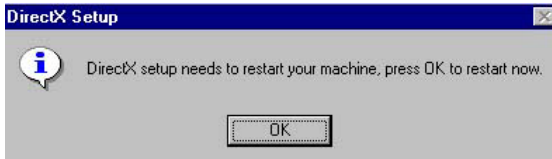
3-4 Graphics Driver Installation

Following the installation of IAA, you have to restart system so that your system can be reconfigured with the utility. 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.
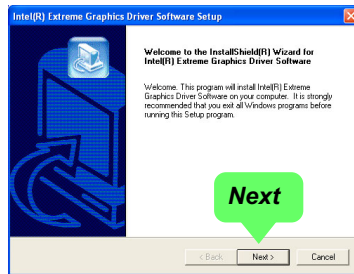
3. On the "Licence Agreement" screen, click on "Yes" to continue.
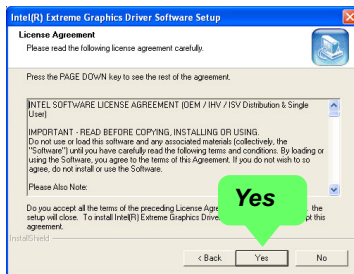
3. After all the setup procedures have completed, click to "Finish" button to exit the Installation program and restart your system.

41
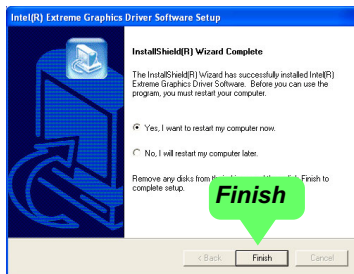
3-5 To Install Hardware Monitor Utility

3-5.1 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.
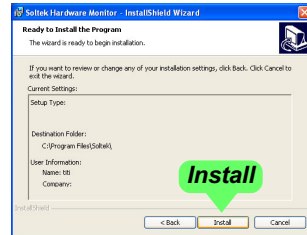
4. After all the setup process
   is finished, click "Finish" to
   exit the wizard.
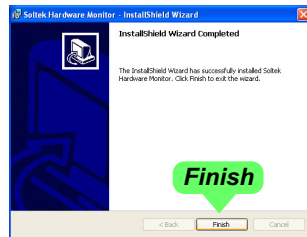
3-5.2 Verification

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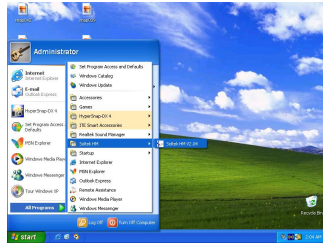
2. Then the pop-up screen will show all information about CPU Temperature, Fan Speed and various Voltages.

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.

3-6 To Install LAN Drivers

3-6.1 Intel 82547EI LAN driver on Windows ME / 2000 / XP

The LAN driver contained in the Support CD is not included in the Autorun Menu. To install Intel 82547EI LAN driver on Windows 2000 / XP, please follow the steps shown below:

1. On the "Start" screen of your system, please click to the following path:

   \My Computer\Properties\Hardware\Device manager (on 2000/XP)

   \My Computer\Properties\Device manager (on ME)

2. In the "Device manager" screen, you can see the item " PCI Ethernet Controller" with a yellow question mark on its left side, which indicates that the LAN controller is already detected by system but the driver for this on-board Intel 82547EI Ethernet Controller is not installed yet. Please point to this item with your mouse and double click on it.

3. Instantly, the "PCI Ethernet Controller Properties" screen shows up. Please click the "General" bar to continue.

4. In the "General" screen, click "Reinstall Driver" button to continue.

This picture is taken from Windows XP
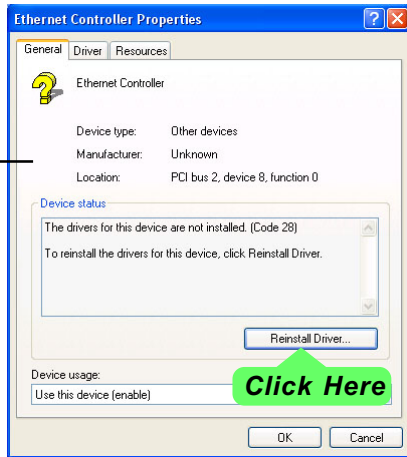
5. The "Hardware Update Wizard" will guide you through all setup and install the driver of the Ethernet controller completely.

6. When the "Finish" screen shows up, click "Finish" to end the LAN driver installation. Finally a Dialog box will appear to remind you that you must restart your computer to put the new driver into effect. Please click "Yes" to restart system and finish the LAN driver installation.

3-6.2 Intel 82547EI LAN driver on Windows 9X

The LAN driver contained in the Support CD is not included in the Autorun Menu. To install Intel 82547EI LAN driver on Windows 9X, please follow the steps shown below:

1. On the "Start" screen of your system, please click to the following path:

    \My Computer\properties\Device manager

2. In the "Device manager" screen, you can see the item " PCI Ethernet Controller" with a yellow question mark on its left side, which indicates that the LAN controller is already detected by system but the driver for this on-board Intel 82547EI Ethernet Controller is not installed yet. Please point to this item with your mouse and double click on it (or click the "Properties" button).

3. Instantly, the "PCI Ethernet Controller Properties" screen shows up. Please click the "General" bar to continue.

4. In the "General" screen, click "Reinstall Driver" button to continue. Please note that the status of "Device Usage" should stay at "Exists in all hardware profiles".

5. In the "Update device Driver Wizard" screen, click "Next" to continue until you see a dialog box asking you to "Specify a location" for the driver. You should **now** insert the Support CD into your CD-ROM.

