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Chapter 1 Specification

Introduction

This series of mainboards features an integration of the powerful Intel 775-pin Prescott CPU and the North Bridge Intel 865PE. The 775-pin Prescott CPU is a rapid execution engine providing 800/533MHz system bus, while North Bridge Intel 865PE is a high performance integrated chipset providing Dual Channel DDR 400/333/266 SDRAM memory interface, Hub interface as well as AGP 8x/4x interface.

Integrated with Intel 865PE, South Bridge Intel ICH5 supports the LPC I/O, upstream Hub interface, PCI interface, IDE interface, Serial ATA interface, USB 2.0 interface, AC'97 2.2 (6-channel) Audio 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

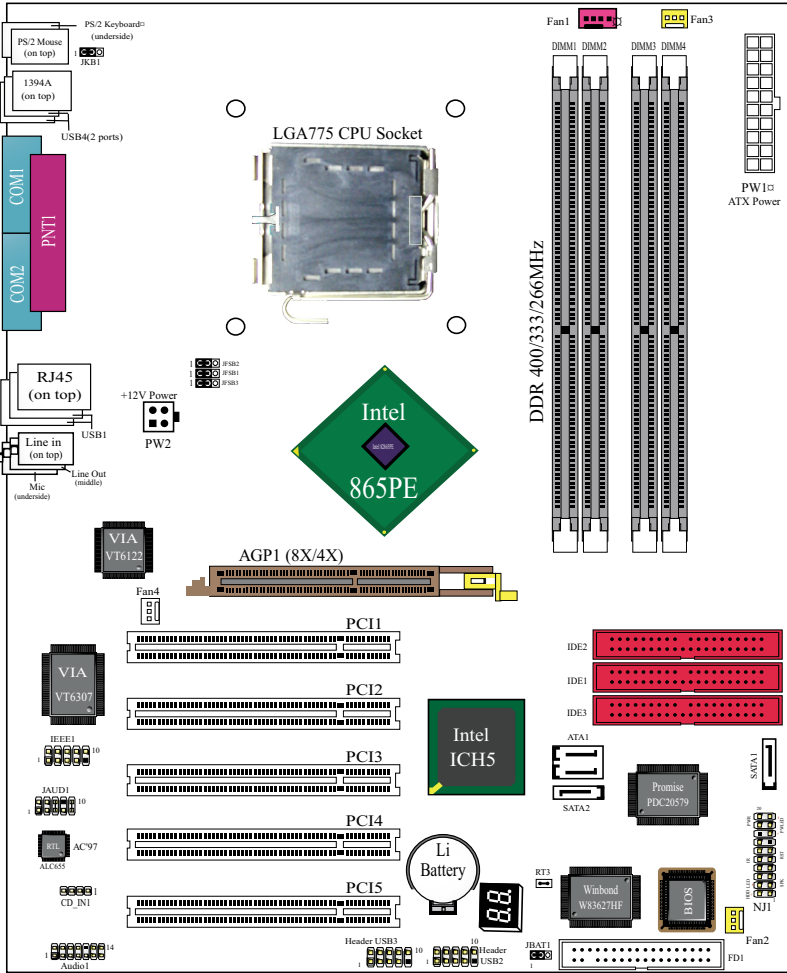
1-2 Chipset Diagram

1-3 Mainboard Specification Table

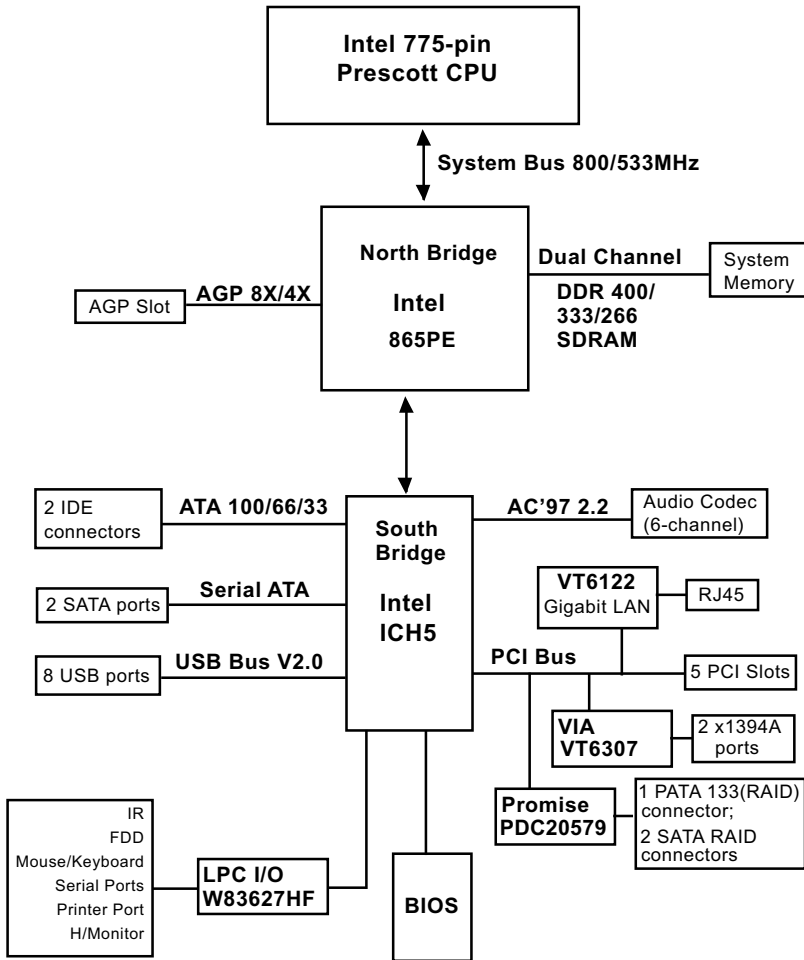
1-4 Mainboard Specifications**

**** If any difference is found between the mainboard description and the Mainboard you are using, please look up the Errata/Update Slip 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-865Pro-775 Mainboard Layout



1-2 Chipset System Block Diagram



775-pin Prescott CPU + Intel 865PE + Intel ICH5 Diagram

1-3 Mainboard Specification Table

SL-865Pro-775 Specifications and Features	
CPU	Intel 775-pin Prescott CPUs
North Bridge	Intel 865PE, supporting 800/533MHz FSB
South Bridge	Intel ICH5
BIOS	AMI BIOS
Memory	Supporting Dual-channel DDR 400/333/266 SDRAM, up to 4GB in 4 DIMM slots
I/O Chip	W83627HF, with Hardware Monitor
AGP interface	AGP8X/4X Mode only; 1 AGP Slot on board
Audio	AC'97 Audio 2.2 compliant, 6 channel audio
IDE Interface	2 UATA 66/100 IDE ports; 1 UATA 133 IDE port
SATA Interface	2 SATA connectors; 2 SATA RAID connectors
PCI Slots	5 PCI Master slots on board
I/O Connectors	8 USB V2.0, 1 FDD port, 2 COM ports, 1 LPT, 1 IrDA, 1 PS/2 K/B, 1 PS/2 Mouse
Networking	Gigabit Ethernet Controller VIA VT6122
Other common features	2x1394A ports for IEEE 1394A interface

1-4 Mainboard Specifications

1-4.1 CPU Socket

CPU Socket LGA 775 on board, supporting Intel® Pentium 4 775-pin Prescott processors(including Intel Hyper Threading CPUs) in 775-pin package for :

- 800/533MHz System Bus
- Hyper-pipelined technology -- Advanced dynamic execution;
- Rapid Execution Engine -- Streaming SIMD Extensions 2
- 128 Bit Enhanced Floating Point Unit -- Execution Trace Cache

1-4.2 System Chipsets

North Bridge Intel 865PE:

- A high performance integrated chipset providing processor interface (including Hyper-Threading Technology), Dual channel DDR 400/333/266 SDRAM memory interface, Hub interface, AGP interface.
- 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 (including RAID, IEEE 1394 and GiGaLAN), IDE interface and USB 2.0 interface, AC'97 2.2 (6-channel) Audio interface and the interrupt control.

1-4.3 Memory

4 DDR DIMM 184-pin slots on board :

- Supporting unregistered, non-ECC Dual-channel DDR 400/333/266 SDRAM up to 4GBs
- 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, 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, Super I/O, 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 Accelerated Graphics Port (AGP) Interface

AGP Controller embedded on board, supporting:

- 1.5V (4x/8x) power mode only
- 8x 66MHz AD and SBA signalling, AGP pipelined split-transection longburst transfers up to 2GB/sec
- AGP 8X/4X supported, AGP V3.0 compliant

1-4.6 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
- Real Time Clock (RTC) with date alarm, month alarm, and century field

1-4.7 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 system (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):
 - Two serial ports (COM1 & COM2) on board

1-4.8 Expansion Slots

- 5 PCI Bus Master slots
- 1 AGP slot
- 4 DDR SDRAM DIMM slots

1-4.9 Gigabit Ethernet Controller on board

PCI local bus single-chip Gigabit Ethernet Controller VIA VT6122 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.

1-4.10 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.

1-4.11 AC'97 Audio Codec on board

AC'97 Audio Codec 2.2 compliant on board

- Supporting 6-channel display of PCM audio output
- 6 channel audio consists of Front Left, Front Right, Back Left, Back Right, Center and Subwoofer for complete surround sound effect
- AC'97 Audio Codec Driver enclosed in Support CD for user's installation.

1-4.12 Serial ATA Interface integrated

- 2 SATA connectors supported by ICH5 for two SATA Hard Disk setup
- 2 SATA connectors supported by Promise PDC20579 for two SATA RAID hard Disks setup
- SATA interface supports transfer speed up to 150MB/sec.

1-4.13 Parallel ATA Interface integrated

- 1 Parallel ATA connector supported by Promise PDC20579 for two IDE RAID Hard Disks setup, transfer speed up to 133MB/sec.

