CONTENT

Item Checkup

- Mainboard
- Multi-lingual Quick Installation Guide
- User Manual (Mainboard)
- Support CD
- Bundled Bonus Pack CD
- Bundled Bonus Pack Manual
- Cable :
  ATA66/100 IDE Cable
  FDD Cable
  USB Cable (Optional)

Chapter 1 Specification

Introduction

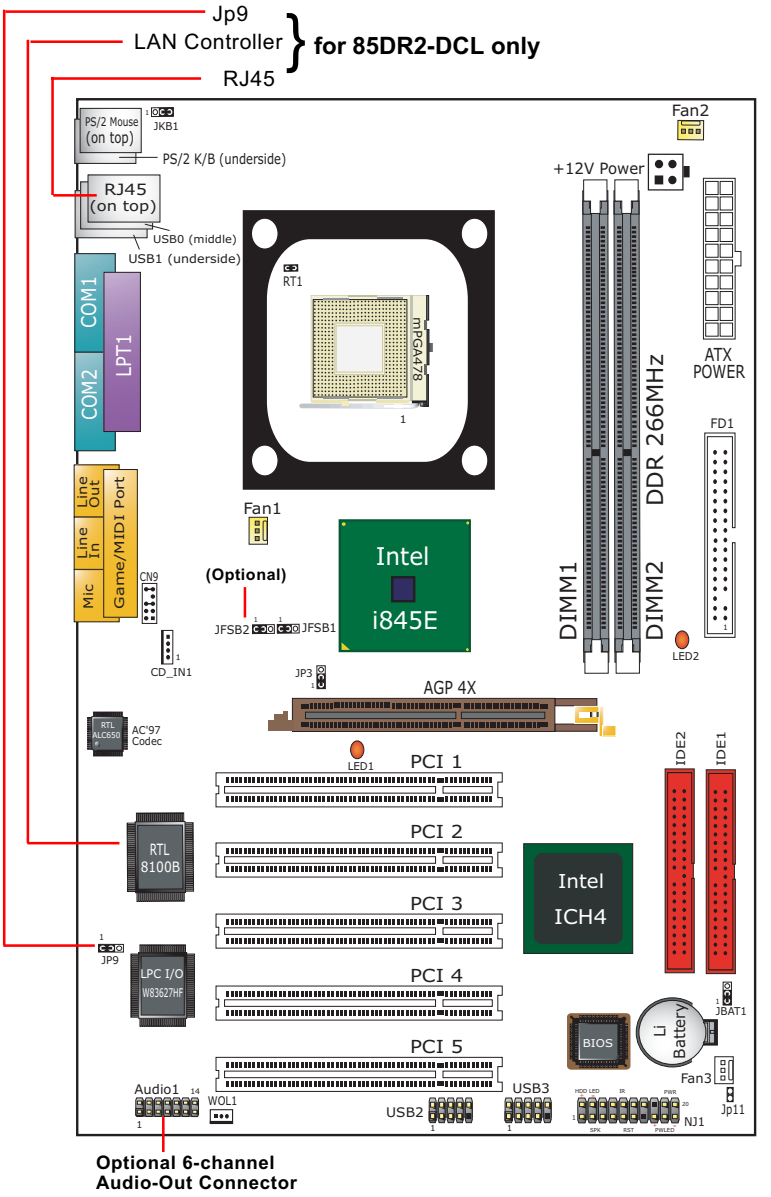
This series features an integration of the powerful processor Intel Pentium 4 and the single-chip North Bridge Intel 845E. The Intel P4 processor is a rapid execution engine providing 800/533/400MHz system bus, while North Bridge Intel 845E is a high performance integrated chipset providing DDR 266 SDRAM memory interface, Hub interface, and AGP interface.

Integrated with i845E, South Bridge Intel ICH4 supports the LPC Super I/O, upstream Hub interface, PCI interface, IDE 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.

The topics contained in this chapter are:

**** If any difference is found between the manual 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 Mainboard Layout



1-2 Mainboard Specifications

1-2.1 CPU Socket

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

-- 800/533/400MHz System Bus -- 512KB L2 Advanced Transfer Cache
-- Hyper-pipelined technology -- Advanced dynamic execution;
-- Rapid Execution Engine -- Streaming SIMD Extensions 2
-- 128 Bit Enhanced Floating Point Unit -- Execution Trace Cache

1-2.2 Sysem Chipset Architecture

North Bridge Intel 845E:

- A high performance integrated chipset providing processor interface (including Hyper Threading Technology), DDR 266 DRAM memory interface, Hub interface, AGP interface.
- Showing Hyper-Threading Logo when booting with a Hyper-Threading CPU installed.

South Bridge Intel ICH4:

- Supporting the LPC Super I/O, upstream Hub interface, PCI interface, IDE interface, USB 2.0 interface, AC'97 2.2 (6-channel) Audio interface and the interrupt control.

1-2.3 Memory

2 x DDR DIMM 184-pin slot on board for DDR 266 SDRAMs, supported by 2.5V default voltage (optional DIMM Voltage Adjustment):

- Directly supporting unregistered, non-ECC DDR 266 SDRAM up to 2GB capacity
- Supporting installation of mixed volumes yet same type of DDR SDRAM modules

1-2.4 AMI BIOS

Flash Memory for easy upgrade, supporting Year 2000 compliant, and supporting various hardware configuration during booting system (See Chapter 4 BIOS Setup):

- Standard CMOS Features(Times, Date, Hard Disk Type etc.)
- Advanced BIOS Features (Virus Protection, Boot Sequence etc.)
- Advanced Chipset Features (AT Clock, DRAM Timing etc.)
- Power Management Features (Sleep Timer, Suspend Timer etc.)
- PNP/PCI Configurations (IRQ Settings, Latency Timers etc.)
- Integrated Peripherals (Onboard IO, IRQ, DMA Assign. etc.)
- Hardware Monitor Status (CPU/System Temp., Fan speed etc.)
- Frequency/Voltage (CPU clock, Voltage of CPU, DIMM, AGP etc.)

1-2.5 Multi-I/O Function

- 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/XP or later operating system
  -- USB drivers provided in Support CD for installation
  -- 2 built-in USB connectors and 2 USB Headers which require 2 optional USB cables to provide 4 more optional USB ports
- PS/2 Keyboard and PS/2 Mouse
- UARTs (Universal Asynchronous Receiver / Transmitter):
  -- Two complete serial ports (COM1 & COM2) on board

1-2.6 Expansion Slots

- 5 PCI bus Master slots
- 1 AGP 4X slot
- 2 DDR DIMM slots

1-2.7 Accelerated Graphics port (AGP) Interface

AGP Controller embedded on board, supporting:

- 1.5V(4X) power mode only
- 4x AD and SBA signaling, AGP pipelined split-transaction longburst transfers up to 1GB/sec.
- AGP 4X only, AGP V2.0 compliant

1-2.8 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 192mm

1-2.9 LAN on board (For 85DR2-DCL only)

PCI local bus single-chip Fast Ethernet Controller RTL8100B on board:

- Supporting 10/100Mb data transfer
- Supporting Wake On LAN function through the on-board RJ45 LAN Connector
- LAN Driver enclosed in Support CD for user's installation.

1-2.10 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.

1-2.11 Hardware Monitor on board

- Soltek Hardware Monitor supported by W83627HF, providing monitoring and alarm for flexible desktop management of hardware voltage, temperatures and fan speeds.
- Utility Software Winbond HWDoctor for displaying system status is enclosed in Support CD for user's installation.

1-2.12 6-channel Audio-out Support (optional)

- This series is designed with an optional 6-channel Audio-out connector "Audio1". If this option is chosen, a 6-channel Audio-out card will be enclosed in the Mainboard package to provide 3 additional audio-out ports for the 6-channel sound.