6. As illustrated in the picture below, check the item "Specify a location" and click the "Browse" button to find out the correct path for the driver. Supposing your CD-ROM drive is Drive E, please type:
   E:\Driver\Network\Intel_LAN\GIGABPS\Win9x_me\Win_98me into the blank bar. Then click the "Next" button to continue.
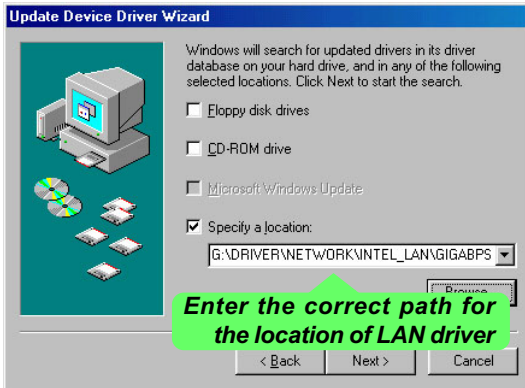
7. The Update Device Driver Wizard will then go on installing the driver, until the "Insert Disk" dialog box shows up. Please withdraw your Support CD and insert the Windows 98 CD-ROM into the CD-ROM drive for updating system and click "OK" to continue.
8. The Update Device Driver Wizard will then proceed to update the system with the LAN driver. When the "Finish" screen shows up, click "Finish" to continue.
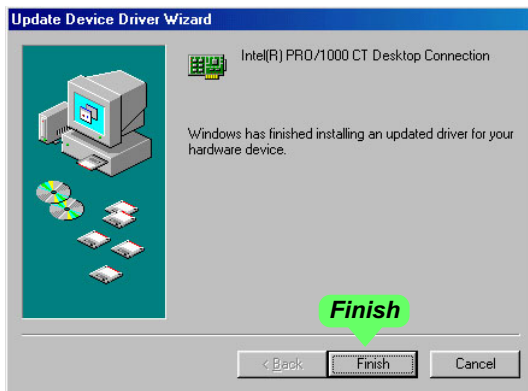
9. Final Dialog box will appear to remind you that you must restart your computer to put the new driver into effect. Please click "Yes" to restart system and finish the LAN driver installation.

3-7 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. For archieving 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.)

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.
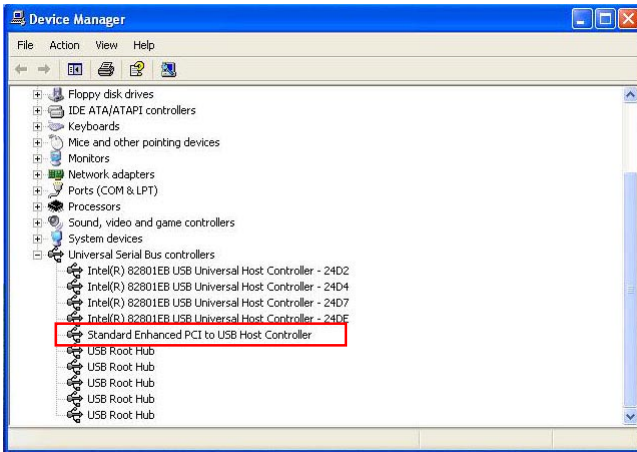
Chapter 4 AMI BIOS Setup

THE BIOS

BIOS stands for Basic Input and Output System. It was once called ROM BIOS when it was stored in a Read-Only Memory (ROM) chip Now manufacturers would like to store BIOS in EEPROM which means Electrically Erasable Programmable Memory. BIOS used in this series of mainboard is stored in EEPROM, and is the first program to run when you turn on your computer.

BIOS performs the following functions:
1. Initializing and testing hardware in your computer (a process called "POST", for Power On Self Test).
2. Loading and running your operating system.
3. Helping your operating system and application programs manage your PC hardware by means of a set of routines called BIOS Run-Time Service.

This Chapter includes the following topics :
4-1 About BIOS Setup
4-2 To Run BIOS Setup
4-3 About CMOS
4-4 The POST (Power On Self Test)
4-5 To Update BIOS
4-6 BIOS Setup

Attention: The BIOS Setup is subject to constant update without further notice to users. It is necessary for users to update the onboard BIOS by the latest BIOS version provided in our web site: www.soltek.com.tw

4-1 About BIOS Setup

BIOS setup is an interactive BIOS program that you need to run when:
1. Changing the hardware of your system. (For example: installing a new Hard Disk etc.)
2. Modifying the behavior of your computer. (For example: changing the system time or date, or turning special features on or off etc.)
3. Enhancing your computer's behavior. (For example: speeding up performance by turning on shadowing or cache)

4-2 To Run BIOS Setup

First access BIOS setup menu by pressing < DEL > key after "POST" is complete (before OS is loaded). BIOS will then display the following message:

```
DEL:SETUP
```

4-3 About CMOS

CMOS is the memory maintained by a battery. CMOS is used to store the BIOS settings you have selected in BIOS Setup. CMOS also maintains the internal clock. Every time you turn on your computer, the BIOS Looks into CMOS for the settings you have selected and configures your computer accordingly. If the battery runs out of power, the CMOS data will be lost and POST will issue a "CMOS invalid" or "CMOS checksum invalid" message. If this happens, you have to replace the battery and check and configure the BIOS Setup for the new start.

4-4 The POST (Power On Self Test)

POST is an acronym for Power On Self Test. This program will test all things the BIOS does before the operating system is started. Each of POST routines is assigned a POST code, a unique number which is sent to I/O port 080h before the routine is executed.

4-5 To Update BIOS

• System BIOS is incorporated into a Flash memory component. Flash BIOS allows user to upgrade BIOS without the need to replace an EPROM component.
• The Upgrade Utility can be loaded on a floppy diskette for upgrading saving, and verifying the system BIOS. The Update Utility can also be run from a hard disk drive or a network drive.

- It is highly recommended that you save a copy of the original mainboard BIOS along with a Flash EPROM Programming utility (amiflash.exe) to a bootable floppy disk so that you can reinstall the BIOS when in need.

- Normally, to update BIOS is unnecessary if the system is working fine. Users should only update BIOS when incompatible problems are encountered or new features have to be added to system.

- "AMI.EXE" is a Flash EPROM Programming utility that updates the BIOS by uploading a new BIOS file to the programmable flash ROM on the mainboard. This program only works in *DOS environment, the utility can not be executed in Windows 95/98, ME, NT, 2000 or Windows XP environment.*

• Please follow the steps below for updating the system BIOS:

Step 1. Please visit the board maker's website, download the zip files of the latest BIOS and AMI flash utility "**amiflash.exe**" for your mainboard. After unzipping, the BIOS file format will be *.ROM, of which " * " stands for the specific BIOS file name.

Step 2. Create a bootable diskette. Then copy the BIOS file and AMI flash utility "**amiflash.exe**" into the diskette.

Step 3. Insert the diskette into drive A, boot your system from the diskette.

Step 4. Under " A " prompt, type **" amiflash *.ROM "** and then press <Enter> to run BIOS update program. (*.ROM depends on your mainboard model and version code. Instead of typing "*", you should type the specific file name for your specific mainboard). For example, you may type "amiflash MP005.rom ".

Step 5. When the message "Flash ROM Update Completed - Pass." appears, please restart your system.