1-4.14 IEEE 1394A Interface

- PCI-bus based open host controller, compliant with IEEE 1394a standard for high performance serial bus
- Supporting 400/200/100 Mbits transfer rate
- 2 IEEE 1394A ports supported by IEEE1394A controller VT6307

1-4.15 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 245mm

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:

2-1 775-pin Prescott CPU and Socket LGA 775

2-2 Memory Installation

2-3 AGP 8X/4X Slot Installation

2-4 IDE Connectors Installation

2-5 Serial ATA Connectors Installation

2-6 Floppy Drive Connector Installation

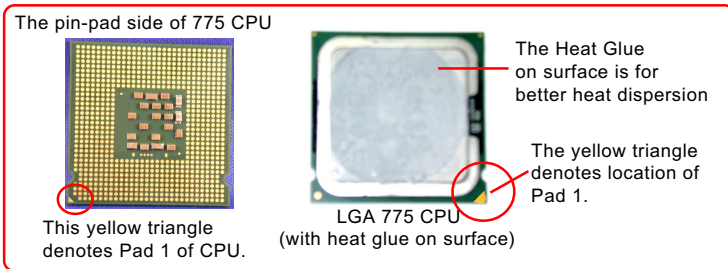
2-7 ATX V2.03 Power Supply Installation

2-8 Jumper Settings

2-9 Other Connectors Configuration

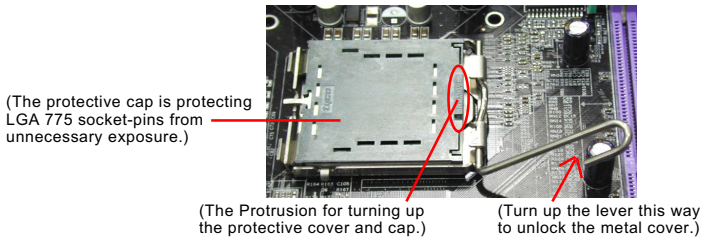
2-1 775-pin Prescott CPU and Socket LGA 775

2-1.1 To Identify a 775-pin Prescott CPU

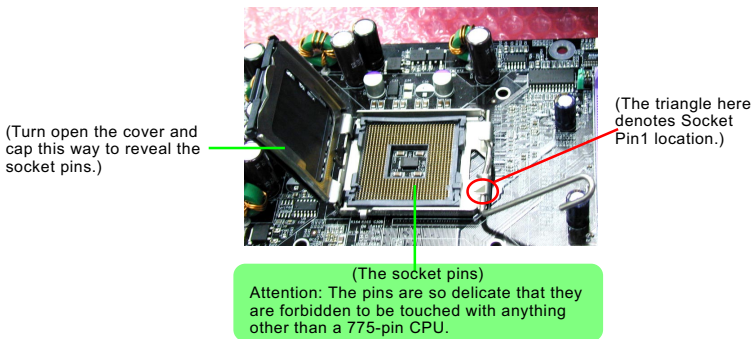


2-1.2 To install 775-pin Prescott CPU into Socket LGA 775

1. LGA 775 socket is safeguarded by a metal cover and a protective cap on top. Never remove the protective cap before CPU has already been installed into socket.

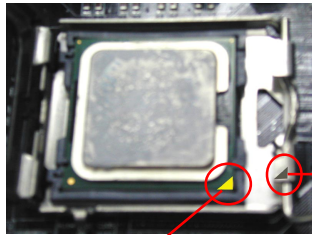


2. Pull sideways the socket lever and turn it up so as to unlock the metal cover from the socket base.
3. Since the metal cover together with the cap is unlocked from the socket base now, use a fingertip to pull at the protrusion at one end of cap so as to turn the cover and cap up.
4. The cover and the cap are turned open now, revealing the socket-pins. We should be aware that the pins are so delicate they are forbidden to be touched with anything other than a 775-pin CPU.



SL-865Pro-775

- As soon as the Cover and Cap is lifted up, place down the 775 CPU gently into 775 Socket with Pad1 matching Socket Pin1.



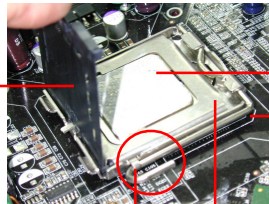
(This yellow triangle on CPU denotes Pad1 of CPU.)

(This triangle on socket denotes Socket Pin1 location.)

- When you have made sure the 775-CPU is properly laid down, you should now return the Metal Cover to Socket so as to fix down the CPU.
- After returning the Metal Cover to Socket, pull back the Socket Lever to Socket until it gets back to the latch.
- Since the Metal Cover is returned to Socket, use a fingertip to lift and remove the protective Cap for the Cooling Fan installation.

(The Cap is lifted up away from the Cover and can be removed now.)

(Attention: Never remove this Protective Cap if CPU is not in Socket.)



(Lever returned to Latch)

(The Metal cover)

- CPU is installed, Metal cover fixed to socket, Protective Cap removed, we should install CPU Cooling Fan now.

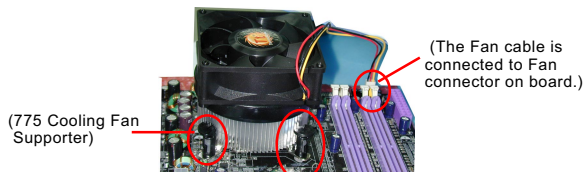
(CPU installed, Metal Cover fixed to Socket, and Protective Cap removed, we should install CPU Cooling Fan now.)



(Cooling Fan Support Hole)

(Cooling Fan Support Hole)

- Insert the 4 Fan Supporters into the Support Holes on board, and then connect the Fan Power cable to the Fan Connector on board.



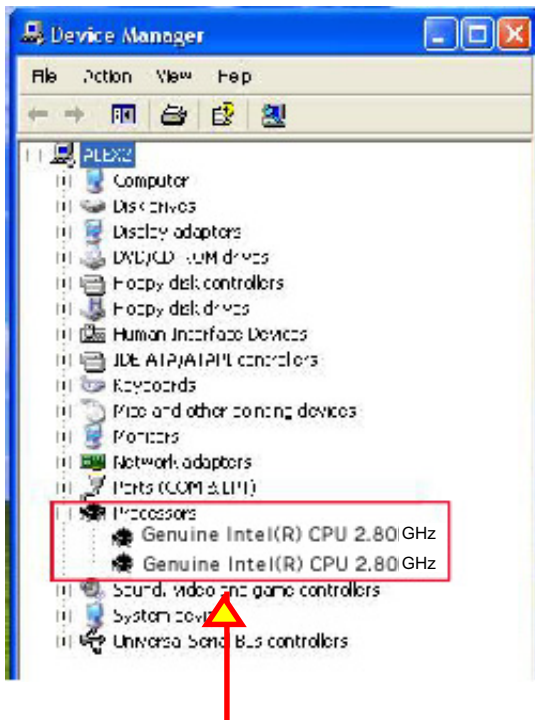
(775 Cooling Fan Supporter)

(The Fan cable is connected to Fan connector on board.)

CPU Fan and Fan Power cable are set up.

2-1.3 775-Prescott CPU Installation with Hyper-threading

- 775-Prescott CPU also supports hyper-threading technology.
- After installation of 775-Prescott CPU, you should also install Windows XP to enable Hyper-threading dual-in-one CPU function. Win98/Me/2K do not support Hyper-threading dual-in-one CPU function.

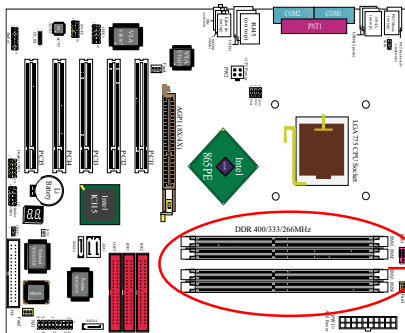


(If Hyper-threading CPU is installed successfully with O/S Win XP, the O/S will enable the dual-in-one CPU function.)

2-2 Memory Installation

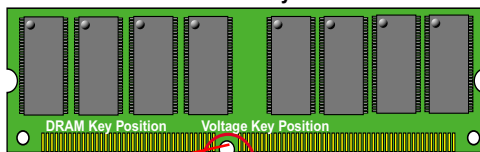
2-2.1 To Install DDR SDRAM Module

- 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.
- This mainboard supports up to 4GB unbuffered Dual-channel DDR 400/333/266 SDRAM, with 4 DDR DIMM slots on board. Do not insert other type of modules into these slots.



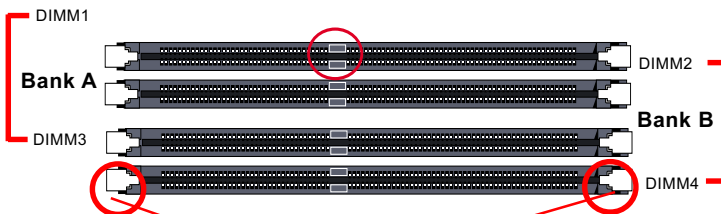
DDR DIMM Slots (184-pin)

184-Pin DIMM Notch Key Definition



(2.5V Voltage Key)DDR Notch

DDR Rib



Module Latch

2-2.2 Dual Channel Memory Module Installation

- Dual Channel Memory Configuration is formed by couple of identical DDR SDRAMs.
- 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.
- The dual memory controller can double the DDR memory bandwidth up to 6.4GB/s with couple of DDR400, 5.4GB/s with couple of DDR333 and 4.2GB/s with couple of DDR266.
- To enable Dual-channel memory function, users should insert totally identical (size and frequency) DDR module pair into the bank-pair. On this mainboard, DIMM1 + DIMM3 is a Dual channel bank-pair. DIMM2 + DIMM4 is another. That means, dual-channel transmission is only enabled in pair, not randomly in any two DIMMs.