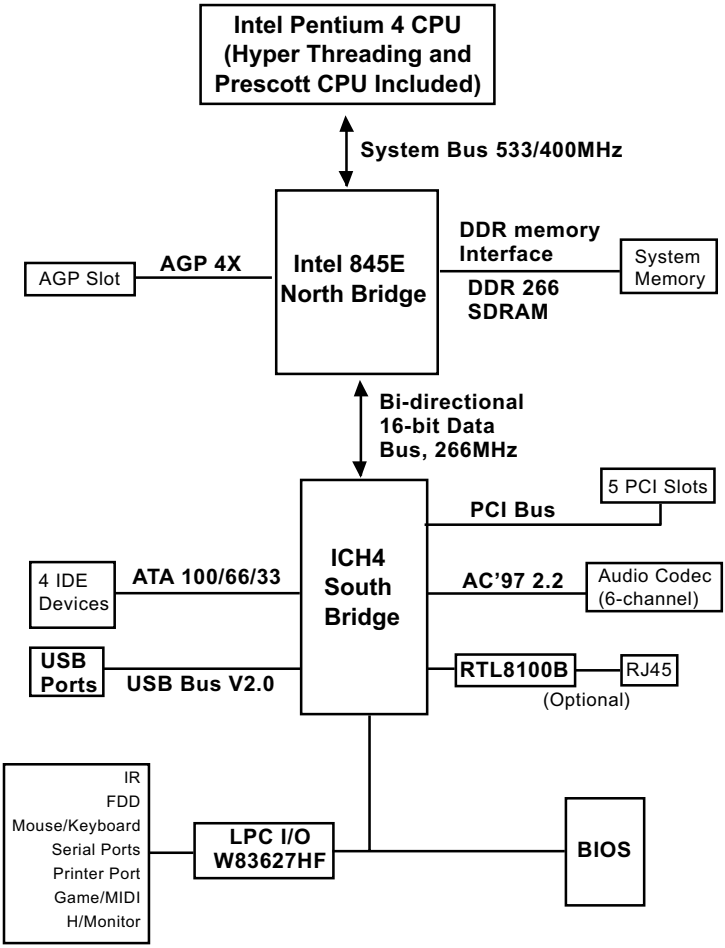
1-2.13 Advanced System Power Management

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

1-3 Mainboard Specification Table

85DR2-DC/85DR2-DCL Specifications and Features		
CPU	Socket 478B for P4 CPU (Hyper Threading CPU and Prescott CPU included)	
North Bridge	Intel 845E, supporting 533/400MHz FSB	
South Bridge	Intel ICH4	
BIOS	AMI BIOS	
Memory	Supporting DDR 266 DRAM, up to 2GB in 2 DDR DIMM slots	
I/O Chip	W83627HF, with Hardware Monitor	
AGP Interface	AGP 4X mode only	
Audio	AC'97 Audio 2.2 compliant, 2/6 channel audio	
IDE Interface	2 UATA 66/100 IDE ports	
PCI Slots	5 PCI Master slots on board	
I/O Connectors	6 USB V2.0, 1 FDD port, 2 COM ports, 1 LPT, 1 IrDA, 1 PS/2 K/B, 1 PS/2 Mouse	
Other Feature	Keyboard/Mouse Power On / Wake Up	
Models / Optional Features	85DR2-DC	85DR2-DCL
LAN Controller on board	No	Yes

1-4 Chipset System Block Diagram



Pentium 4 + Intel 845E + Intel ICH4 Diagram

Memo

Chapter 2 Hardware Setup

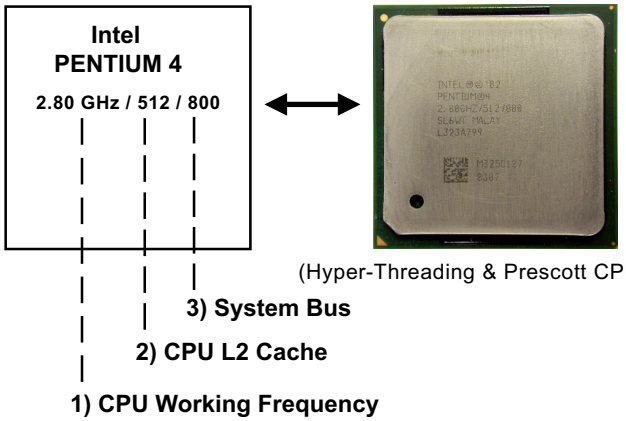
To Get Things Ready for Hardware Setup !!!

1. We recommend to install your CPU before any other componentes. 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 heatsink is a must for proper heat dissipation for your CPU. Get ready an appropriate fan with heatsink for proper installation. Improper fan and installation will damage your CPU.
3. In case CPU Vcore, CPU clock or Frequency Ratio is adjustable onboard, please follow the instructions described in the User manual for proper setup. Incorrect setting will cause damage to your CPU.

The following topics are included in this chapter:

2-1 Pentium 4 CPU and Installation

2-1.1 To Identify a Pentium 4 CPU



(Hyper-Threading & Prescott CPU included)

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

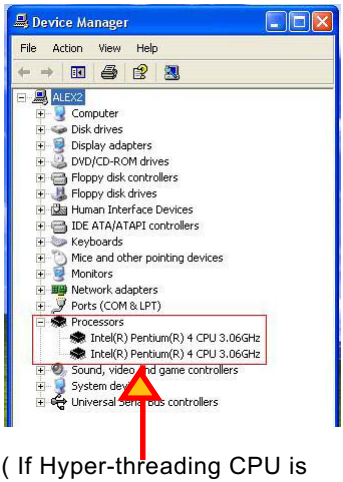
Note: System Bus vs CPU Clock
P4 CPU is a quad-pumped CPU. The system bus is provided by the CPU clock x 4. Therefore, users can figure out the P4 CPU clock by the System Bus divided by 4.

Pentium 4 with Hyper Threading Technology :
(1) P4 processors at 2.40C, 2.60C, 2.80C, 3, 3.20GHz with an advanced 800MHz system bus
(2) P4 processor at 3.06Ghz with 533MHz system bus

2-1.2 Pentium 4 CPU Installation with Socket 478

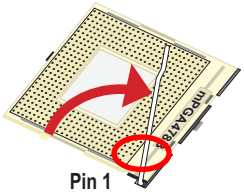
This series is built with CPU Socket 478B (478-pin) supporting the Intel Pentium 4 CPU:

- 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 series supports Hyper-threading dual-in-one CPU, the function of which can be enabled by Windows XP. (See illustration on the right.)

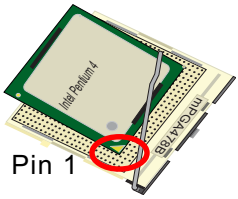


(If Hyper-threading CPU is installed successfully with O/S Win XP, the O/S will enable the dual-in-one CPU function.)

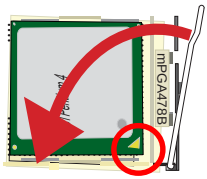
1. First pull sideways the lever of Socket 478, and then turn it up 90^0 so as to raise the upper layer of the socket from the lower platform.



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.

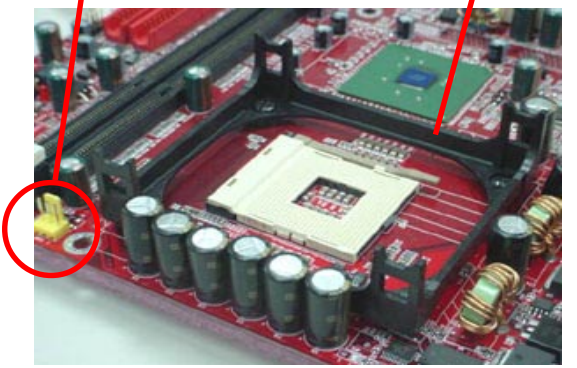


3. Make sure that all CPU pins have completely entered the socket and then lower down the lever to lock up CPU to socket.

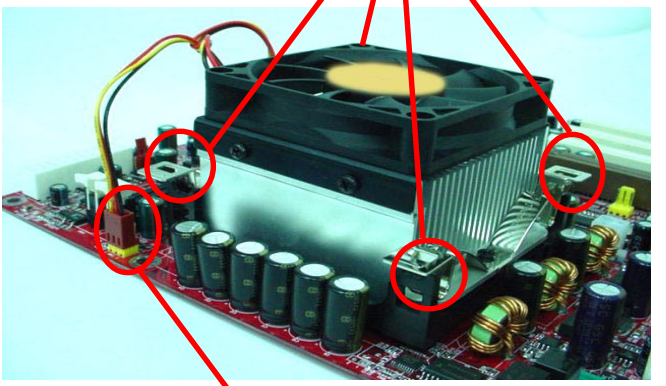


2-2 Pentium 4 CPU Fan Installation:

CPU Fan Connector Pentium 4 Fanbase



Press down 4 Spring Locks to lock fan to fanbase



Connect Fan Connector to CPU FAN connector

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

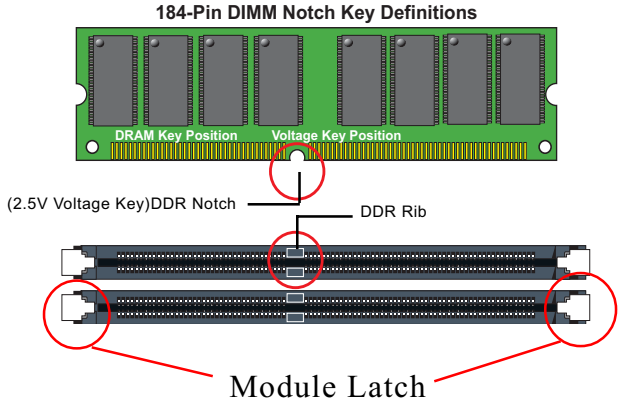
2-3 Memory Installation

How to tackle the memory modules:

- Make sure to unplug your power supply before adding or removing memory module. Failure to do so may cause severe damage to both your mainboard and the memory module.
- Pay attention to the orientation of the DIMM slots. Forcing a DIMM into a slot improperly will damage the memory module and the slot itself.
- Make sure you have the right type of memory module for your mainboard.

2-3.1 To Install DIMM Module

- This series only supports up to 2GB unbuffered DDR 266/200MHz SDRAM, with 2 DDR DIMM slots on board. Do not insert other type of memory module into these 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. Press the module down in a gradual way until it surely reaches the bottom and clicks straight up the two latches on the left and right of the slot. If any one of the latches has not turned up completely, you should unplug the module and press it down the slot a bit more firmly.