Step 6. You will see a message "CMOS Memory Size Wrong" during booting the system. Press <Del> or <F1> to run CMOS setup utility, then reload "Load Failsafe Defaults" or **"Load Optimal Defaults"** and save this change.

4-6 BIOS SETUP --- CMOS Setup Utility

4-6.1 CMOS Setup Utility

This mainboard comes with the AMI BIOS from American Megatrends Inc. Enter the CMOS Setup Utility Main Menu by:

1. Turn on or reboot your system. After a series of diagnostic checks, the following message will appear:

PRESS <Del> TO RUN SETUP

2. Press the <Del> key and the main program screen will appear as follows.

CMOS Setup Utility - Copyright (C) 1985-2002, American Megatrends, Inc.

▶ Standard BIOS Features	▶ BIOS Security Features
▶ Advanced BIOS Features	Save Changes and Exit
▶ Advanced Chipset Features	Discard Changes and Exit
▶ PCI/PNP Resource Management	Load Optimal Defaults
▶ Boot Configuration Setup	Discard Changes

↑↓←→ : Move   Enter : Select   +/- : Values   F10: Save   Esc: Exit   F1: General Help
F7 : Previous Values   F8 : Fail-Safe Defaults   F9: Optimize Defaults

Configure Time and Date.   Display System Information ...

3. Use the arrow keys on your keyboard to select an option, and press <Enter>. Modify the system parameters to reflect the options installed in your system.
4. You may return to the Main Menu anytime by pressing <Esc>.
5. In the Main Menu, "Save Changes and Exit" saves your changes and reboots the system, and "Discard Changes and Exit" ignores your changes and exits the program.

6. In entering the Main option of the Main Menu, please use the functions in the Function List to configure the setting:

↑↓←→ : Move   Enter : Select   +/- : Values   F10: Save   Esc: Exit   F1: General Help
F7 : Previous Values   F8 : Fail-Safe Defaults   F9: Optimized Defaults

Use [Enter], [Tab] or [Shift-Tab] to select a field.
Use [+] or [-] to choose the options.

<F1>: "General Help" provides explanations of the hot-key functions available.
<F7>: "Previous values" allows user to discard previous values or not.
<F8>: "Fail-safe defaults" allows user to load Fail-safe Defaults or not. Save and Exit Setup.
<F9>: "Optimized Defaults" alows user to load Optimal Defaults or not.

Attention: The BIOS Setup is subject to constant update without further notice to users. It is necessary for users to update the onboard BIOS by the latest BIOS version provided in our web site: www.soltek.com.tw

4-6.2 Standard BIOS Features

"Standard BIOS Features" allows users to configure Time and Date. This menu also displays system information.

Run the Standard BIOS Features as follows:
Choose "Standard BIOS Features" from the Main Menu and press <Enter>. The following screen will appear:

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Standard BIOS Features

System Overview	Help Item
AMIBIOS	Use [Enter], [Tab] or [Shift-Tab] to select a field.
Version : 08.00.10	
Build Date : 11/27/03	Use [+] or [-] to configure system Time.
ID : 865GL011	
Processor	
Type : Intel(R) Pentium(R) 4 CPU 1500MHz	
Speed : 1500MHz	
Count : 1	
System Memory	
Size : 256MB	
System Time **09 : 25 : 29**	
System Date **Mon 12/01/2003**	

↑↓←→ : Move   Enter : Select   +/- : Values   F10: Save   Esc: Exit   F1: General Help
F7 : Previous Values   F8 : Fail-Safe Defaults   F9: Optimized Defaults

AMIBIOS/Processor/System memory
These three items only show the respective current statuses. They cannot be changed in the BIOS Setup.

System Time
The BIOS shows the time of the day in the format: hh:mm:ss. Choose the field with the Arrow keys and change the time with the Page Up/Page Down +/- keys.

System Date
The BIOS shows the date of the day in the format: mm:dd:yy :day of the Week. Choose the field with the Arrow keys and change the value with the Page Up/Page Down +/- keys.

4-6.3 Advanced BIOS Features

Advanced BIOS Features allows user to configure HDD, Floppy, Serial Port, Parallel Port etc....
Run the Advanced BIOS Features as follows:

Choose "Advanced BIOS Features" from the Main Menu and a screen with a list of options will appear:

CMOS Setup Utility - Copyright (C) 1985-2002, American Megatrends, Inc.
Advanced BIOS Features

Advanced Settings	Help Item
Warning: Setting wrong values in below sections may cause system to malfunction.	
▶ CPU Configuration Press Enter	
▶ IDE Configuration Press Enter	
▶ Floppy Configuration Press Enter	
▶ SuperIO Configuration Press Enter	
▶ Hardware Health Configuration Press Enter	
▶ ACPI Configuration Press Enter	
▶ USB Configuration Press Enter	
▶ Power Management Press Enter	
▶ Clock Configuration Press Enter	

4-6.3.1 CPU Configuration

Choose "CPU Configuration" in "Advanced BIOS Features" and press <Enter>. The following sub-screen will appear for configuration:

CPU Configuration

Configure advanced CPU settings	**Help Item**
Manufacturer : Intel Brand String : Intel(R) Pentium (R) 4 CPU 1500MHz Frequency : 1500MHz FSB Speed : 400MHz Cache L1 :8KB Cache L2 :512KB Ratio Status : Locked Ratio Actual Value : 15 Ratio CMOS Setting : 8 Hyper Threading Technology Enabled	Sets the ratio between CPU core clock and the FSB Frequency. Note: If an invalid ratio is set in CMOS, then actual and setpoint values may differ.

Manufacturer	BIOS shows the current manufacturer of on-board CPU.
Brand String	BIOS shows the current brand of on-board CPU.
Frequency	BIOS shows the current on-board CPU frequency.
FSB Speed	BIOS shows the current Front Side Bus of the on-board CPU.
Cache L1/L2	BIOS shows the actual CPU internal Level 1/2 cache size.
Ratio Status	BIOS shows the current ratio (multiplier) status of on-board CPU. For P4 CPUs, the ratio is usually locked.
Ratio Actual Value	BIOS shows the actual CPU ratio.
Ratio CMOS Setting	BIOS shows the CPU Ratio in CMOS. If an invalid ratio is set in CMOS, then actual and setpoint values may differ.
Hyper Threading Technology	BIOS shows the current status of Hyper Threading Technology. If a Hyper Threading CPU is running on board, this item will show "Enabled" status. If a Hyper-threading CPU is not on-board, this item shows "Disabled".