DIMM1+DIMM3 = Dual Channel Memory
or / and

DIMM2+DIMM4 = Dual Channel Memory

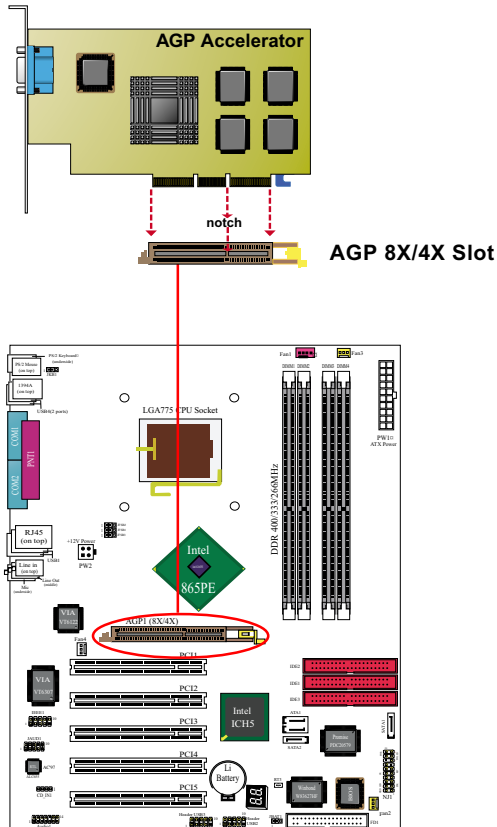
2-2.3 To Remove a DIMM

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.

2-3 AGP 8X/4X Slot Installation

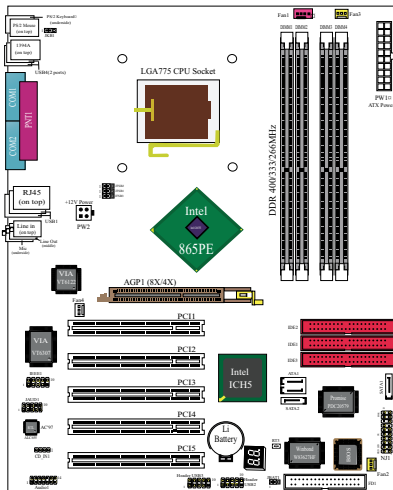
The AGP slot on board supports 1.5V AGP 8X/4X card only. A Rib is specifically added to the 8X/4X slot so as to match the AGP 8X/4X card. To insert a 3.3V AGP 2X card into the AGP 4X slot will damage the system chip and burn the 1.5V circuitry.

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.



2-4 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.

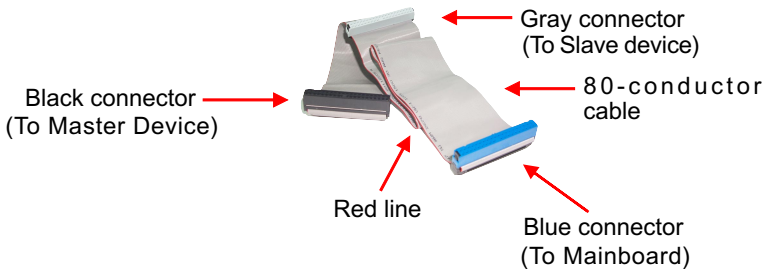


Pin 1 (to Red Line)

ATA 100 IDE Connector
Orient the red line on the IDE Flat Cable to Pin1.

IDE2 IDE1

IDE3
PATA 133 Connector
Supported by Promise PDC20579 for 2 Parallel ATA RAID IDE Hard Disks Setup.

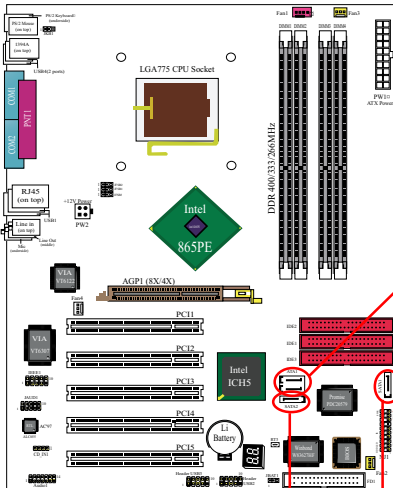


IDE Flat Cable


2-5 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 ventilation of PC cases.

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



Serial ATA Connectors



ATA1
(2 ports)

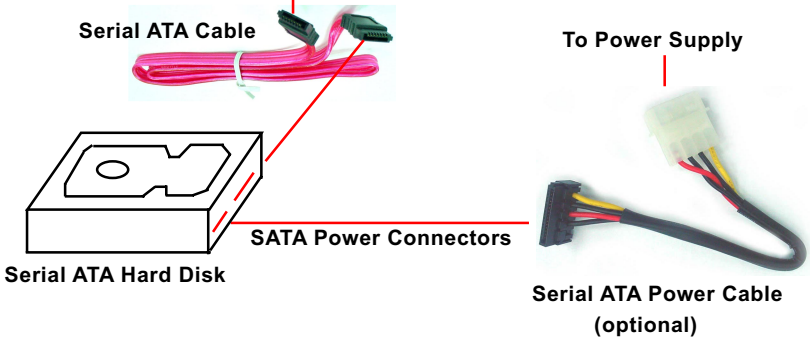
SATA Connectors supported by ICH5 for 2 SATA Hard Disks setup (Not RAID)



SATA2

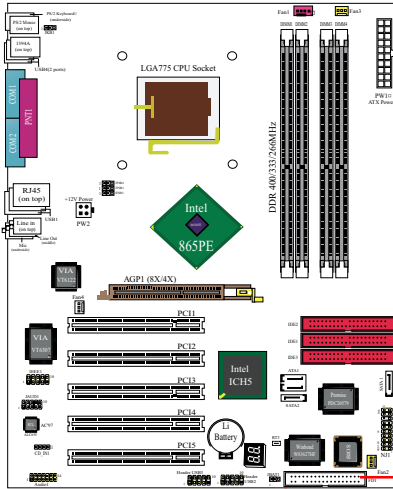
SATA1

SATA Connectors supported by PDC20579 for 2 SATA RAID Hard Disks Setup

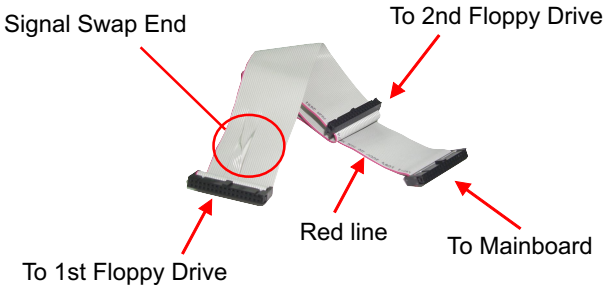


2-6 Floppy Drive Connector Installation

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.

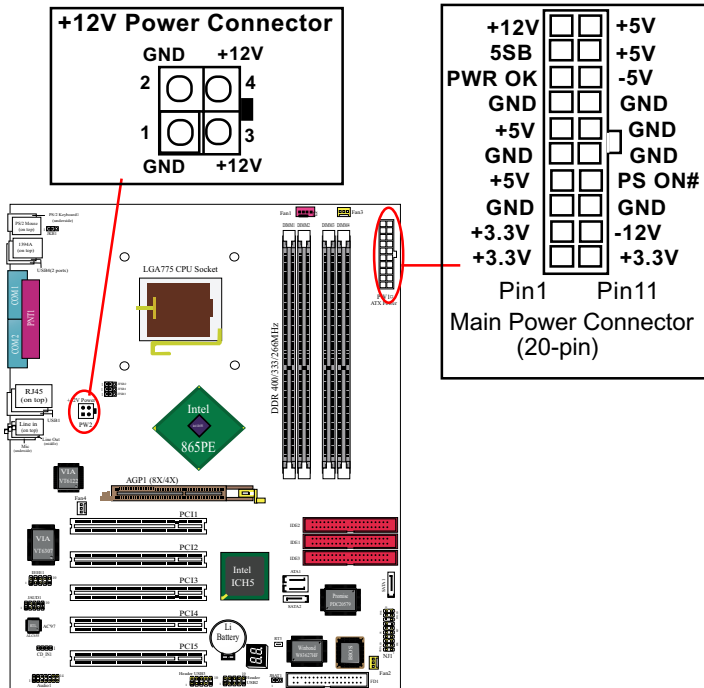


Pin 1 (to Red Line)



FDD Cable

2-7 ATX V2.03 Power Supply Installation



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

To set up Power Supply on this mainboard:

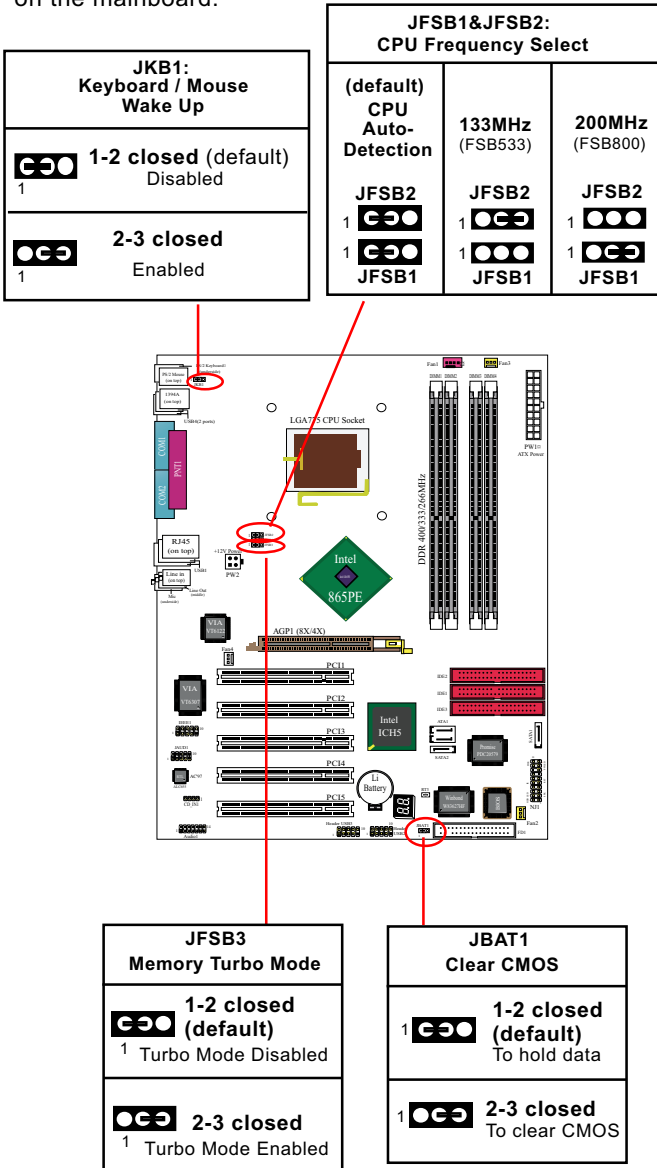
1. Connect the on-board Main Power Connector (20-pin) to the Main Power Connector (20-pin) of an ATX Power Supply which can be of the latest version 2.03 model, and then connect the square-shaped +12V Power Connector on board to the square-shaped +12V Power Connector of the Power Supply.