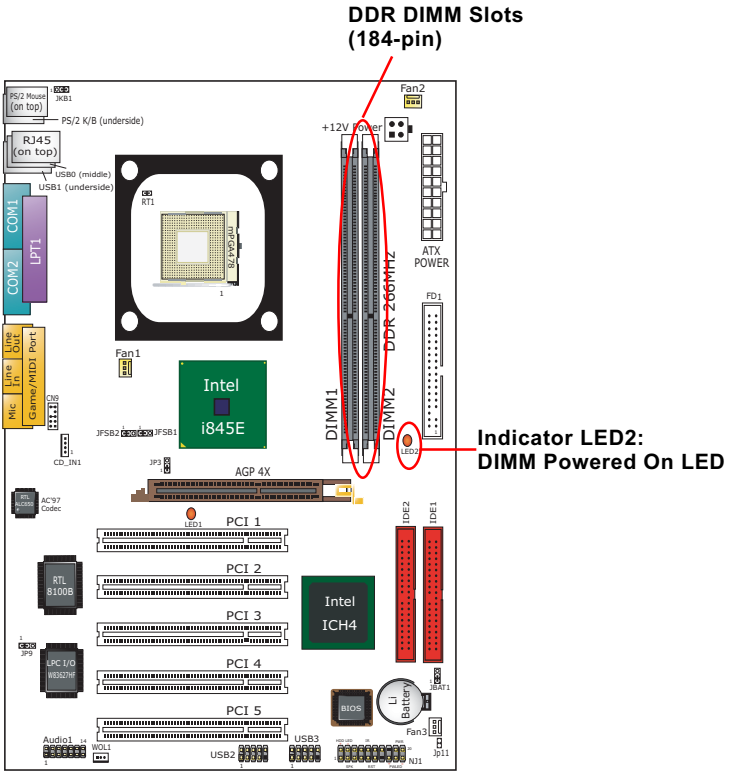


2-3.2 To Remove a DIMM:

- Press down the holding latches on both sides of the DIMM slot and the module will be released from it.

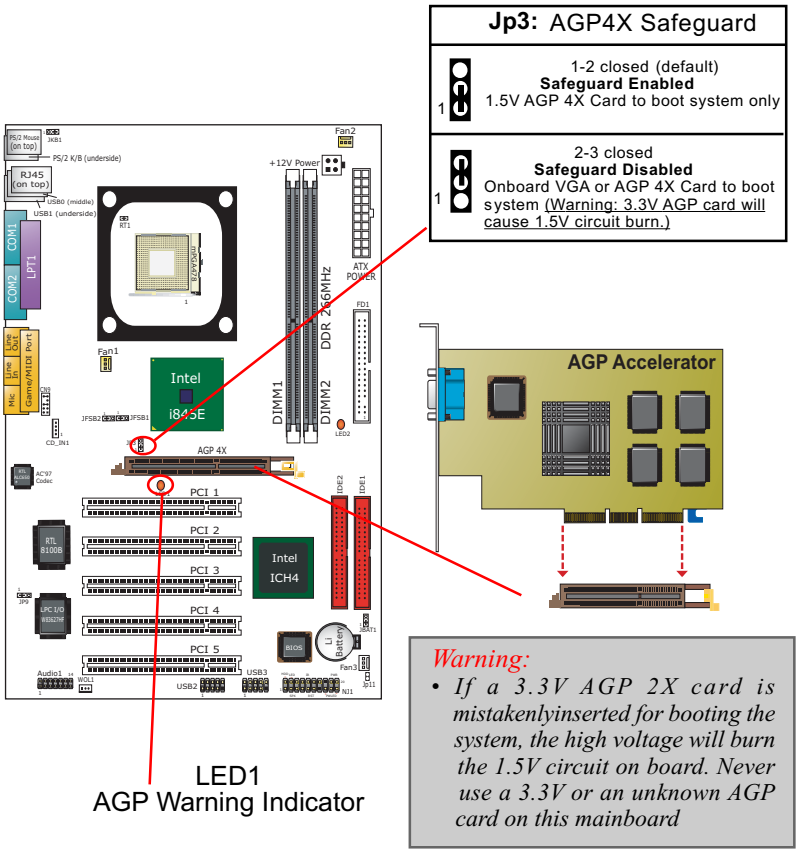
2-3.3 Indicator LED: DIMM Powered On LED

An indicator LED2 is designed on board. Whenever system is started or enters S1(Power on Suspend)mode, the LED2 will light up. This indicator is to warn users that, whenever LED2 is lighting up, no memory module should be removed from or added into it, or the DATA stored to RAM will get lost. For further setting about S1 mode, please set it in the "Power Management Features" of BIOS.



2-4 Install AGP4X with LED & Jumper Safeguard

1. The AGP slot on board supports only AGP 4X card configuration. Users should install an 1.5V AGP 4X card.
2. A safe installation of AGP 4X card is to set Jp3 to 1-2 closed, resulting in allowing only 1.5V AGP 4X card to boot system. In this case, if users cannot boot with an AGP card inserted in the slot, it indicates that the AGP card is not a correct one. The card should be replaced with a 1.5V AGP 4X card.
3. LED1 is a Warning LED. Whenever JP3 is set 1-2 closed for an AGP 4X card installation, and yet the AGP slot is left empty, or the card is not a correct one, LED1 will light up until a proper installation is done.

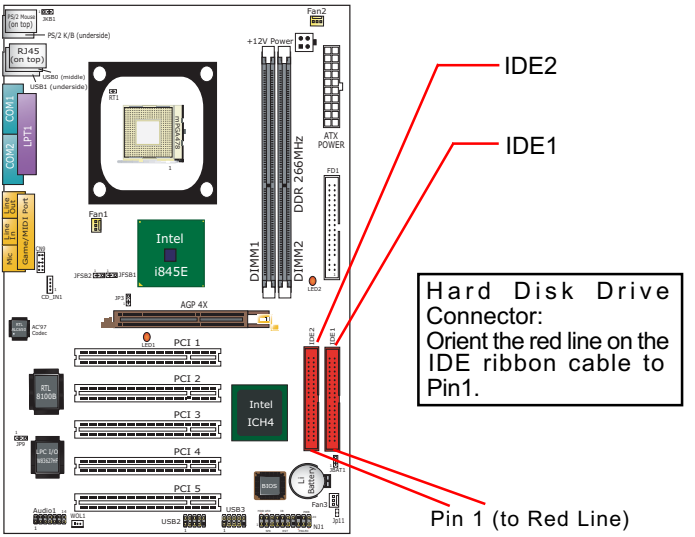


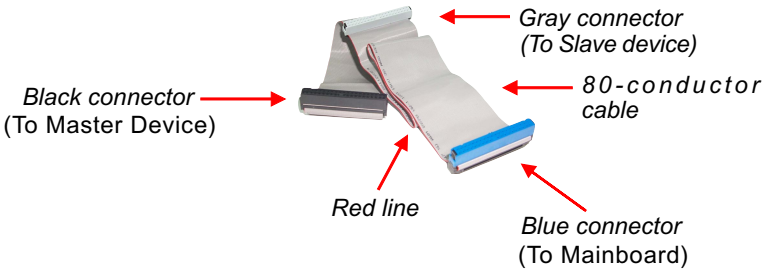
Warning:

- *If a 3.3V AGP 2X card is mistakenlyinserted for booting the system, the high voltage will burn the 1.5V circuit on board. Never use a 3.3V or an unknown AGP card on this mainboard*

2-5 IDE Connector Installation

To install HDD or CD-ROM Drive, you may connect the 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.