4-6.3.2 IDE Configuration

Choose "IDE Configuration" in "Advanced BIOS Features" and press
<Enter>. The following sub-screen will appear for IDE Devices
configuration:

IDE Configuration

IDE Configuration		Help Item
IDE Configuration	P/S-ATA (Auto)	
S-ATA Running Enhanced Mode	Yes	
P-ATA Channel Selection	Both	
S-ATA Ports Definition	P0-3rd./P1-4th	
▶ Primary IDE Master	Hard Disk	
▶ Primary IDE Slave	Hard Disk	
▶ Secondary IDE Master	Not Detected	
▶ Secondary IDE Slave	ATAPI CDROM	
▶ Third IDE Master	Not Detected	
▶ Fourth IDE Master	Not Detected	
Hard Disk Write Protect	Disabled	
IDE Detect Time Out (Sec)	35	
ATA(PI) 80Pin Cable Detection	Host & Device	

4-6.3.2-1 IDE Configuration

IDE Configuration
Allows you to configurare IDE device mode.
Choices: Disabled; P/S-ATA (Auto); S-ATA Only; P/S-ATA(Win98/Me)
**P/S-ATA(Auto): Parallel/Serial ATA combined mode, providing the
following items for user's configuration:**
  S-ATA Running Enhanced Mode (Combined Mode Option):
   Yes: If "Yes", configure the following:
    P-ATA Channel Selection:
     Primary; Secondary; Both;
    S-ATA Ports Definition:
     P0-3rd./P1-4th.; P0-4th./P1-3rd.
   No: If "No", configure the following:
    P-ATA Channel Selection:
     Primary; Secondary; Both;

**S-ATA Only: for S-ATA running on board only; providing following items
for user's configuration:**
  S-ATA Ports Definition:
   P0-1st./P1-2nd;
   P0-2nd./P1-1st;

**P/S-ATA(Win98/Me): for P/S-ATA in Win98/Me; providing the
following items for user's configuration:**
  Combined Mode Option:
   P-ATA 1st Channel;
   S-ATA 1st Channel;
  S-ATA Ports Definition:
   P0-Master/P1-Slave;
   P0-Slave/P1-Master;
Disabled: IDE Configuration disabled.

4-6.3.2-2 Primary/Secondary IDE Master/Slave and Third/Fourth IDE Master

▶ 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

If any IDE device is detected in any one of the above items press <Enter> to reveal the IDE information:

Primary/(Secondary/Third/Fourth) IDE Master/(Slave)

Primary/(Secondary/Third/Fourth) IDE Master/(Slave)	Help Item
Device : Hard Disk Vendor : WDC WD400BB-00DEA0 Size : 40.0GB LBA Mode : Supported Block Mode : 16Sectors PIO Mode : 4 Async DMA : MultiWord DMA-2 Ultra DMA : Ultra DMA-5 S.M.A.R.T. : Supported	
Type Auto LBA/Large mode Auto Block (Multi-Sector Transfer) Auto PIO Mode Auto DMA Mode Auto S.M.A.R.T. Auto 32Bit Data Transfer Disabled	

Type
To select the types of the IDE devices:
  Not Installed;
  Auto: Setting type automatically
  CD-ROM: ATAPI (Packet Interface) CD-ROM drive
  ARMD: ATAPI Removable Media Device
LBA/Large mode
 To select or disable LBA/Large mode.

Block (Multi-Sector Transfer)
 To select or disable Block Mode. The data transfer from and to the device occurs one
 sector or multiple sectors at a time.
PIO Mode
 To select or disable PIO Mode.
 Choices: Disabled; 1, 2, 3, 4
DMA Mode
 To select DMA Mode.
 Choices: Auto; SWDMAn; MWDMAn; UDMAn
S.M.A.R.T
 Allows you to enable / disable the Self Monitoring Analysis and Reporting Technology for the
 hard disk.
32Bit Data Transfer
 To auto-select (default) or disable 32Bit Data Transfer.

4-6.3.2-3 Hard Disk Write Protect

Hard Disk Write Protect

>   Allows you to Enabled / Disable(default) Hard Disk Write Protection

4-6.3.2-4 IDE Detect Time Out

IDE Detect Time Out(Sec)

Allows you to set time out for IDE Detection.
Choices: 0 - 35 seconds in 5 seconds stepping

4-6.3.2-5 ATA(P) 80Pin Cable Detection

ATA(PI) 80Pin Cable Detection

Allows you to select ATA(PI) devices for 80Pin Cable Detection. To set Host & Device
allows onboard IDE controller and IDE disk drive to detect the type of IDE cable used.
Choices: Host & Device, Host, Device

4-6.3.3 Floppy Configuration

Choose "Floppy Configuration" in "Advanced BIOS Features" and press
<Enter>. The following sub-screen will appear for configuration:

Floppy Configuration

Floppy Configuration		Help Item
Floppy A	1.44 MB 3.5 in	Select the type of floppy drive connected to the system.
Floppy B	Disabled	

↑↓←→ : Move   Enter : Select   +/- : Values   F10: Save   Esc: Exit   F1: General Help
F7 : Previous Values   F8 : Fail-Safe Defaults   F9: Optimized Defaults

Floppy A/B

Press Enter on "Floppy A/B" will let you select this field to the type(s) of floppy disk
drive(s) installed in your system. The choices are:
360KB 5.25 in.
1.2MB, 5.25 in.
720KB, 3.5 in.
1.44MB, 3.5 in.
2.88MB, 3.5 in.
Disabled

4-6.3.4 Super IO Configuration

Choose "SuperIO Configuration" in "Advanced BIOS Features" and press <Enter>. The following sub-screen will appear for configuration:

SuperIO Configuration

Configure Win627 Super IO Chipset		Help Item
OnBoard Floppy Controller	Enabled	Allows BIOS to Enable or Disable Floppy Controller.
Serial Port1 Address	3F8/IRQ4	
Serial port2 Address	2F8/IRQ3	
Serial port2 Mode	Normal	
OnBoard CIR Port	Disabled	
Parallel Port Address	378	
Parallel Port Mode	Normal	
Parallel Port IRQ	IRQ7	
Select Watch Dog Time	Second	
Watch Dog Timer	Disabled	

OnBoard Floppy Controller

Allows you to enable / disable the Onboard Floppy Controller.
Choices: Enabled; Disabled

Serial Port1 Address

Allows you to set the Onboard Serial Port1 Address.
Choices: Disabled; 3F8/IRQ4; 3E8/IRQ4; 2E8/IRQ3;