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 damaged.

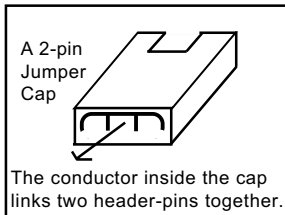
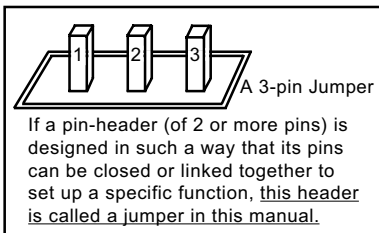
2. This ATX Power Supply should be able to provide at least 720mA/ +5V standby power for Wake On Lan function.

2-8 Jumper Settings

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



How to tackle the Jumpers:



- 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.



- 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.

2-8.1 JFSB1 & JFSB2: CPU Frequency Select

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

1. Setting JFSB1 1-2 closed and JFSB2 to 1-2 closed will allow CPU on board to Auto Detect its own frequency and apply it to the System Bus.
2. Setting JFSB1 all open and JFSB2 2-3 closed is for 133 MHz CPU.
3. Setting JFSB1 2-3 closed and JFSB2 2-3 all opened is for 200 MHz CPU.
4. If 200MHz is an overclock for your CPU, it may or may not boot your system. If an overlock 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		
(default) CPU Auto- Detection	133MHz (FSB533)	200MHz (FSB800)
JFSB2	JFSB2	JFSB2
1	1	1
1	1	1
JFSB1	JFSB1	JFSB1

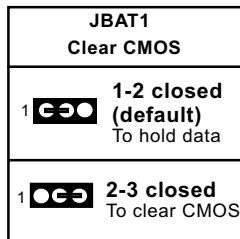
Further Notes on CPU Overclocking:

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 .

2-8.2 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.





2-8.3 (Optional) JFSB3: Memory Turbo Mode

JFSB3 is designed on board for improving Memory performance. If you want to obtain better system performance, you can set JFSB3 2-3 closed to enable the Memory Turbo Mode. Otherwise, you can set JFSB3 1-2 closed to disable the Memory Turbo Mode.

(Optional) JFSB3 Memory Turbo Mode	
	1-2 closed (default)
1	Turbo Mode Disabled
	2-3 closed
1	Turbo Mode Enabled

2-8.4 JKB1: Keyboard / Mouse Wake Up

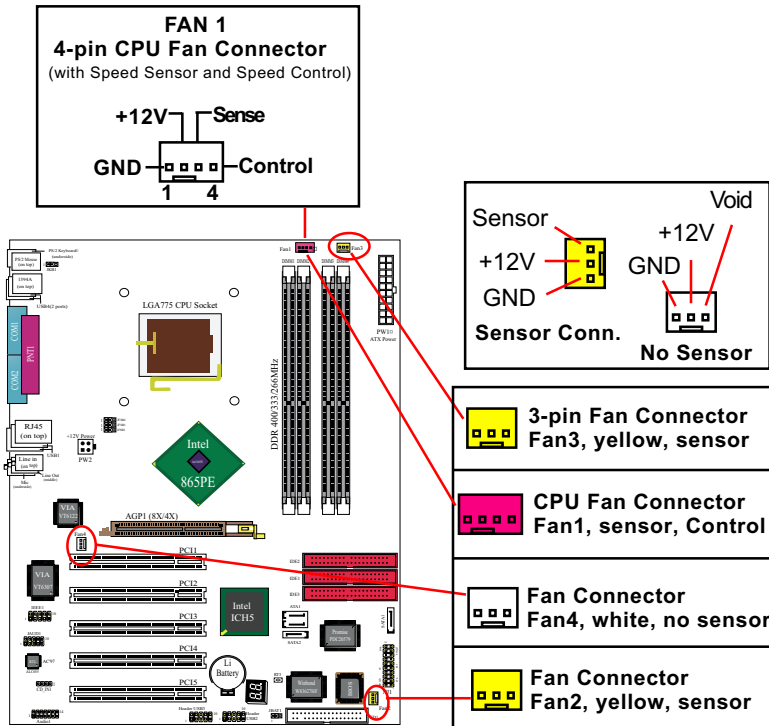
JKB1 is designed on board as a jumper to enable/disable the PS/2 keyboard/mouse Wake Up from suspend mode. USB keyboard/mouse Wake Up function is an optional function on this mainboard.

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

2-9 Other Connectors Configuration

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

2-9.1 On Board Fan Connectors



FAN1 is a 4-pin speed sensor and speed control Fan connector supporting speed detection and speed control. FAN1 is for CPU cooling fan.

FAN2 is a sensor Fan connector supporting Fan speed detection function. Fan2 is for chassis cooling Fan.

FAN3 is a 3-pin sensor Fan connector, supporting speed detection. If your CPU cooling Fan is attached with a 3-pin power connector, you can connect the CPU fan to Fan3.

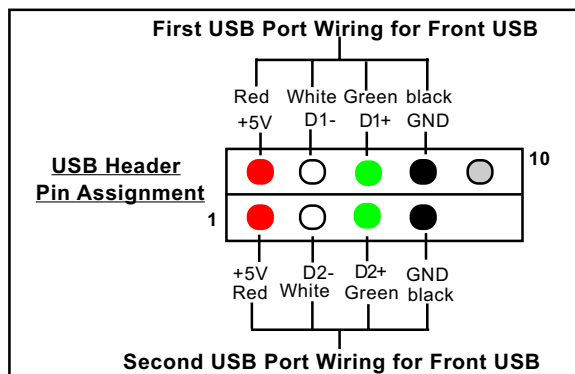
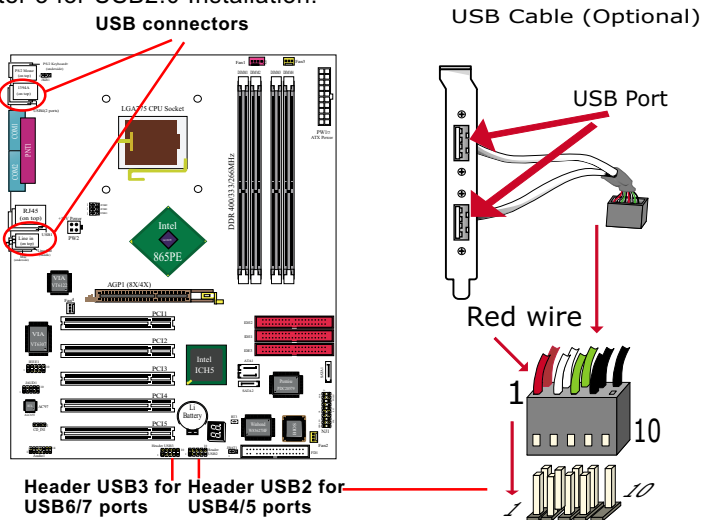
Fan4 is a non-sensor Fan connector

2-9.2 USB Ports and USB Pin-headers

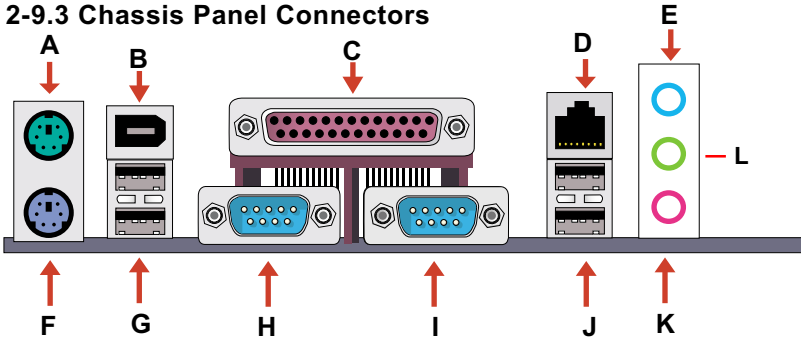
This series provides four USB ports on board supporting various USB devices. In addition, two USB pin-headers are added on board to provide expansion of four more optional USB ports by using two additional USB cables. Users can order the optional USB cables from your main-board dealer or vendor.

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.



2-9.3 Chassis Panel Connectors




- A : PS/2 Mouse
- B : 1394A connector
- C : LPT1 Port
- D : RJ45
- E : Line in/
Rear Speaker Out
- F : PS/2 Keyboard

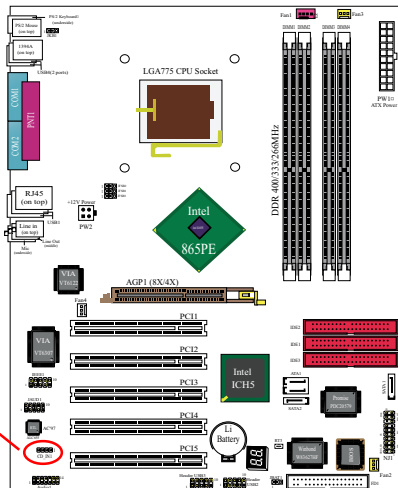
- G : USB 0 / 1
- H : COM1 Connector
- I : COM2 Connector
- J : USB 2 (middle)
USB 3 (underside)
- K : Microphone Input /
Center Subwoofer Out
- L : Line Out /
Front Speaker Out

2-9.4 CD-ROM Audio Connectors

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

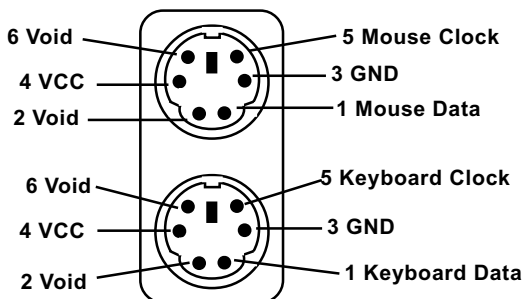
CD-ROM Audio Pin Assignment

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



2-9.5 PS/2 Mouse And PS/2 Keyboard

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

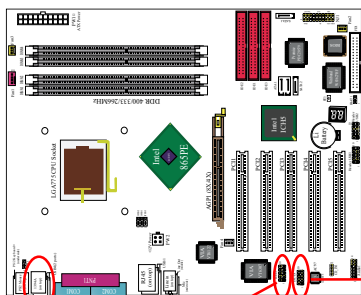


(PS/2 Keyboard Connector: Underside, purple)

2-9.6 External Audio Connector

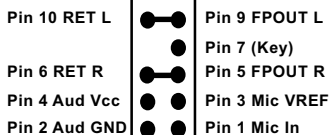
This Mainboard is designed with an External Audio connector “JAUD1” which provides connection to your chassis.