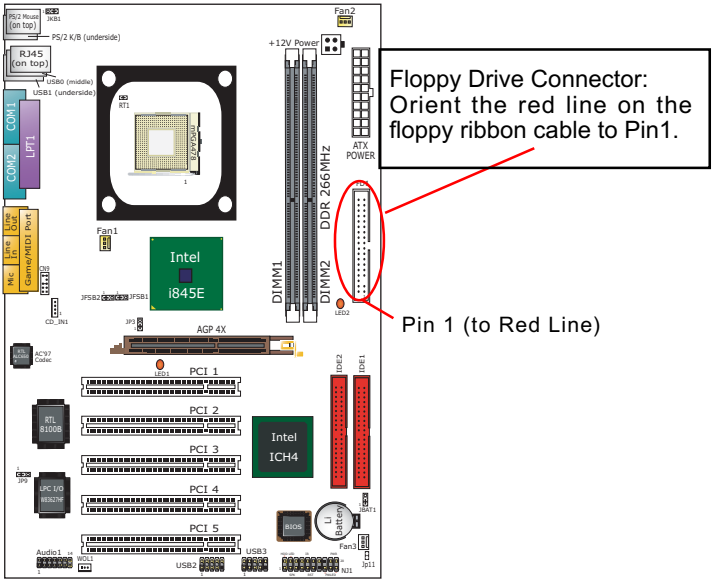


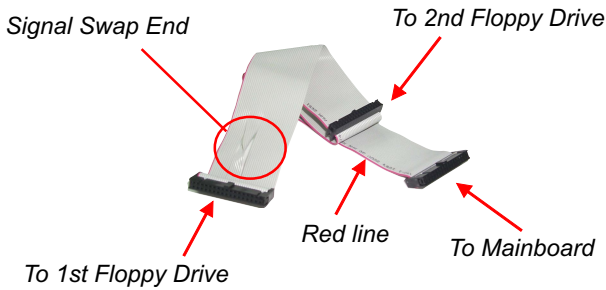


IDE Flat Cable

2-6 FDC (Floppy Drive Connector) Installation

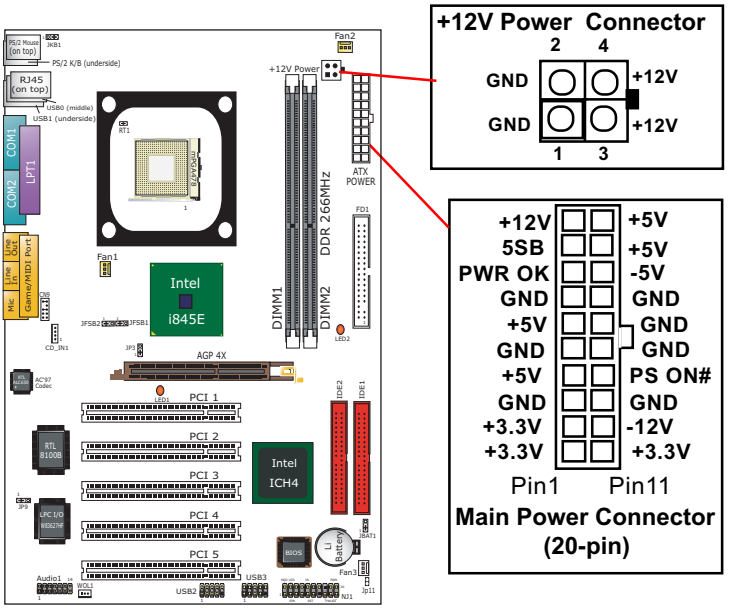
To install FDD (Floppy Disk Drive) to FDC, you should connect the end of cable with single connector to the board, and connect the other end with two plugs to the floppy drives.





FDD Cable

2-7 ATX V 2.03 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. Get ready a V2.03 ATX Power Supply which provides a square-shaped +12V Power Connector in addition to the 20-pin Main Power Connector and other peripheral power connectors.
2. Connect the on-board square-shaped +12V Power Connector to the square-shaped +12V Power Connector of the Power Supply.
3. Connect the on-board 20-pin Main Power Connector to the 20-pin Main Power Connector of the Power Supply. Please note that both the +12V Power Connector and the 20-pin Main Power Connector should be connected to Power Supply to power on system.

2-8 Jumper Settings

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

JKB1:
KB / Mouse Power On / Wake Up

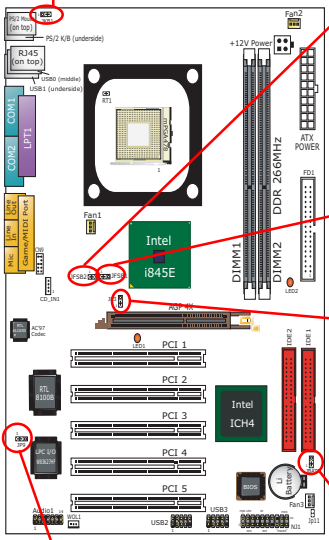
1-2 closed
KB/Mouse Power On / Wake Up Disabled

2-3 closed (default)
KB/Mouse Power On / Wake Up Enabled

JFSB2:
DDR DIMM Turbo Mode
(Optional)

(default)
1-2 closed
Auto Select

2-3 closed
Turbo Mode with 133Mhz CPU



JFSB1:
CPU Clock Select

(default)
1-2 closed
CPU Autodetect

2-3 closed
for 133MHz CPU Clock (533MHz FSB)

Jp3: AGP4X Safeguard

1-2 closed (default)
Safeguard Enabled
1.5V AGP 4X Card to boot system only

2-3 closed
Safeguard Disabled
Onboard VGA or AGP 4X Card to boot system (Warning: 3.3V AGP card will cause 1.5V circuit burn.)

Jp9:
LAN Controller Select
(85DR2-DCL only)

1-2 closed (default)
LAN controller enabled

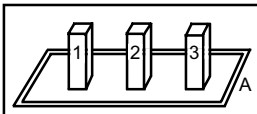
2-3 closed
LAN controller disabled

JBAT1:
Clear CMOS

1-2 closed (default)
To hold data

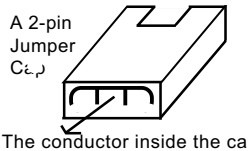
2-3 closed
To clear CMOS

2-8.1 How to tackle the Jumpers:



A 3-pin Jumper

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



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, all jumper pins covered with black marks stand for closed pins with jumper cap.

JpX

Jumper with Pin 2-3 closed

Jumper with all pins open

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 could be damaged.

2-8.2 JFSB1: CPU Clock Select

JFSB1 is designed to select 100/133MHz CPU clock for the system.

1. Before selecting the CPU clock, read the Identification Legend on the CPU, find the default (Max) FSB which can be provided by the CPU. If this FSB is divided by 4, the result is the default CPU clock.

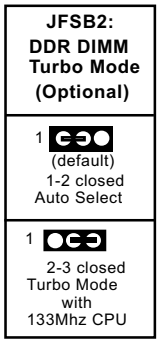
JFSB1 CPU Clock Select	
	(default) 1-2 closed CPU Autodetect
	2-3 closed for 133MHz CPU Clock (533MHz FSB)

2. Setting JFSB1 to 1-2 closed will allow CPU on board to automatically detect its own frequency and apply it to the System Bus.
3. Setting JFSB1 to 2-3 closed will manually configure a 100MHz CPU to 133MHz.
4. If JFSB1 2-3 closed cannot boot the system, it means overclocking fails. Please restore JFSB1 to 1-2 closed (default) and then clear CMOS with the Clear-CMOS Jumper before trying to reboot system. (See Further Notes on Overclocking.)

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” menu, then 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 re-start 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 .

2-8.3 JFSB2: DDR DIMM Turbo Mode(Optional)



JFSB2 is a design for raising the DDR DIMM performance without doing CPU overclock.

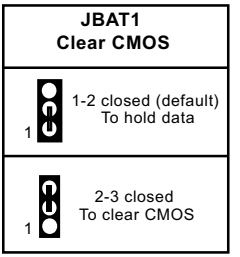
1. Read the Identification Legend on the CPU, find the default (Max) FSB which is provided on the P4 CPU. If this FSB is divided by 4, the result is the default CPU clock. With a 133MHz CPU, JFSB2 can raise the DDR DIMM frequency to 1.33 x 133MHz.
2. Setting JFSB2 to 1-2 closed will set the DDR DIMM to Auto Select Mode. With this mode, the onboard DDR DIMM Frequency will take the 133MHz default value.
3. Setting JFSB2 to 2-3 closed will set the DDR DIMM Frequency to Turbo Mode. With this Turbo Mode, the onboard DDR DIMM Frequency is equal to 1.33 x CPU Clock (resulting in a DIMM Frequency overclocking).
4. Turbo Mode with a 100MHz CPU is not a workable overclocking because the resulting frequency is lower than that of DDR DIMM.
5. Turbo Mode with a 133MHz CPU will generate a 1.33 x 133MHz (177MHz) Frequency to DDR DIMM. However, this frequency will overrun the DDR 266/333 SDRAM. In this case, DDR 266/333 will possibly not boot the system. Only when DDR 400 SDRAM is on board, will it be able to accomodate the 1.33x133MHz overclocking and thus gain the DIMM performance raise.

Note: In “Advanced Chipset Features” of BIOS Setup, there is also a “Turbo Mode” option with the same function of DIMM Performance Raise. Use either JFSB2 setting or BIOS to enable the Turbo Mode on DDR DIMM.

2-8.4 JBAT1 : Clear CMOS

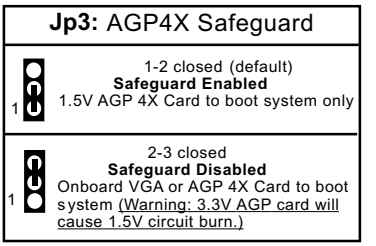
When you have problem with rebooting your system, you can clear CMOS data and restore it to default value. To clear CMOS with Jumper JBAT1, please follow the steps below:

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



2-8.5 JP3: AGP 4X Safeguard

1. The AGP slot on board supports 1. 5V AGP 4X card only. Any 3.3V AGP 2X card will burn the 1.5V circuitry. Jp3 is designed on board to safeguard the AGP slot against the 3.3V AGP 2X card.
2. Default setting of Jp3 1-2 closed is to enable the safeguard, allowing 1.5V AGP 4X card to boot system only. In this case, if system cannot boot with an AGP card inserted in AGP slot, it indicates that the AGP card is not one of 1.5V type.



3. Setting Jp3 2-3 closed will disable the safeguard, allowing the onboard VGA to boot system.
   Warning: If a 3.3V AGP 2X card is now mistakenly inserted for booting the system, the high voltage will burn the 1.5V circuitry on board. Never use a 3.3V or an unknow AGP card on this mainboard.

2-8.6 JKB1: KB / Mouse Power On / Wake Up

JKB1 is designed on board as a jumper to enable/disable the PS/2 keyboard/mouse Power On/Wake Up from system off or suspend mode. Yet users should still enter BIOS setup to choose the Wake Up/ Power On mode.
USB keyboard/mouse Wake Up function is not supported in this series.