Serial Port2 Address
Allows you to set the Onboard Serial Port2 Address.
Choices: Disabled; 2F8/IRQ3; 3E8/IRQ4; 2E8/IRQ3;

Serial Port 2 Mode
If Serial Port2 Address is not disabled, it allows you to set
the Serial Port 2 Mode. Choices:
-- Normal;
-- IrDA: Providing 2 items for configuration:
    IR I/O Pin Select: SINB/SOUTB; IRRX/IRTX
    IR Duplex Mode: Half Duplex; Full Duplex
-- ASK IR: Providing 2 items for configuration:
    IR I/O Pin Select: SINB/SOUTB; IRRX/IRTX
    IR Duplex Mode: Half Duplex; Full Duplex

OnBoard CIR Port

Allows you to set the onboard CIR Port.
Choices: Disabled; 2E0; 3E0

OnBoard CIR Port

Allows you to set the onboard CIR Port.
Choices: Disabled; 2E0; 3E0
   Disabled: Onboard CIR port disabled;
   2E0/3E0: If 2E0 chosen, CIR Port IRQ is provided for configuration:
         CIR Port IRQ:
           IRQ3; IRQ4; IRQ10; IRQ11

Parallel Port Address

Allows you to configure Parallel Port Address.
Choices: Disabled; 378; 278; 3BC;
-- Disabled: To disable this function;
-- 378/278: Following items to configure for address 378 or 278:
    --Parallel Port Mode:
      Normal;
      Bi-Directional;
      EPP:
        EPP Version: 1.9; 1.7
      ECP:
        ECP Mode DMA Channel: DMA0; DMA1; DMA3;
    --Parallel Port IRQ: IRQ5; IRQ7

-- 3BC: If 3BC chosen for Parallel Port Address, following items to configure :
    --Parallel Port Mode:
      Normal;
      ECP:
        ECP Mode DMA Channel: DMA0; DMA1; DMA3
    --Parallel Port IRQ: IRQ5; IRQ7

Select Watch Dog Time

This item will set the unit of Watch Dog Timer.
Choices: Second; Minute

Watch Dog Timer

This item will set the timer to automatically reset the system if there aren't any signal received from keyboard or mouse in a regular time by the demand of BIOS.
Choices: Disabled; 15; 31; 47; 63; 79; 95; 111; 127; 143; 159; 175; 191; 207; 223; 239

4-6.3.5 Hardware Health Configuration

Choose "Hardware Health Configuration" in "Advanced BIOS Features" and press <Enter>. The following sub-screen will appear for configuration:

Hardware Health Configuration

Hardware Health Configuration		Help Item
System Temperature	: 34˚C/93˚F	Enables Hardware Health
CPU Temperature	: 32˚C/89˚F	Monitoring Device.
Fan1 Speed	: 3125 RPM	
Fan2 Speed	: 3169 RPM	
Fan3 Speed	: N/A	
CPU Core	: 1.516 V	
+1.50V	: 1.516 V	
+3.30V	: 3.258 V	
+5.00V	: 5.094V	
+12.0V	: 12.074 V	
-12.0V	: -12.048 V	
5VSB	: 5.467 V	
Battery	: 3.444 V	

↑↓←→ : Move   Enter : Select   +/- : Values   F10: Save   Esc: Exit   F1: General Help
F7 : Previous Values   F8 : Fail-Safe Defaults   F9: Optimize Defaults

System Temperature   Shows current system temperature.

CPU Temperature   Shows current CPU internal temperature.

Fan1/2/3 Speed   Displaying the current speed of Chassis/CPU/Power Fan.

CPU Core   Showing CPU core actual voltage value.

1.5V/3.3V/+12V/+5.00V/ 5VSB/Battery   Showing current voltage against the 1.5V/3.3V/ +12V/+5V/5VSB/Battery power supply.

4-6.3.6 ACPI Configuration

Choose "ACPI Configuration" in "Advanced BIOS Features" and press <Enter>. The following sub-screen will appear for ACPI configuration:

ACPI Configuration

ACPI Settings		Help Item
▶ General ACPI Configuration	Press Enter	Enables Hardware ACPI support for Operating System.
▶ Advanced ACPI Configuration	Press Enter	Enable: If OS supports ACPI.
		Disable: If OS Does not support ACPI.

▶ **General ACPI Configuration:**

To press< Enter > on General ACPI Configuration will reveal the following item(s).

Suspend mode   This item allows you to select the Suspend mode. You can select S3(STR) for suspending to DRAM if your system supports this mode. Or you can select S1 (POS) for Power on Suspend under ACPI mode. Choices: S1(POS); S3(STR) (optional); Auto

(Optional) Repost Video at S3 Resume   If STR mode or Auto mode is selected, this item allows you to enable / disable this function. Choices: Yes; No

(Optional) USB Device Wakeup From S3/S4   This item allows you to enable / disable the USB device Wakeup function from S3/S4 mode.

▸**Advanced ACPI Configuration:**

To press< Enter > on Advanced ACPI Configuration will reveal the following item(s).

ACPI 2.0 Support Allows you to enable / disable ACPI (Advanced Configuration and Power Interface) 2.0 Support function. Choices: Yes; No

ACPI APIC Support Allows you to enable / disable ACPI APIC (Advanced Programmable Interrupt Controller) Support function.

APIC ACPI SCI IRQ If APIC ACPI Support is enabled (Yes), it allows you to enable / disable APIC ACPI SCI IRQ function.

BIOS-->AML ACPI table Allows you to enable / disable BIOS-->AML ACPI table function.

Headless mode Allows you to enable / disable Headless operation mode through ACPI.

4-6.3.7 USB Configuration

Choose "USB Configuration" in "Advanced BIOS Features" and press <Enter>. The following sub-screen will appear for configuration:

USB Configuration

USB Configuration	Help Item
Module Version - 2.23.2-7.4 USB Devices Enabled : None USB Function 8 USB Ports Legacy USB Support Enabled USB 2.0 Controller Enabled USB 2.0 Controller Mode HiSpeed ▶ USB Mass Storage Device Config Press Enter	Enable USB host controllers.

↑↓←→ : Move   Enter : Select   +/- : Values   F10: Save   Esc: Exit   F1: General Help
F7 : Previous Values   F8 : Fail-Safe Defaults   F9: Optimized Defaults

USB Function Allows you to set the USB Function on the USB port (s).
Choices: 8 USB Ports; 6 USB Ports ; 4 USB Ports; 2 USB Ports; Disabled

Legacy USB Support Allows you to enable/ disable the Legacy USB support.
Choices: Enabled; Disabled; Auto

USB 2.0 Controller Allows you to enable/ disable the USB 2.0 Controller.