1. When JAUD1 is set to 5-6 closed and 9-10 closed, this default setting disables this connector and leaves the Back Panel Audio enabled.
2. To use this Front Panel Audio Connector, please open all pins of JAUD1 and connect it to your chassis.



1394A connectors

JAUD1: External Audio Connector



2-9.7 1394A Connector

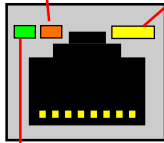
- 2 IEEE 1394A ports supported by IEEE1394A controller VT6307
- Supporting 400/200/100 Mbits transfer rate.
- PCI-bus based open host controller, compliant with IEEE 1394a-2000 standard for high performance serial bus

2-9.8 LAN Connector

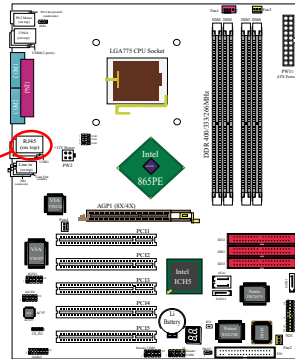
One RJ45 connector is on board for network connection.

Orange LED blinks to indicate that data transmission is undergoing in 1000 Base T mode.

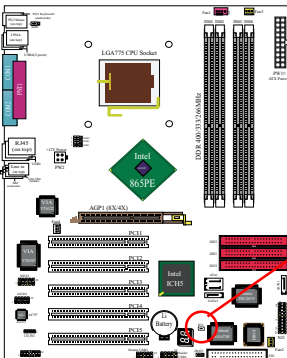
Yellow LED "On" to indicate Network hub is in connection with the system.



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



2-9.9 Thermal Detector



Thermal Resistor RT3

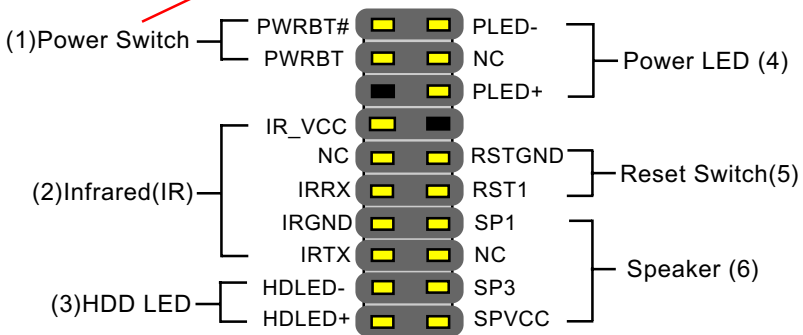
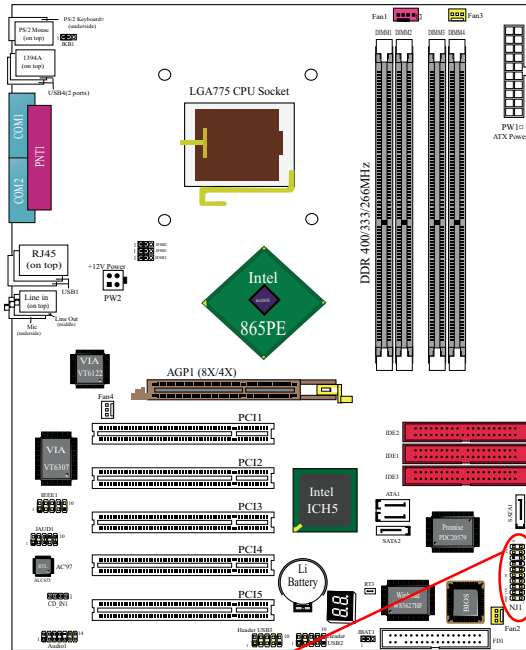


RT3 is mounted with Thermal Resistor by default for detecting system temperature.

Detector RT3: A thermal detector is mounted by default to connector RT3 so as to detect the temperature of the system. What RT3 does is to transmit the thermal signal to Hardware Monitor.

2-9.10 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.



(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:

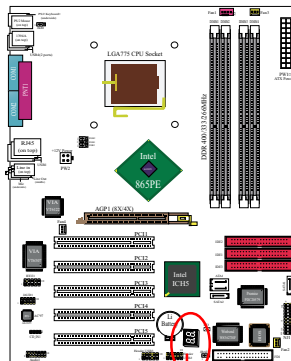
Connection: Connected to case-mounted “Reset Switch”.
Function: To supply power to “Reset Switch” and support system reboot function.

(6) Speaker Connector:

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

2-9.11 LED2: Debug LED

A Debug LED is built in on board to display various digital messages which stand for the running status of the mainboard. The CheckPoint and Beep Code List is enclosed in Appendices of this manual. Please refer to the tables describing the type of checkpoints for more information.



Debug LED

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.

If you are using a newer driver version than the illustration used below, the pictures may be different.

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**
- 3-2 To Install Intel Chipset Software Installation Utility**
- 3-3 To Install AC'97 Audio Drivers**
- 3-4 To Install Hardware Monitor Utility**
- 3-5 To install Gigabit Ethernet Drivers**
- 3-6 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:

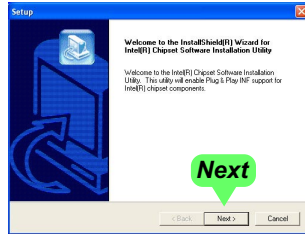


2. In case your system does not open the Support CD automatically, please click to the following path to enter the Main Installation Menu:
D:\Autorun.exe (assuming that your CD-ROM Drive is Drive D)
3. We recommend that drivers installation should be started from top to bottom of main menu.
4. Drivers 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 illustrative pictures might be different.

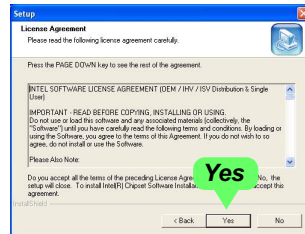
3-2 Intel Chipset Software Installation Utility

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

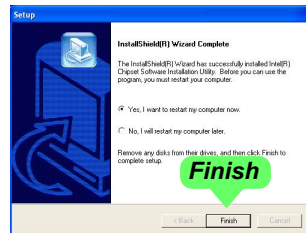
2. The Intel Service Pack InstallShield Wizard will pop up to guide you to the Intel Service pack installation. Press “**Next**” button to continue.



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.



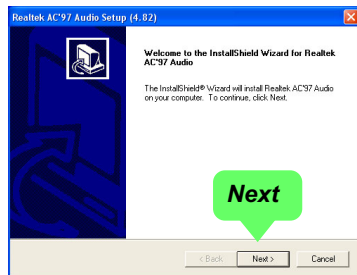
3-3 AC'97 Audio Driver Installation

Avance AC97 Audio Codec on board, AC'97 2.2 compatible stereo audio code for PC multimedia systems. Avance AC'97 Audio Codec Driver is provided in Support CD for user's installation.

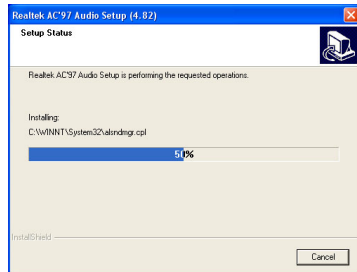
3-3.1 Install AC'97 6-channel Audio Driver

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

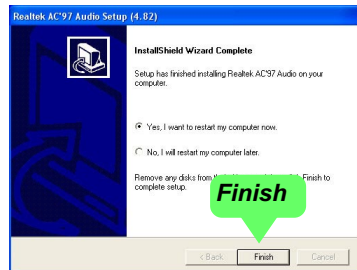
2. Instantly, the "installShield Wizard" screen appears to guide you through the "Avance AC'97 Audio Setup".



3. instantly, the Setup program proceeds to install the softwares which include AC'97 driver and AVRack. (If you want to stop setup, click the "Cancel" button.)



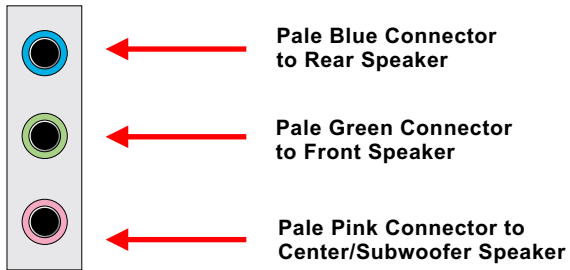
4. After the setup process is finished, please check the radial button "Yes, I want to restart my computer now." And click "Finish" to restart your system.