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

2-8.7 LAN Controller Select (85DR2-DCL only)

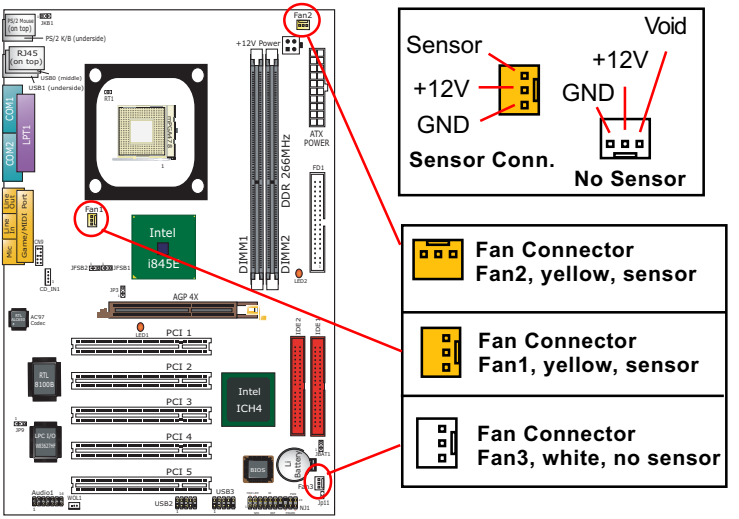
JP9 is a 3-pin jumper for enabling or disabling the on-board LAN Controller. Users can set JP9 1-2 closed to enable the on-board LAN Controller so as to set up the LAN driver, or to set JP9 2-3 closed to disable the on-board LAN Controller. In such case, users are free to use an add-on PCI LAN card for networking.

Jp9: LAN Controller Select (85DR2-DCL only)	
 1	1-2 closed (default) LAN controller enabled
 1	2-3 closed LAN controller disabled

2-9 Other Connectors Configuration

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

2-9.1 On Board Fan Connectors

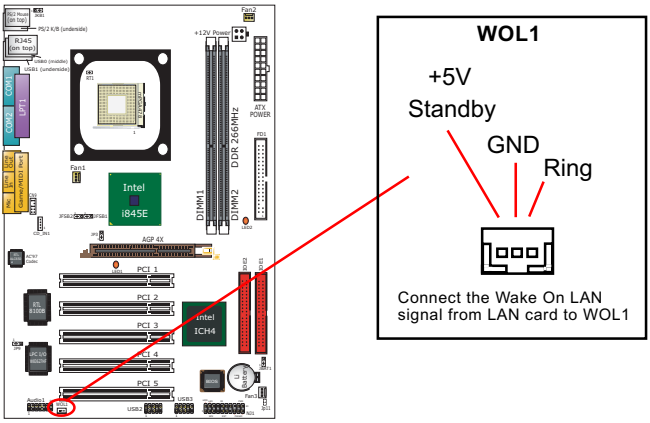


Both Sensor and No-sensor Fan Connectors support CPU/AGP/System/Case cooling fan with +12V mode. When connecting the wire to any Fan Connector, users should make sure that the red wire is for the positive current and should be connected to pin +12V, and the black wire is Ground and should be connected to pin GND.

A Hardware Monitor chipset is on board, with which users can install a Hardware Monitor Utility and read the fan speed transmitted from the sensor fan. Otherwise, users can read the fan speed from the "Hardware Monitor Status" in CMOS BIOS.

A running Fan will send out 2 electric pulses per rotation of its fan blade. A Sensor Fan Connector will count the electric pulses and send the information to the System Hardware Monitor which in turn will work out the fan rotation speed and display it on screen.

2-9.2 Wake On LAN

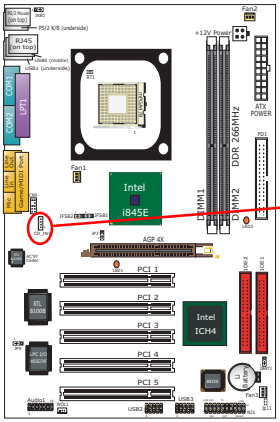


- This connector connects to a LAN card with a Wake On Ring output. The connector powers up the system when it receives a wake-up packet or signal through the LAN card.

- This feature requires that Resume On Lan feature is enabled in the BIOS setting “Power Management Setup” and that your system must be on ATX power supply with at least 720mA / +5V standby power.

2-9.3 CD-ROM Audio Connector

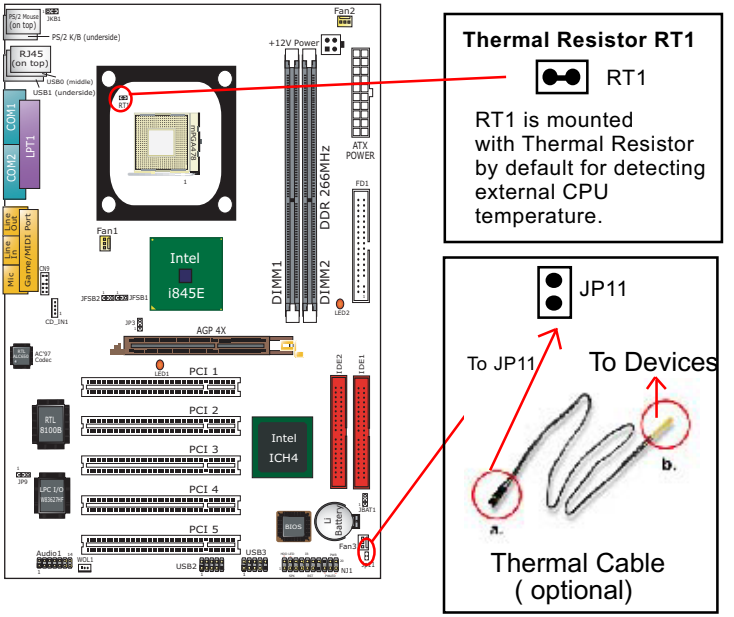
CD_IN1 is an audio connector connecting CD-ROM audio to mainboard.



CD-ROM Audio Pin Assignment

CD_IN1	Pin 1	Pin 2	Pin 3	Pin 4
1	Left Channel	GND	GND	Right Channel

2-9.4 Thermal Resistor and Connector



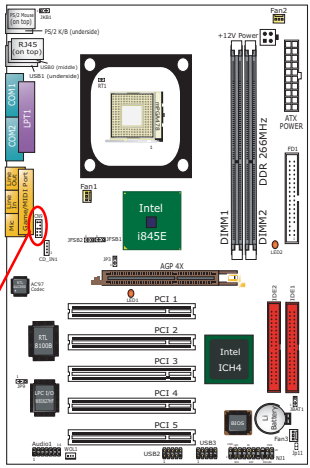
1. Resistor RT1: A thermal resistor is mounted by default to connector RT1 so as to detect the temperature of the CPU. What RT1 does is to transmit the thermal signal to BIOS or Hardware Monitor.

2. Connector JP11: A thermal cable is needed to connect JP11 to on-board devices such as HDD, Graphics card etc., so as to detect the temperature generated therein. Please connect the end (a) of the thermal cable to JP11, and tape another end (b) of thermal cable on to the device which you want to monitor. After you have finished the thermal cable installation, you will **see the detected temperature in BIOS setup or Hardware Monitor utility.**

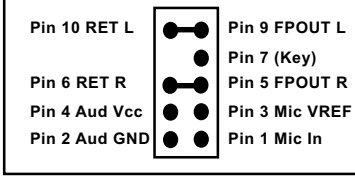
2-9.5 Front Panel Audio Connector

This Mainboard is designed with a Front Panel Audio connector "CN9" which provides connection to your chassis.

1. When CN9 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 CN9 and connect it to your chassis.



CN9: Front Panel Audio Connector

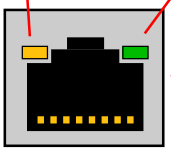


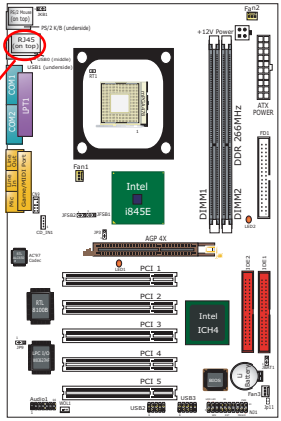
2-9.6 LAN Connector (85DR2-DCL Only)

One RJ45 connector is on board for network connection.

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

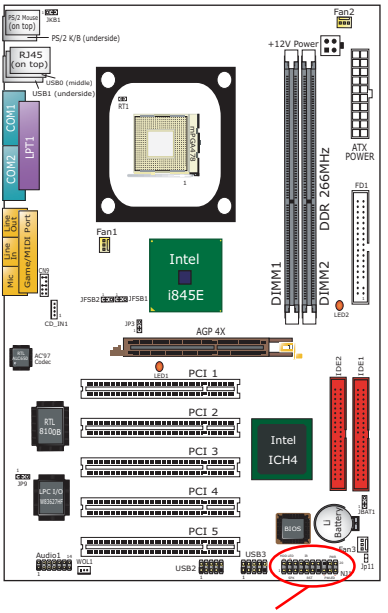
Green LED blinks to indicate that data transmission is undergoing in 10/100 Base T mode.





2-9.7 Complex Header

• This complex Header consists of 6 connectors providing various supports:



(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.

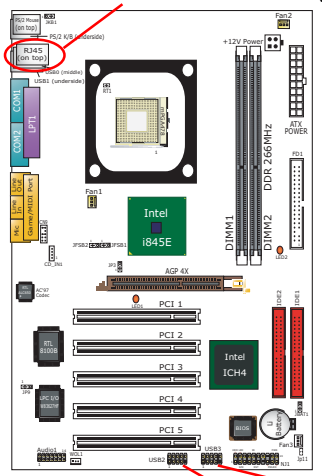
2-9.8 USB Ports and USB Pin-headers

This series provides two USB ports USB0 and USB1 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.