USB 2.0 Controller Mode Allows you to configure the USB 2.0 Controller Mode.
Choices: FullSpeed(12Mbps); HiSpeed(480Mbps)

If users have installed USB Devices on the system, these items will appear as below for further configuration.

▸ **USB Mass Storage Device Config**	Press "Enter" to view its submenu shown below.
USB Mass Storage Reset Delay	To select number of seconds POST waits for the USB mass storage device after start unit command. Choices: 10 Sec; 20 Sec; 30 Sec; 40 Sec
Device #X	(USB Device Name)
Emulation Type	USB devices which are less than 530MB will be emulated as Floppy and remaining as hard drive. "Forced FDD" can be used to force a HDD format-ted drive to boot as FDD. (Ex. ZIP drive). Choices: Auto; Floppy; Forced FDD; Hard Disk; CDROM

4-6.3.8 Power Management

Choose "Power Management" in "Advanced BIOS Features" and press <Enter>. The following sub-screen will appear for configuration:

Power Management

APM Configuration		Help Item
Power Management/APM	Enabled	
Video Power Down Mode	Suspend	
Hard Disk Power Down Mode	Suspend	
Standby Time Out	Disabled	
Suspend Time Out	Disabled	
Power Button mode	On/Off	
Restore on AC Power Loss	Power Off	
Resume On Ring	Disabled	
Resume On LAN/PME#	Disabled	
Resume On RTC Alarm	Disabled	

Power Management/APM
Allows you to enable / disable the Power management / Advanced Power Management function.

Video Power Down Mode
Allows you to select the Video Power Down Mode.
Choices: Disabled; Standby; Suspend

Hard Disk Power Down Mode
 Allows you to select the Hard Disk Power Down Mode.
 Choices: Disabled; Standby; Suspend

Standby Time Out (Minute)
 To set the duration of Standby Time Out.
 Choices: Disabled; 1; 2; 4; 8; 10; 20; 30; 40; 50; 60

Suspend Time Out (Minute)
 To set the duration of Suspend Time Out.
 Choices: Disabled; 1; 2; 4; 8; 10; 20; 30; 40; 50; 60

Power Button mode
 Allows you to set power Button mode.
 Choices: On/Off; Suspend

Restore on AC/Power Loss
 Allows you to set the restore state from AC/Power Loss.
 Choices: Last State; Power Off; Power On

Resume on Ring
 Allows you to enable / disable the Resume on Ring Signal function.
 An input signal on the serial Ring Indicator (RI) Line
 (in other words, an incoming call on the modem)
 awakens the system from a soft off state.

Resume on LAN/PME#
 Allows you to enable / disable the Resume on LAN/PME# function.

Resume On RTC Alarm
 Allows you to enable / disable the Resume On RTC Alarm
 function.

RTC Alarm Date / Hour / Minute / Second
If resume On RTC Alarm is enabled, this field allows you to
set the Alarm date Hour, Minute and second.
Date Choices: Every Day; 01 ~ 31
Hour Choices: 00 ~ 23
Minute Choices: 00 ~ 59
Second Choices: 00 ~ 59

4-6.3.9 Clock Configuration

Choose "Clock Configuration" in "Advanced BIOS Features" and press
<Enter>. The following sub-screen will appear for configuration:

Clock Configuration

Clock Configuration		Help Item
Spread Spectrum	Disabled	
PCI Clock Auto-Detection	Disabled	

Spread Spectrum
 Allows you to enable / disable the Spread Spectrum function.

PCI Clock Auto-Detection
 Allows you to enable / disable the PCI Clock Auto-detection function.

4-6.4 Advanced Chipset Features

Run the Advanced Chipset Features as follows:
Choose "Advanced Chipset Features" from the Main Menu and a list of option will appear:

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Advanced Chipset Features

Advanced Chipset Settings	Help Item
Warning: Setting wrong values in below sections **may cause system to malfunction.** ▶ NorthBridge Configuration Press Enter	

Choose "NorthBridge Configuration" in "Advanced Chipset Features" and press <Enter>. The following sub-screen will appear for configuration:

NorthBridge Configuration

		Help Item
DRAM Frequency	Auto	
Configure DRAM Timing by SPD	Enabled	
Memory Hole	Disabled	
Init. Graphic Adapter Priority	AGP/Int-VGA	
Internal Graphics Mode Select	Enabled, 8MB	
Graphics Aperture Size	64MB	
C.S.A. Gigabit Ethernet	Auto	
Boot Display Device	Auto	
Flat Panel Type	640x480LVDS	
TV Standard	Auto	

DRAM Frequency Allows you to set the current SDRAM frequency.
Choices: Auto; 266MHz; 333MHz; 400MHz

Configure SDRAM Timing by SPD SPD (Serial presence detect) is a device in memory module for storing the module information such as DRAM timing and chip parameters. If this option is enabled, BIOS will access SPD automatically to configure module timing. If disabled, DRAM timing can be configured manually.
Default: Enabled

DRAM CAS# Latency	With SDRAM Timing by SPD disabled, you can select the SDRAM CAS# (Column Address Strode)latency manually. Choices: 2 Clocks; 2.5 Clocks; 3 Clocks
DRAM RAS# Precharge	With SDRAM Timing by SPD disabled, you can select the SDRAM RAS# (Row Address Strode) Precharge cycle manually. Choices: 2 Clocks; 3 Clocks; 4 Clocks
DRAM RAS# to CAS# Delay	With SDRAM Timing by SPD disabled, you can select the SDRAM RAS# to CAS# delay cycle manually. Choices: 2 Clocks; 3 Clocks; 4 Clocks
DRAM Precharge Delay	Allows you to set the SDRAM Precharge Delay cycle. Choices: 5 Clocks; 6 Clocks; 7 Clocks; 8 Clocks
DRAM Burst Length	With SDRAM Timing by SPD disabled, you can select the SDRAM Burst length manually. Choices: 8; 4

Memory Hole	Allows you to enabled / disabled (default) the support of Memory Hole which is reserved for ISA card. Choices: Disabled; 15MB-16MB
Init. Graphics Adapter Priority	Allows you to select the initial Graphics Adapter. Choices: Internal VGA; AGP/Int-VGA; AGP/PCI; PCI/AGP; PCI/Int-VGA;
Internal Graphics Mode Select	Allows you to set the internal graphic mode. Choices: Enabled(1MB; 4MB; 8MB; 16MB; 32MB); Disabled
AGP Aperture Size	Series of options are available: 4, 8, 16, 32, 64, 128, 256MB. Memory mapped and graphics data structures can reside in a Graphics Aperture. This area is like a linear buffer. BIOS will automatically report the starting address of this buffer to the O.S. The default setting is 64MB.