3-3.2 Verify 6-channel Audio

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

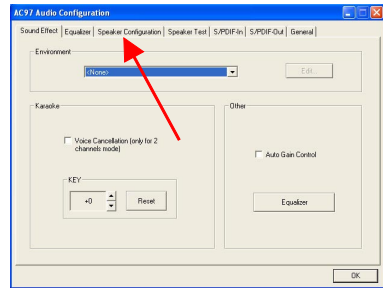
1. Connect your on-board Audio Connector to your 6-channel speakers as depicted in the figure below:



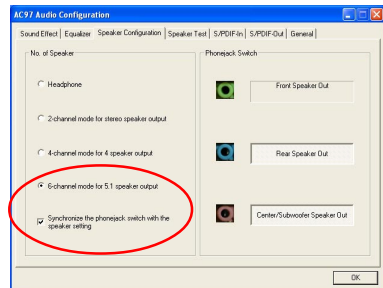
2. After Connection is done, start your Windows system and double click the Avance Sound Effect manager icon to enter 6-channel configuration:



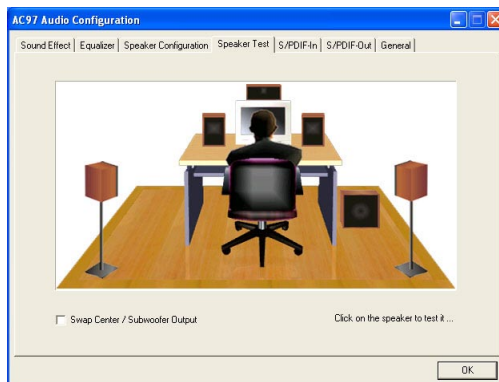
3. The AC'97 Audio Configuration" screen will pop out. Click the "Speaker Configuration" bar with your mouse.



4. Instantly, the "Speaker Configuration" screen will pop out. Pick the items "6-channel mode for 5.1 speakers output" and "Synchronize the phonenumber switch with the speakers settings" and then click "OK" to finish configuration.



5. At finishing the Speakers Configuration, you can also click the "Speaker Test" bar on the screen to test the 6-channel performance. The figure below is the "Speaker Test" screen with testing instructions enclosed on it. Follow the instructions to perform the Speakers Test.



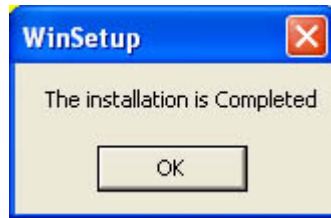
3-4 To install Gigabit Ethernet Drivers

3-4.1 Installation

1. Following the procedures of opening the Support CD, click to “Onboard Giga LAN Driver” to proceed.

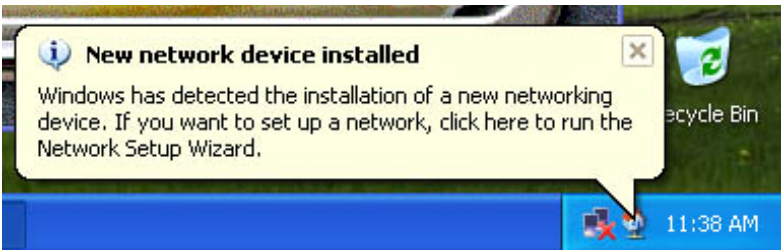


2. Instantly, “The installation is completed” screen appears, indicating that LAN Driver setup is finished.



3-4.2 Verification

1. After LAN Driver setup, a new networking icon will appear at the corner of the “Start” screen of your system, indicating that a network channel has been set up.



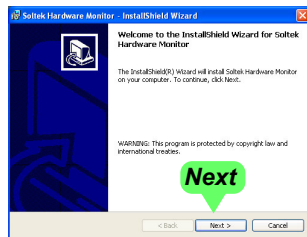
3-5 To Install Hardware Monitor Utility

3-5.1 Installation

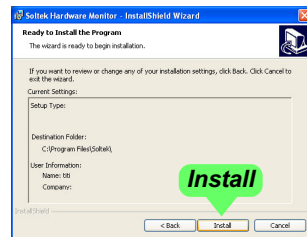
Hardware Monitor is built on this mainboard. Its installation is programmed to a fully automated mode on Windows 9X/Me/NT4/2000/XP. Users can follow the model installation below for its installation on various Windows System.

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

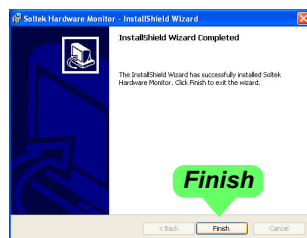
2. The Soltek Hardware Monitor InstallShield Wizard will pop up to guide you to the Intel Service pack installation. Press “**Next**” button to continue.



3. The **InstallShield Wizard** screen will show the current setting, please click the “**Install**” button to continue.

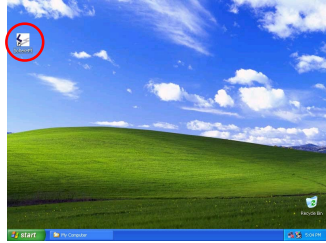


4. After all the setup process is finished, click “Finish” to exit the wizard.



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.

The screenshot shows the Soltek Hardware Monitor software interface. It features a futuristic, metallic-looking design with various data panels. The 'TEMPERATURE' panel shows CPU, ABS, and RT 2 temperatures. The 'FAN TACHOMETER' panel shows Fan 1, Fan 2, and Fan 3 speeds. The 'VOLTAGE' panel shows CPU, DRAM, 3.3V, and 5V voltages. A 'SOLTEK' button is visible on the right side. A 'Status Warning LED' is also present. Callout boxes with red lines point to these specific features.

TEMPERATURE	
CPU Del	40
ABS B	47
RT 2	79

FAN TACHOMETER	
Fan 1	not found
Fan 2	6750
Fan 3	not found

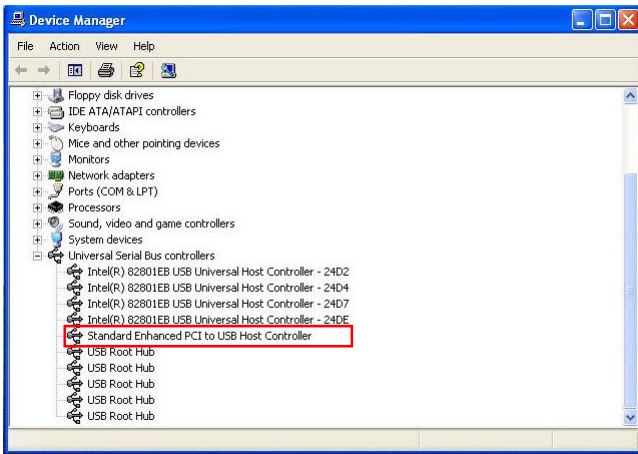
VOLTAGE	
CPU Voltage	1.717
DRAM Voltage	2.437
3.3V	3.336
5V	4.915

*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 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 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.)

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.
- “AFUDOS.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 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 TO RUN SETUP

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

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

<ul style="list-style-type: none">▶ Standard BIOS Features▶ Advanced BIOS Features▶ Advanced Chipset Features▶ PCI/PNP Resource Management▶ Boot Configuration Setup	<ul style="list-style-type: none">▶ BIOS Security FeaturesSave Changes and ExitDiscard Changes and ExitLoad Optimal DefaultsDiscard 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” allows 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

4-6.3 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
<p>Warning: Setting wrong values in below sections may cause system to malfunction.</p>	
<ul style="list-style-type: none"> ▶ CPU Configuration ▶ IDE Configuration ▶ Floppy Configuration ▶ SuperIO Configuration ▶ Hardware Health Configuration ▶ ACPI Configuration ▶ Clock Generator Configuration ▶ USB Configuration ▶ Voltage Control ▶ Power Management ▶ PCI Device Control 	<ul style="list-style-type: none"> Press Enter Press Enter Press Enter Press Enter Press Enter Press Enter Press Enter Press Enter Press Enter Press Enter Press Enter

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

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 Cache L3 :0KB Ratio Status : Locked Ratio Actual Value : 15 Ratio CMOS Setting : 8 VID CMOS Setting : 62 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/L3 BIOS shows the actual CPU internal Level 1/2/3 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	ATAPI CDROM
▶ Secondary IDE Master	Not Detected
▶ Secondary IDE Slave	Not Detected
▶ Third IDE Master	Not Detected
▶ Fourth IDE Master	Not Detected
Hard Disk Write Protect	Disabled
IDE Detect Time Out (Sec)	35
ATA(P1) 80Pin Cable Detection	Host & Device

4-6.3.2-1 IDE Configuration

IDE Configuration

Allows you to configure 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 item 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 the following item 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 item 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	Select the type of device connected to the system.											
<table border="0"> <tr> <td>Type</td> <td>Auto</td> </tr> <tr> <td>LBA/Large mode</td> <td>Auto</td> </tr> <tr> <td>Block (Multi-Sector Transfer)</td> <td>Auto</td> </tr> <tr> <td>PIO Mode</td> <td>Auto</td> </tr> <tr> <td>S.M.A.R.T.</td> <td>Auto</td> </tr> <tr> <td>32Bit Data Transfer</td> <td>Disabled</td> </tr> </table>		Type	Auto	LBA/Large mode	Auto	Block (Multi-Sector Transfer)	Auto	PIO Mode	Auto	S.M.A.R.T.	Auto	32Bit Data Transfer
Type	Auto											
LBA/Large mode	Auto											
Block (Multi-Sector Transfer)	Auto											
PIO 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

1. 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 Floppy B Disabled	Select the type of floppy drive connected to the system.

↑↓←→ : 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 Win627THF Super IO Chipset	Help Item
OnBoard Floppy Controller	Enabled
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

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

CIR Port IRQ Allows you to set the onboard CIR Port IRQ for 2E0 or 3E0.
Choices: IRQ3; IRQ4; IRQ9; IRQ10; IRQ11

Parallel Port Address Allows you to configure Parallel Port Address.
Choices: Disabled; 378; 278; 3BC;

- Disabled: To disable this function;
- 378: 2 items to configure for address 378:
 - 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

4-6.3.5 Hardware Health Configuration

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

Hardware Health Configuration		Help Item
System Temperature	: 34°C/93°F	Enables Hardware Health Monitoring Device.
CPU Temperature	: 45°C/113°F	
Fan1 Speed	: 3125 RPM	
Fan2 Speed	: 3169 RPM	
Fan3 Speed	: N/A	
CPU Core	: 1.500 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
ACPI Aware O/S	Yes
▶ General ACPI Configuration	Press Enter
▶ Advanced ACPI Configuration	Press Enter
	Enables Hardware ACPI support for Operating System.
	Enable: If OS supports ACPI.
	Disable: If OS Does not support ACPI.

ACPI Aware O/S Allows you to enable ACPI Aware O/S function if your O/S supports ACPI. Windows XP, 2000, 98SE all support ACPI. Choices:

Yes: If “Yes” it allows you to configure “General / Advanced ACPI”.