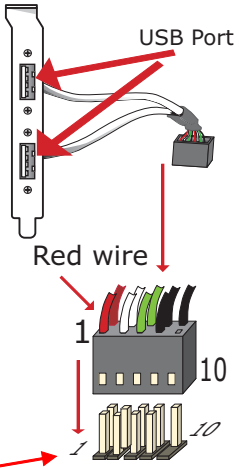
When plugging the USB cable to USB Header, users must make sure the red wire is connected to Pin 1.

All 6 USB ports are compliant with 1.1 / 2.0 USB Bus. USB 2.0 supports Windows 2000 and up (not Windows 9X / Me). Please see Chapter 3 for USB2.0 Installation.

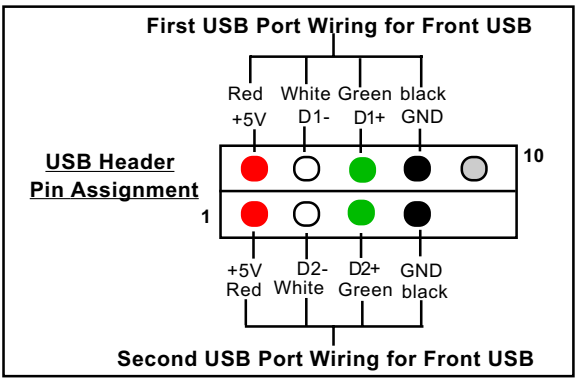
USB connectors USB0 and USB1 (underside)



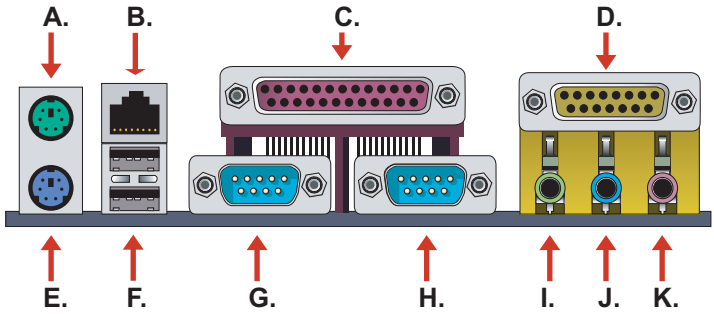
USB Cable (Optional)



USB Pin-headers USB2 and USB3



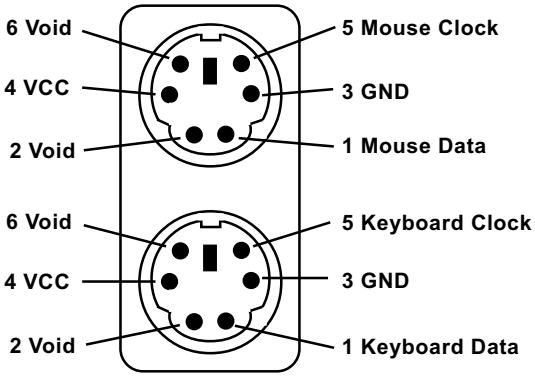
2-9.9 Chassis Panel Connector



A : PS/2 Mouse
B : RJ45 (top) (85DR2-DCL)
C : LPT1 Port
D : GAME/MIDI
E : PS/2 Keyboard
F : USB 1 (underside)
USB 0 (middle)
G : COM1 Connector
H : COM2 Connector
I : Line Out / Front Speaker Out
J : Line in / Rear Speaker Out
K : Microphone Input / Center Subwoofer Out

2-9.10 PS/2 Mouse and PS/2 Keyboard

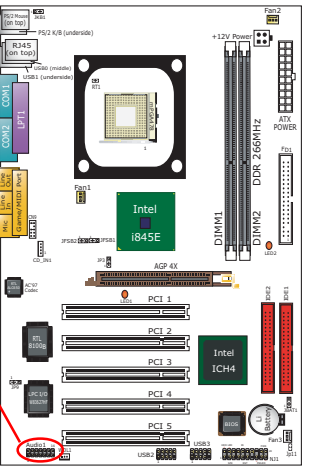
PS/2 Mouse Connector (on top, green)



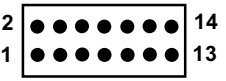
PS/2 Keyboard Connector (underside, purple)

2-9.11 6-channel Sound Output Connector (Optional)

This series is designed with an optional 6-channel Audio-out connector “Audio1”. If this option is chosen, it will provide 3 additional audio-out ports for the 6-channel sound.



6-channel Audio-out Pin Assignment



Pin 1 LFE-out	**Pin 2 Gnd**
Pin 3 Center-out	**Pin 4 Gnd**
Pin 5 Surround-out-R	**Pin 6 Gnd**
Pin 7 Surround-out-L	**Pin 8 Gnd**
Pin 9 Jack-detect	**Pin10 (Void)**
Pin11 SPDIFI	**Pin12 Gnd**
Pin13 SPDIFO	**Pin14 Gnd**

Chapter 3 Software Setup

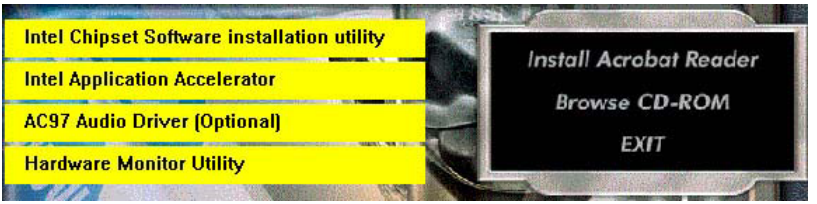
Drivers, Utilities and Software Installation

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

This chapter is devoted to describing the installations of all these essential drivers and utilities on Windows 9X, Windows ME, Windows 2000 and Windows XP. And installation on Windows XP as the general illustration hereby.
The priority of drivers to be installed should also be noted. Users are recommended to take the following installation orders :

3-1 To Open up the Support CD

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



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

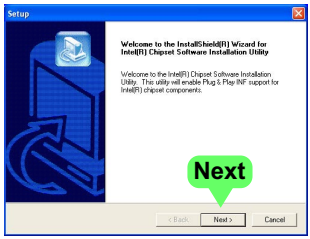
   D:\ Autorun.exe (assuming that your CD-ROM Drive is Drive D)

3. We should take “Intel Chipset Software installation Utility” as first installation priority to optimize the Intel system.
   From next section, we provide detailed descriptions of all these installations with graphical illustrations.

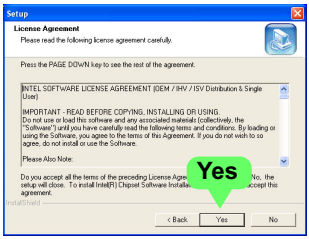
3-2 To Install "Intel Chipset Software Installation Utility"

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

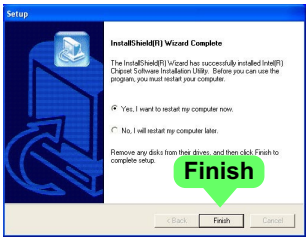
2. The Intel Service Pack InstallShield Wizard will pop up to guide you to the Intel Service pack installation. Press **"Next"** button to continue.



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.

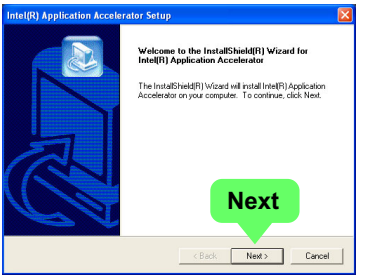


3-3 To Install "Intel Application Accelerator"

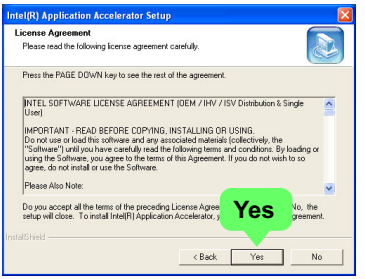
IAA supports all Windows 98SE/ME/2000/XP with Pentium III / 4 processor. Installations of this software for these operating systems are similarly programed to an auto-run mode. It is typically designed to improve performance of the storage sub-system and overall system performance. Below is a model installation on Windows XP. Users of Windows 98SE/ME/2000 can also follow this example for IAA installation.

1. Following the procedures of opening the Support CD, click to " Intel Application Accelerator" to proceed.

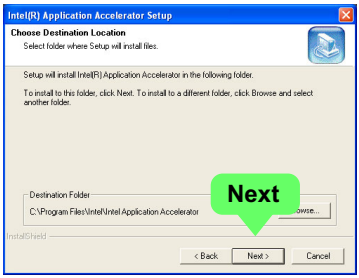
2. On the "InstallShield Wizard" screen, Click on "Next" to continue.



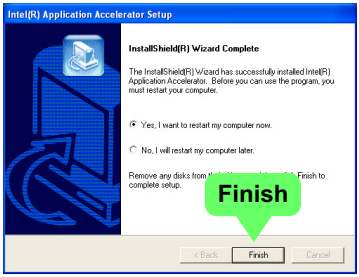
3.On the "Licence Agreement" screen, click on "Yes" to continue.