Boot Display Device Allows you to select the Boot Display device.
Choices: Auto (default); CRT; TV; EFP; LFP;
CRT+EFP; CRT+LFP

Flat Panel Type Allows you to select the flat panel type.
Choices: 640x480LVDS;800x600LVDS;
1024x768LVDS; 1280x1024LVDS;
1400x1050LVDS;1600x1200LVDS;
640x480CMOS; 800x600CMOS;
1024x768CMOS; 1280x1024CMOS;
1400x1050CMOS; 1600x1200CMOS

TV Standard Allows you to select the TV standard.
Choices: Auto (default); NTSC(M / M_J / 433 / N);
PAL(B / G / D / H / I / M / N / 60);
SECAM(L / L1 / B / D / G / H / K / K1 /)

4-6.5 PCI/PNP Resource Management

PCI/PNP Resource Management allows you to modify the system's power saving functions.

Choose "PCI/PNP Resource Management" from the Main Menu and a screen with a list of options will appear:

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PCI/PNP Resource Management

Advanced PCI/PNP Settings		Help Item
Warning: Setting wrong values in below sections may cause system to malfunction.		No: lets the BIOS configure all the devices in the system.
Plug & Play O/S	No	Yes: lets the operating
PCI Latency Timer	32	system configure Plug
Allocate IRQ to PCI VGA	Yes	and Play (PnP) devices
Palette Snooping	Disabled	not required for boot if
PCI IDE BusMaster	Disabled	your system has a Plug
OffBoard PCI/ISA IDE Card	Auto	and Play operating system.
IRQ3	Available	
IRQ4	Available	
IRQ5	Available	
IRQ7	Available	
IRQ9	Available	
IRQ10	Available	
IRQ11	Available	
IRQ14	Available	
IRQ15	Available	
DMA Channel 0	Available	
DMA Channel 1	Available	
DMA Channel 3	Available	
DMA Channel 5	Available	
DMA Channel 6	Available	
DMA Channel 7	Available	
Reserved Memory Size	Disabled	

↑↓←→ : Move   Enter : Select   +/- : Values   F10: Save   Esc: Exit   F1: General Help
F7 : Previous Values   F8 : Fail-Safe Defaults   F9: Optimized Defaults

Plug & Play O/S Allows you to configure the PNP devices by BIOS or O/S.
Choices: No(by BIOS); Yes(by O/S)

PCI Latency Timer (PCI Clocks) Allows you to set the PCI Latency Time.
Choices: 32(default); 64; 96; 192; 128; 160; 192; 224; 248;

Allocate IRQ to PCI VGA Allows you to assign IRQ to PCI VGA card if card requests IRQ.
Choices: Yes(default); No

Palette Snooping This option allows the BIOS to preview VGA status, and to modify the information delivered from the feature Connector of the VGA card to MPEG card. This option can solve the display inversion to black after you have used a MPEG card.

PCI IDE BusMaster Allows you to enable / disable(default) the PCI IDE Bus Master function.

OffBoard PCI/ISA IDE Card Some PCI IDE cards may require this to be set to the PCI slot number that is holding the card.
Choices: Auto; PCI Slot1; PCI Slot2; PCI Slot3;

IRQ 3/4/5/7/9/10/11/14/15 Allows you to specify available IRQs to be used by PCI/ISA devices.
Choices: Available(default) -- IRQ is available for PCI/PNP devices;
Reserved: Reserved for ISA devices

DMA 0/1/3/5/6/7 Allows you to specify available DMAs to be used by PCI/PNP devices.
Choices: Available(default); Reserved

Reserved Memory Size Allows you to specify memory size to reserve for legacy ISA devices.
Choices: Disabled(default); 16K; 32K; 64K

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4-6.6 Boot Configuration Setup

Boot Configuration Setup allows you to modify the system's boot settings.

Choose "Boot Configuration Setup" from the Main Menu and a screen with a list of options will appear:

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Boot Configuration Setup

Boot Settings		Help Item
▶Boot Setting Configuration	Press Enter	Configure Settings during System Boot.
▶Boot Device Priority	Press Enter	
▶Hard Disk Drives	Press Enter	
▶Removable Drives	Press Enter	
▶ATAPI CDROM Drives	Press Enter	
If users have installed hard disks, removable drives (including Floppies and USB storage devices), CDROM drives on the system, BIOS will show these items to let users configure the devices to decide the primary boot device.		

↑↓← → : Move   Enter : Select   +/- : Values   F10: Save   Esc: Exit   F1: General Help
F7 : Previous Values   F8 : Fail-Safe Defaults   F9: Optimized Defaults

4-6.6.1 Boot Settings Configuration

Choose "Boot Settings Configuration" in "Boot Configuration Setup" and press <Enter>. The following items will appear for onfiguration:

Boot Configuration Setup

Boot Settings		Help Item
Quick Boot	Enabled	Configure Settings during System Boot.
Quiet Boot	Disabled	
AddOn ROM Display Mode	Force BIOS	
Bootup Num-Lock	On	
PS/2 Mouse Support	Auto	
Wait For 'F1' If Error	Enabled	
Hit 'DEL' Message Display	Enabled	
Interrupt 19 Capture	Disabled	

Quick Boot Allows you to enable (default)/ disable quick boot of your system. If enabled, BIOS will skip certain tests whle booting. This will decrease the time needed to boot the system.

Quiet Boot The bootup screen displays normal POST messages with Disabled selected; the bootup screen displays OEM Logo instead of POST messages with Enabled selected.
Choices: Enabled; Disabled

AddOn ROM Display Mode If "Force BIOS" (default) is chosen, the vendor's logo screen will be followed by the "AddOn ROM" initial screen (the screen showing the add-on card BIOS message). If "Keep Current" is chosen, no "Add-On ROM" screen is followed.

Bootup Num-lock Allows you to toggle between On (default) or Off to control the state of the NumLock keys when the system boots. If On, the numeric keypad is in numeric mode. If off, the numeric keypad is in cursor control mode.