No: If “No”, no “General/Advanced ACPI” to be configured.

▶ **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. Clock Generator Configuration

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

Clock Generator Configuration		Help Item
Configure ICS ICS9952603 Clock Generator		
CPU Frequency Setting	200	
AGP/PCI Frequency Setting	Disabled	
Spread Spectrum	Disabled	
Auto PCI Clock	Disabled	

CPU Frequency Setting This item allows you to set CPU Clock.
Choices: 100MHz ~200MHz in 1MHz stepping.
(133MHz~165MHz is for 133MHz CPU;
200MHz~327MHz is for 200MHz CPU)

AGP/PCI Frequency Setting To set AGP/PCI Frequency.
Choices:
Disabled;
66.67/33.33 fixed;
72.73/36.36 fixed;
80.00/40.00 fixed;

Spread Spectrum This function will reduce the EMI (Electromagnetic Interference) in your system. If you do not have an EMI problem, leave this item disabled.
Choices: Disabled; 0.35%;0.50%; 0.75%; 1.00%

Auto PCI Clock To enable/disable to automatically detect PCI clock.

4-6.3.9. Voltage Control

1. Choose "Frequency/Voltage Control" in "Advanced BIOS Features" and press <Enter>. The following sub-screen will appear for configuration:

Voltage Control

Voltage Configuration	Help Item
AGP Voltage Control	1.5V
DIMM Voltage Control	2.6V
CPU Voltage Control	Auto

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

AGP Voltage Control Allows you to configure the AGP Voltage.
Choices: 1.5V; 1.6V; 1.7V; 1.8V

DIMM Voltage Control Allows you to configure the DIMM Voltage.
Choices: 2.6V; 2.7V; 2.8V; 2.9V

CPU Voltage Control Allows you to configure the CPU Voltage. Usually, to raise CPU voltage will raise the chance of CPU overclocking and yet risk damage of CPU.
Choices: Auto; 0.8500V ~1.8000V in 0.0125V stepping

4-6.3.10. Power Management

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

Power Management		Help Item
APM Configuration		
Power Management/APM	Enabled	Enable or disable APM.
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	

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

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 Function Allows you to set power Button function. Choices: On/Off (default); Suspend

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

4-6.4.1 NorthBridge Configuration

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/PCI	
Graphics Aperture Size	64MB	

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, the following items will appear for user's configuration:
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 enable / disable (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: AGP/PCI(default); PCI/AGP;

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.

4-6.4.2 SouthBridge Configuration

1. Choose “SouthBridge Configuration” in “Advanced Chipset Features” and press <Enter>. The following sub-screen will appear for configuration:

SouthBridge Configuration

OnBoard AC'97 Audio	Auto	Help Item

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

Onboard AC'97 Audio Allows you to disable AC' 97 Audio.
Choices: Auto (default); Disabled

4-6.5 PCI/PNP Resource Management

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

1. 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.	
Plug & Play O/S	No
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	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) (default); Yes(by O/S)

PCI Latency Timer (PCI Allows you to set the PCI Latency Time.

Clocks) Choices: 32(default); 64; 96; 192; 128; 160; 192; 224; 248;

Allocate IRQ to PCI Allows you to assign IRQ to PCI VGA card if card

VGA 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; PCI Slot4; PCI Slot5;

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

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

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:

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

Boot Settings		Help Item
▶ Boot Setting Configuration	Press Enter	Configure Settings during System Boot.
▶ Boot Device Priority	Press Enter	

↑↓←→ : 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	
Quiet Boot	Enabled
AddOn ROM Display Mode	Disabled
Bootup Num-Lock	Force BIOS
PS/2 Mouse Support	On
Wait For 'F1' If Error	Auto
Hit 'DEL' Message Display	Enabled
Interrupt 19 Capture	Enabled
	Disabled

Quick Boot Allows you to enable (default)/ disable quick boot of your system. If enabled, BIOS will skip certain tests while 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	

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
Supervisor Password : Not Installed User Password : Not Installed	Install or Change the password.
▶ Change Supervisor Password Press Enter	
▶ Change User Password Press Enter	
Clear User Password Press Enter	
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 restarting 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 disable the virus warning.

4-6.8 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.

4-6.9 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.

4-6.10 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.

4-6.11 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.

Chapter 5 RAID & RAID Driver

Promise RAID Controller PDC20579

Promise RAID (Redundant Array of Independent Disks) Controller PDC 20579 is to provide RAID configuration of RAID 0, RAID 1, and RAID 0+1 modes, while it also support. RAID Drivers are enclosed in a Driver CD as well as a Floppy diskette to support various RAID systems (Windows 98SE/Me/2000/XP) setup.

This Chapter is to introduce the SATA RAID / SATA + PATA RAID Configurations with PDC20579 :

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5-0 About Disk Array

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 PDC20579

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.

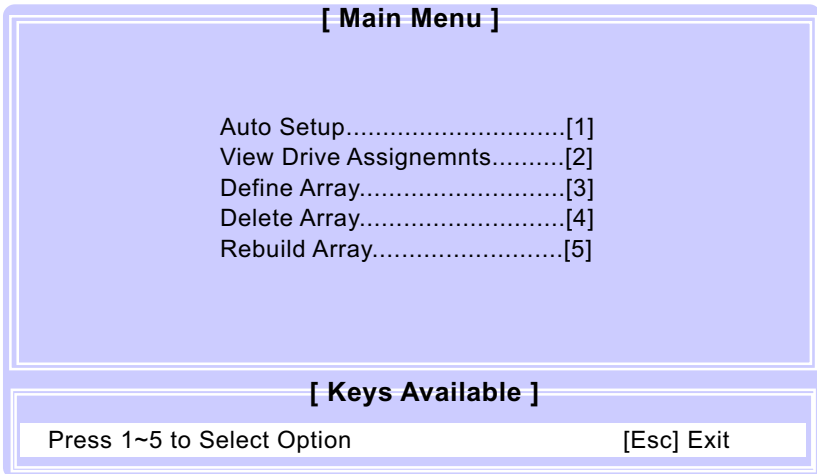
3. RAID 0+1 (Mirror/Stripe):

RAID 0+1 is formed by a RAID 0 member mirrored to another RAID member to establish a RAID 0+1 Array. RAID 0+1 requires at least 4 disk drive to set up the RAID 0+1 configuration.

5-4. To Enter the Main Menu of FastBuild Utility

The Main Menu will pop out as below:

FastBuild (tm) Utility 2.01 (c) 2002-2005 Promise Technology, Inc.



1. Auto Setup.....[1]
Press figure “1” on keyboard to enter Auto Setup of RAID.”Auto Setup” is available only if there are free disk drive detected in system.
2. View Drive Assignment.....[2]
Press figure “2” on keyboard to view the drive assignment detected in system.
3. Define Array.....[3]
Press figure “3” on keyboard to view the defined Array already set up in system.
4. Delete Array.....[4]
Press figure “4” on keyboard to enter the “Delete Array” field for deleting Array already set up in system.
5. Rebuild Array.....[5]
Press figure “5” on keyboard to enter the “Rebuild Array” field for rebuilding a defective array or RAID member. “Rebuild Array” is available for “RAID 1 (Mirror)” or “RAIA 0+1 (Mirror/Stripe)” mode.

5-5. View Drive Assignment before RAID Setup

Press “2” to enter “View Drive Assignment” so that you can see the status of all disk drives detected by RAID BIOS.

FastBuild (tm) Utility 2.02 (c) 2003-2005 Promise Technology, Inc.

[View Drives Assignments]

Channel:ID	Drive Model	Capacity (MB)	Assignment	Mode
1:	Mas ST380023AS	80026	Free	U5
2:	Mas ST380023AS	80026	Free	U5
3:	Mas QUANTUM FIREBALLP AS3	30020	Free	U2
3:	Mas ST330620A	30020	Free	U2

[Keys Available]

[Esc] Exit
MODE (D = DMA, U = UDMA)

Press Esc key to return to Main Menu

Two drives are detected in one channel 3 as free drives (available for RAID setup)

Two drives are detected in channel 1 and 2 as free drives (available for RAID setup)

Totally 4 drives are detected by RAID BIOS

5-6. Enter “Auto Setup” for RAID Setup

On the Main Menu press “1” to enter “Auto Setup” and choose your RAID mode. If you choose “Performance” and save your choice now, your RAID is Stripe mode. Since 4 drives are installed, you can also choose “Security” for your RAID mode.

[Auto Setup Options Menu]

Optimize Array for: Performance Press “ <--- “ key to change RAID option.

[Array Setup Configuration]

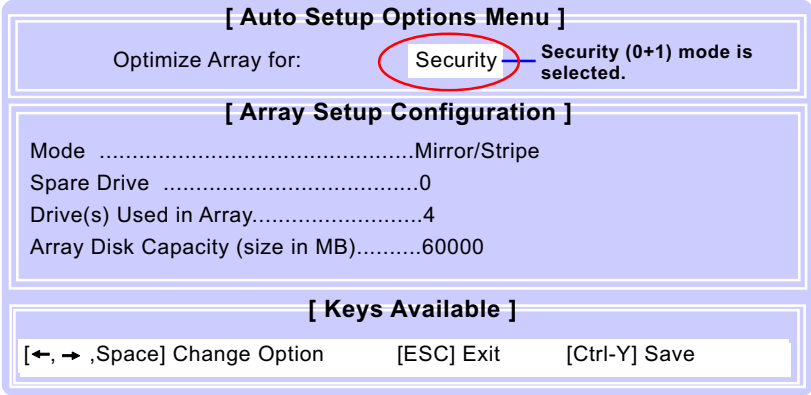
ModeStripe
 Spare Drive0
 Drive(s) Used in Array.....4
 Array Disk Capacity (size in MB).....120080

[Keys Available]

[←, → ,Space] Change Option
[ESC] Exit
[Ctrl-Y] Save

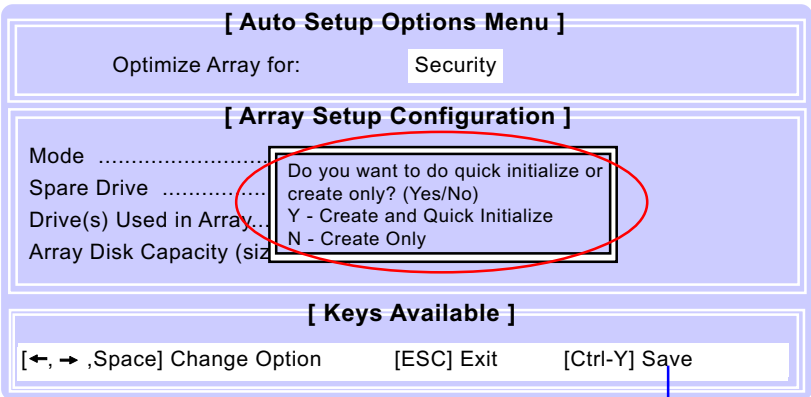
5-7. Choose “ Security” for RAID 0+1 (Stripe/Mirror)

Inside Auto Setup menu Press “ ← ” key to choose “Security” mode for your RAID.