4. On "Choose Destination Location" screen, press **"Next"** to continue.



5. On "InstallShield Wizard Complete" screen, choose "Yes, I want to restart my computer now" and press "Finish" to restart. Remember you must restart computer to put setup into effect.



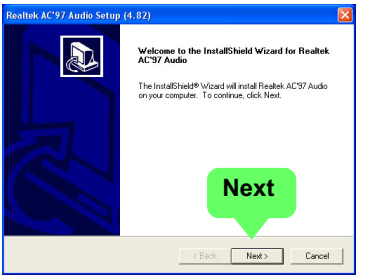
3-4 To Install AC'97 Audio Driver

Avance AC97 Audio Codec on board, AC'97 2.2 compatible, supporting 6/2-channel audio code for PC multimedia systems. Avance AC'97 Audio Codec Driver is provided in Support CD for user's installation.

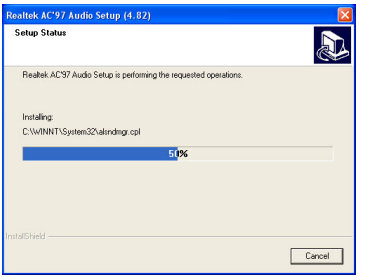
3-4.1 Install AC'97 6-channel Audio Driver

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

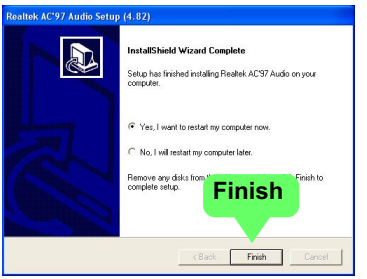
2. Instantly, the "installShield Wizard" screen appears to guide you through the "Avance AC'97 Audio Setup".



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.)



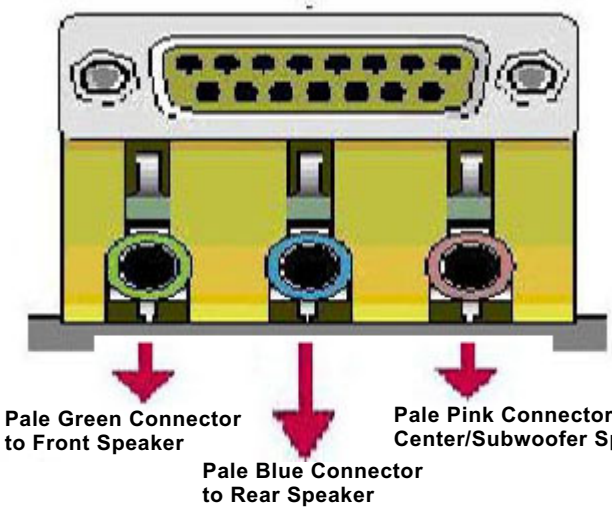
4. After the setup process is finished, please check the radial button "Yes, I want to restart my computer now." And click "Finish" to restart your system.



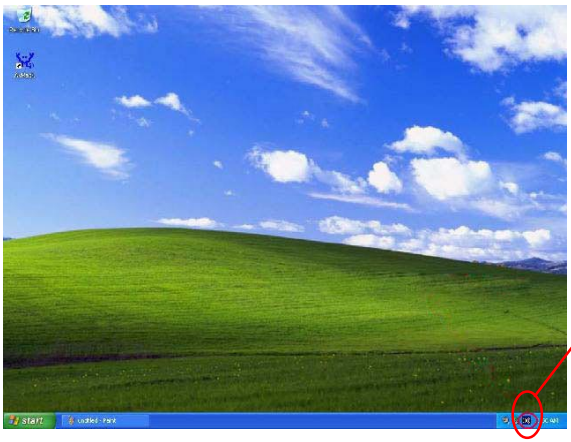
3-4.2 To verify 6-channel Audio

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

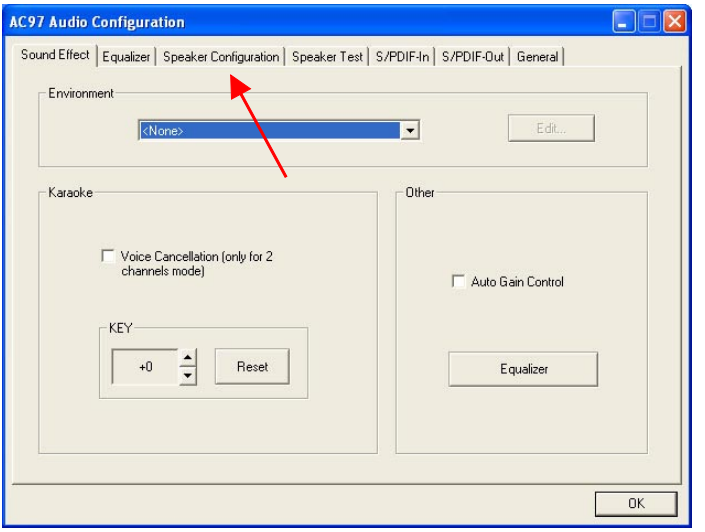
1. Connect your on-board Audio Connector to your 6-channel speakers as depicted in the figure below:



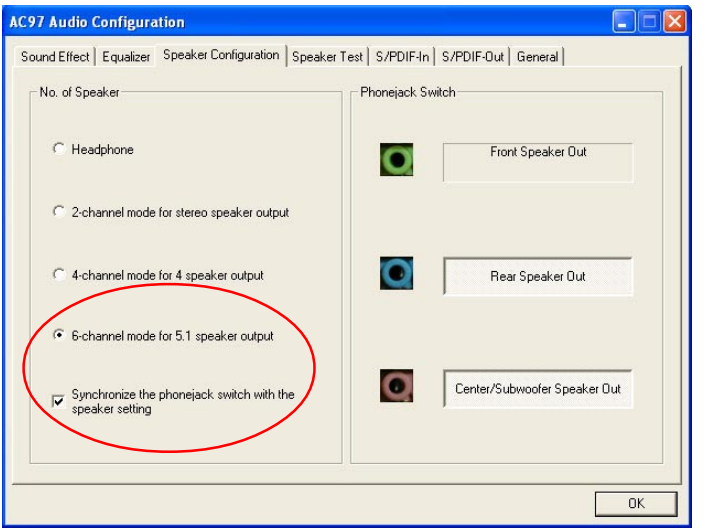
2. After Connection is done, start your Windows system and double click the Avance Sound Effect manager icon to enter 6-channel configuration:



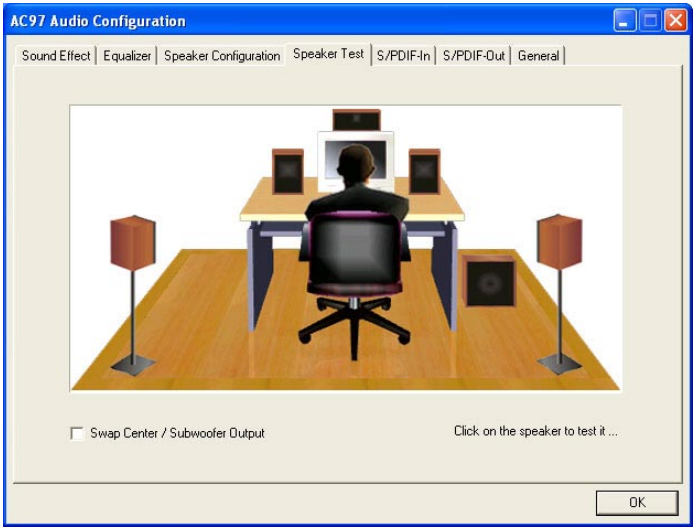
3. The AC'97 Audio Configuration" screen will pop out. Clikc the "Speaker Configuration" bar with your mouse.



4. Instantly, the "Speaker Configuration" screen will pop out. Pick the items "6-channel mode for 5.1 speakers output" and " Synchronize the phonejack 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.



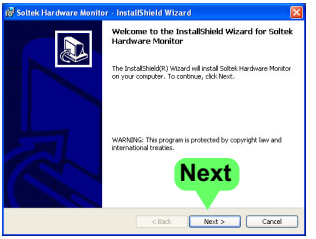
3-5 To Install Hardware Monitor Utility

3-5.1 Installation

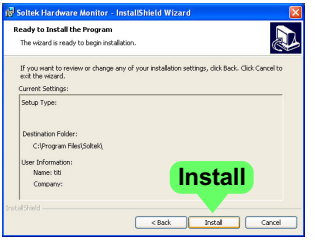
Hardware Monitor is built on this mainboard. Its installation is programmed to a fully automated mode on Windows 9X/Me/NT4/2000/XP. Users can follow the model installation below for its installation on various Windows System.

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

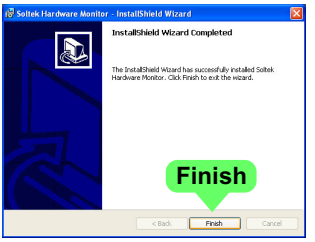
2. The Soltek Hardware Monitor InstallShield Wizard will pop up to guide you to the Intel Service pack installation. Press **"Next"** button to continue.