PS/2 Mouse Support Enabled (default), PS/2 mouse is supported. Disabled, PS/2 Mouse is not supported. If "Auto" is set, the system will auto detect the PS/2 Mouse.

Wait For 'F1' If Error Allows you to hit F1 key when errors occur.
Choices: Enabled(default); Disabled

Hit 'DEL' Message Display The system will show "Press DEL key to run Setup when enabled.
Choices: Enabled(default); Disabled

Interrupt 19 Capture Allows option ROMs to trap interrupt 19.
Choices: Enabled; Disabled(default)

4-6.6.2 Boot Device Priority

Choose "Boot Device Priority" in "Boot Configuration Setup" and press <Enter>. The bootable devices installed on board will appear and are allowed to assign the Boot Priority.

Boot Device Priority

Boot Device Priority		Help Item
1st Boot Device	1st FLOPPY DRIVE	Configure Settings during System Boot.
2nd Boot Device	PM-WDC WD400BB-00	
3rd Boot Device	SS-COPY-ROM 5238E	

1st/2nd/3rd Boot Device Allows you to set (by pressing <Enter>) floppy or IDE devices already installed to be the 1st/2nd/3rd boot device.
Choices: Disabled; Device(s) installed

4-6.7 Boot Security Features

Boot Security Features allows you to modify the system's boot security settings.

Choose "Boot Security Features" from the Main Menu and a screen with a list of options will appear:

CMOS Setup Utility - Copyright (C) 1985-2002, American Megatrends, Inc.
Boot Security Features

Security Settings		Help Item
		Install or Change the password.
Supervisor Password : Not Installed		
User Password : Not Installed		
Change Supervisor Password	Press Enter	
User Access Level	Full Access	
Change User Password	Press Enter	
Clear User Password	Press Enter	
Password Check	Setup	
Boot Sector Virus Protection	Disabled	

↑↓← → : Move   Enter : Select   +/- : Values   F10: Save   Esc: Exit   F1: General Help
F7 : Previous Values   F8 : Fail-Safe Defaults   F9: Optimized Defaults

4-6.7.1 Supervisor Password

To show the status of Supervisor Password. "Installed" is displayed when supervisor password is set up. Otherwise, "Not Installed" is displayed.

4-6.7.2 User Password

To show the status of User Password. "Installed" is displayed when supervisor password is set up. Otherwise, "Not Installed" is displayed.

4-6.7.3 Change Supervisor Password

This option allows you to set a new Supervisor password for the system:

1. Choose "Change Supervisor Password" in the "BIOS Security Features" and press <Enter>. Then the following message appears:

[Enter new supervisor password]

2. The first time you run this option, enter your password up to 6 characters and press <Enter>. (The screen does not display the entered characters.)
3. After you enter the password, the following message appears, prompting you to confirm the password:

[Confirm New Password]

4. Enter the same password "exactly" the same as you have just typed to confirm the password and press <Enter>.
5. The following message appears to confirm the new password setup.

[Password installed]
[OK]

6. Then press any key to continue your CMOS Setup. To save the password setup, you should press "Save Changes and Exit" and choose "OK" to exit and save setup.
7. If you enter a new password into the box, you will be using this new password after you have finished and saved this new setup. Instead, if you press <Enter> before you enter any new password into the instruction box, another message box appears, telling you that you have disabled the Supervisor Password. That means, no password is set for either entering BIOS Setup or system:

[Password uninstalled]
[OK]

User Access Level Allows you to set four different Access Levels when Supervisor Password has been set.
Choices: Full Access; Limited; View Only; No Access

Note: "User Access Level" and "Password Check" will appear when "Supervisor Password" has been set.

4-6.7.4 Change User Password

This option allows you to set a new User password for the system:

1. Choose "Change User Password" in the "BIOS Security Features" and press <Enter>. Then the following message appears:

[Enter New Password]

2. The first time you run this option, enter your password up to 6 characters and press <Enter>. (The screen does not display the entered characters.)
3. After you enter the password, the following message appears, prompting you to confirm the password:

[Confirm New Password]

4. Enter the same password "exactly" the same as you have just typed to confirm the password and press <Enter>.

5. The following message appears to confirm the new password setup.

[Password installed]
[OK]

6. Then press any key to continue your CMOS Setup. To save the password setup, you should press "Save Changes and Exit" and choose "OK" to exit and save setup.

4-6.7.5 Clear User Password

1. To remove the current user password, choose "Clear User Password" and press <Enter>. An instruction box appears on the screen, assuring to clear User Password:

Clear User Password?	
[OK]	[Cancel]

2. Then choose [OK] and press <Enter>. The User Password is successfully removed.

Password Check Allows you to set BIOS to check up password with a password prompt at BIOS Setup or whenever re-starting system. This option will appear when you have set Supervisor Password or User Password. Choices: Setup (default); Always

4-6.7.6 Boot Sector Virus Protection

Boot Sector Virus Protection When enabled, you receive a warning message if a program (specifically, a virus) attempts to write to the boot sector or the partition table of the hard disk drive.
You should then run an antivirus program. Keep in mind that this feature protects only the boot sector, not the entire hard drive.

> NOTE: Many disk diagnostic programs that access the boot sector table can trigger the virus warning message. If you plan to run such a program, we recommend that you dis-able the virus warning.

4-6.7 Save Changes and Exit

Save Changes and Exit allows you to save all modifications you have specified into the CMOS memory. Highlight this option on the Main Menu and press <Enter>. The following message appears:

[Saving configuration changes and exit setup?]
[OK]   [Cancel]

Press <Enter> key to save the configuration changes and exit CMOS Setup to restart your system.

4-6.8 Discard Changes (and Exit)

Discard Changes option allows you to exit (or not exit) the Setup Utility without saving the modifications that you have specified. Highlight this option on the Main Menu and press <Enter> and the following message appears:

[Discard Changes (and exit setup?)]
[OK]   **[Cancel]**

Follow the message and press <Enter> key to exit CMOS Setup and restart system.

4-6.9 Load Optimal Defaults

When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:

[Load Optimal Defaults ?]
[OK]   **[Cancel]**

Press <Enter> now to load Optimal values for all the Setup options.

4-6.10 Discard Changes

Discard Changes option allows you to cancel the modifications that you have specified in the Setup Utility. Highlight this option on the Main Menu and press <Enter> and the following message appears:

[Discard Changes?]
[OK]   **[Cancel]**

Follow the message and press <Enter> key to cancel the modifications that you have specified.