5-8. Press <Ctrl-Y> to Save the Choice

When a RAID mode is chosen, press < Ctrl-Y> to save the choice. Then select Y for “Create and Quick Initialize; or select N for “Create only”.



Press <Ctrl-Y> to save choice.

5-9. Create RAID Only / Create and Quick Initialize

“Create Only” is for creating RAID without changing the disk data.

“Create and Quick Initialize” will create the RAID with clearing disk data.

[Auto Setup Options Menu]

Optimize Array for:

[Array Setup Configuration]

Mode
Spare Drive
Drive(s) Used in Array...
Array Disk Capacity (siz

Choose Quick Initialize will delete any existing data on your hard disks.
Y - Continue, Others - Cancel

[Keys Available]

[←, →, Space] Change Option [ESC] Exit [Ctrl-Y] Save

5-10. Array Created and View Drives Assignments

After choosing “Create Only” or Create and Quick Initialize”, next screen will return to the Main Menu. You can now press “2” to view drives assignments. You can see that all drives have already been set to RAID 1.

[View Drives Assignments]

Channel:ID	Drive Model	Capacity (MB)	Assignment	Mode
1: Mas	ST380023AS	80026	RAID 1	U5
2: Mas	ST380023AS	80026	RAID 1	U5
3: Mas	QUANTUM FIREBALLP AS3	30020	RAID 1	U2
3: Mas	ST330620A	30020	RAID 1	U2

[Keys Available]

[Esc] Exit MODE (D = DMA, U = UDMA)

5-11. Enter [Define Array] to see the RAID Mode

You can also press “3” on the Main Menu to enter the [Define Array]] so that you can see the RAID mode just set up by yourself.

FastBuild (tm) Utility 2.02 (c) 2003-2005 Promise Technology, Inc.

[Define Array Menu]

Array No	RAID Mode	Total Drv	Capacity(MB)	Status
Array 1	Mirror/Stripe	4	120080	Functional
Array 2				
Array 3				
Array 4				

Halt On Error : Disable

5-12. After Array creation, Press [Esc] to exit

After Array creation, you can now press “Esc” on the Main Menu and exit RAID setup.

Congratulation!

Your system is now ready for operating system installation and RAID Driver Setup.

FastBuild (tm) Utility 2.01 (c) 2002-2005 Promise Technology, Inc.

[Main Menu]

- Auto Setup.....[1]
- View Drive Assignemnts.....[2]
- Define Array.....[3]
- Delete /
- Rebuild

This will EXIT FastBuild!
Are You Sure?
Y - Yes / Any key - Back

[Keys Available]

Press 1~5 to Select Option

[Esc] Exit

5-13. To Install Promise RAID Driver

Promise RAID Driver is incorporated in Support CD/Floppy Diskette for user's installation. This driver is intended for Windows 2000/XP/2003.

To Install RAID Driver on Windows 2000/XP/2003

- (1) Get ready the Floppy Diskette holding the RAID Driver.
(This Driver Diskette should have been enclosed in the mainboard Package.)
- (2) Check that Hard Disks are connected properly to the RAID connectors.
- (3) Start your PC system and use RAID BIOS Setup Utility to configure RAID 0 / 1/ 0+1 to the hard disks.
- (4) Restart System and apply the Windows 2000/XP/2003 CD to CD-ROM for operating system installation.
- (5) On the Windows 2000/XP/2003 Setup screen, press "F6" key for RAID driver setup.



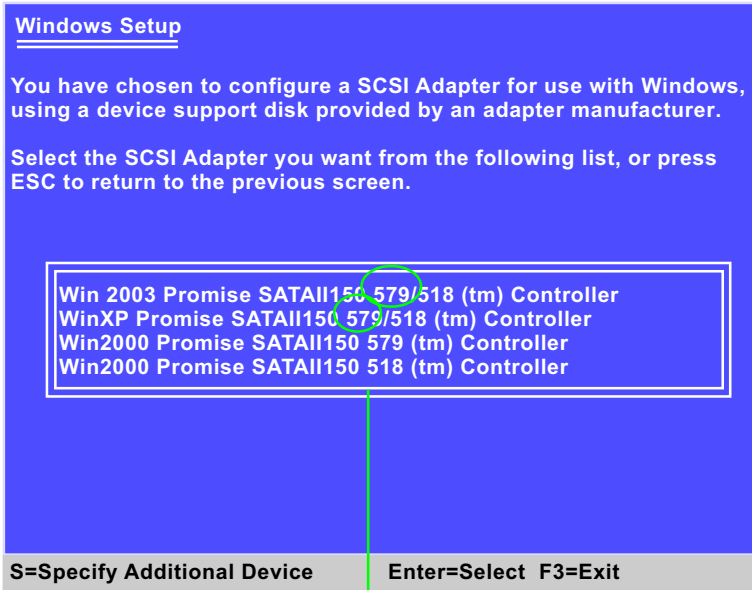
(6) On next screen press "S" to confirm the mass storage device setup.



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



- (8) On next screen, choose the driver suitable for your operating system and press <Enter> to continue.



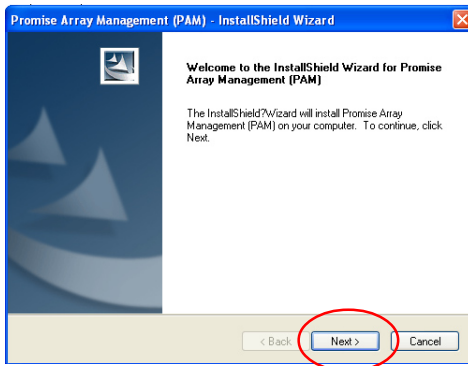
Choose the 579 Controller driver for your system and press<Enter>

After selecting the proper driver for your system, the Installation Program will then guide you through the rest of system setup. The RAID driver will then be installed into your system.

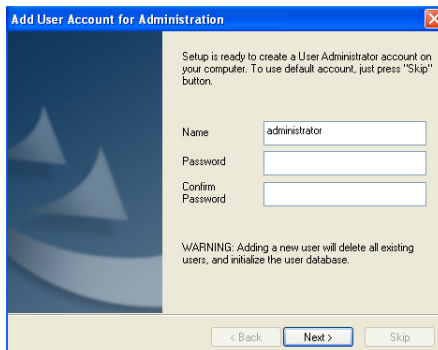
5-14. To Install Promise Array Management (PAM)

Promise Array Management utility is incorporated in Support CD for user's installation. This utility is intended for disk array management in Windows 98se/Me/2000/XP/2003.

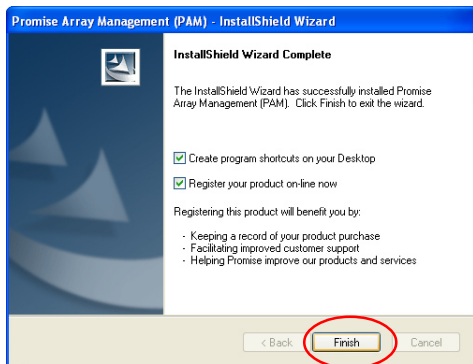
- (1) Get ready the Support CD for PAM installation.
- (2) Open the Support CD and take the following path to start PAM setup:
(Support CD) Driver\Promise\PDC20579\PAM 400\Setup.exe
- (3) Mouse click on Setup.exe to start PAM setup.
Instantly, the Install wizard for Promise Array Management pops out. Click Next button to continue.



- (4) If your system prompts you to create a User account and a password for it, you should follow the instructions to do so.



- (5) After creating a User Account for PAM, click Next to continue setup. Follow the instructions on the subsequent screens and get on the PAM setup until you see the InstallShield Wizard Complete screen appear. You can create the PAM Program shortcut on your desktop before clicking on the Finish button.

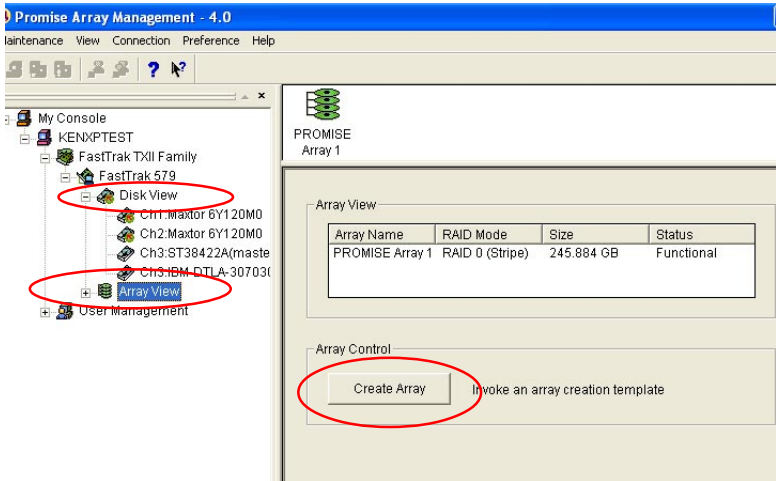


5-15. To manage Array System by PAM

- (1) If you have installed PAM and created a shortcut on your desktop, click on the PAM icon on your desktop to start PAM.



(2) After you have entered your account password, you would be able to enter Fastrak 579 and then enter Disk View and Array View.



(3) If you have added an additional hard disk into your system, you can also click on Array View to create a new array.