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

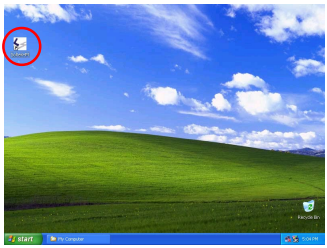


4. After all the setup process is finished, click "Finish" to exit the wizard.

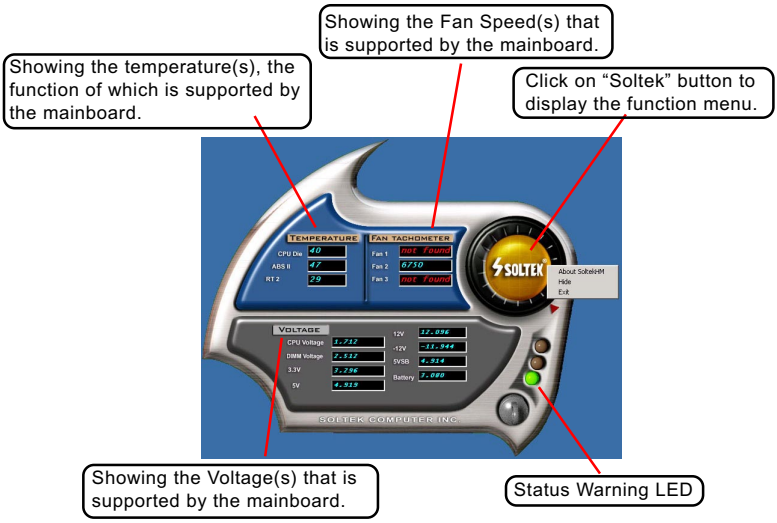


3-5.2 Verification

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.



*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 (for 85DR2-DCL only)

3-6.1 RTL8100B LAN driver on Windows ME / 2000 / XP

1. When you newly install Windows ME, Windows 2000 or Windows XP, the system will detect the LAN Controller on board and configure it automatically into system. Therefore, users need not bother to install the LAN controller into these operating systems.
2. To verify the existence of RTL8100B Controller and Driver, please enter the “Control Panel” of your system and click “Network” to open the “Configuration” screen. You can then see the “Realtek8139 (A/B/C) PCI Fast Ethernet Adapter” is already installed in system.

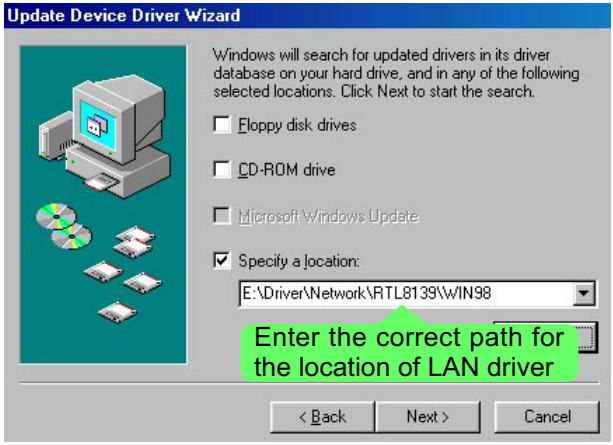
3-6.2 RTL8100B LAN driver on Windows 9X

The LAN driver contained in the Support CD is not included in the Autorun Menu. To install RTL8100B 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 RTL8100B 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\RTL8139\Win98 into the blank bar. (Please note that both RTL8100B and RTL8139C controllers are supported by Driver RTL8139.) Then click the “Next” button to continue.



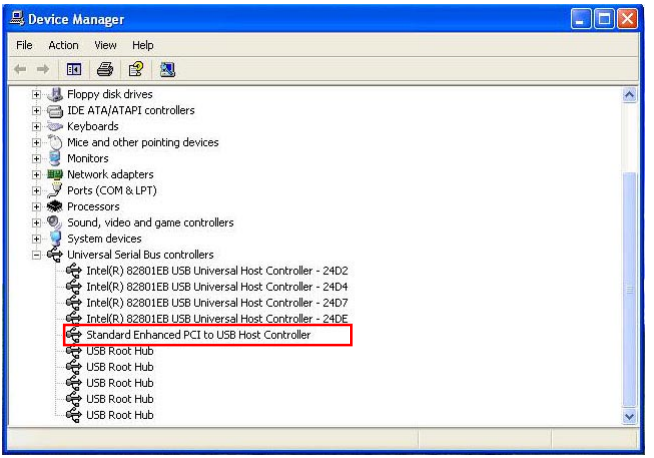
7. The Update Device Driver Wizard will then go on installing the driver until the “Insert Disk” dialog box shows up. Please withdraw your Support CD and insert the Windows 98 CD-ROM into the CD-ROM drive for updating system and click “OK” to continue.
8. The Update Device Driver Wizard will then proceed 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 finish updating the new hardware. 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 :

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 (AMIXXX.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.

- "AMIFLASH.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 "AMIXXX.EXE" into the diskette.

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

Step 4. Under " A " prompt, type **" AMIXXX.EXE *.ROM "** and then press <Enter> to run BIOS update program. Please note that there should be a space between AMIXXX.EXE and *.ROM. (*.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(space)DR3C005.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 SETUP DEFAULTS" or **"Load Optimal Defaults"** and save this change.

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 BIOS SETUP --- CMOS Setup Utility

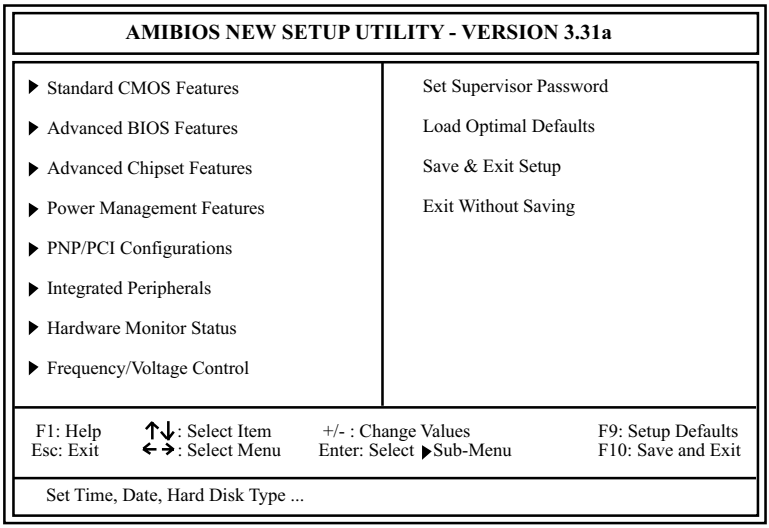
4-6.1 CMOS Setup Utility

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.



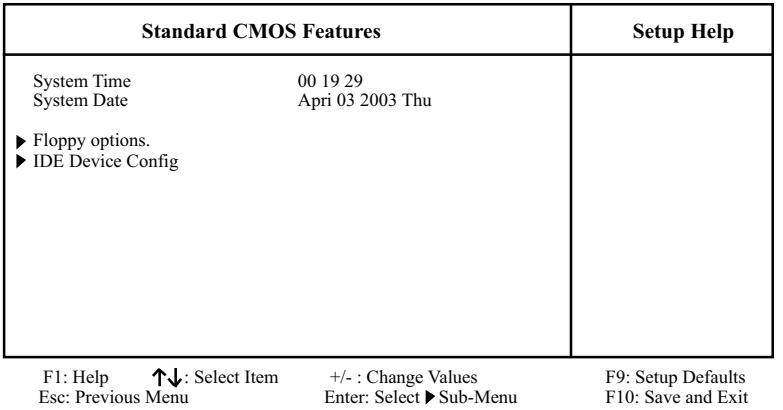
3. Use the arrow keys on your keyboard to select an option, and press <Enter>. Modify the system parameters to reflect the options installed in your system.
4. You may return to the Main Menu anytime by pressing <ESC>.
5. In the Main Menu, “Save & Exit Setup” saves your changes and reboots the system, and “Exit Without Saving” ignores your changes and exits the program.

4-6.2 Standard CMOS Setup

Standard CMOS Setup records some basic system hardware configuration and sets the system clock and error handling. Modify the configuration values of this option if you want to change your system hardware configuration or after you clear CMOS data.

Run the Standard CMOS Setup as follows:

1. Choose “Standard CMOS Setup” from the Main Menu and a screen with a list of options will appear:



2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: “Help” gives options available for each item.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your 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.

Floppy options Press Enter on "Floppy options" will let you select this field to the type(s) of floppy disk drive(s) installed in your system. The choices are:
1.2MB, 5.25 in.
720KB, 3.5 in.
1.44MB, 3.5 in.
2.88MB, 3.5 in.
Not Installed

IDE Device Config Press Enter on IDE Device Config will let you configure the IDE devices on board and the following menu will reveal the following submenu for your configuration of the hard Disk you have installed:

Primary IDE Master :Maxtor 82560 A4		Setup Help
Type	Auto	
Cylinders	4962	
Heads	16	
Write Precompensation		
Sectors	63	
Maxium Capacity	2561 Mb	
LBA Mode	On	
Black Mode	On	
Fast Programmed I/O Modes	4	
32 Bit Transfer Mode	On	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

Type This option shows the types of configuration for the IDE devices:

1-50: Predefined types
USER: set Parameters by User
Auto: Set parameters automatically
CD-ROM: Use for ATAPI CD-ROM drives

Double click [Auto] to set all HDD parameters automatically, including “Cylinders, Heads, Write Precompensation, Sectors, Maximum Capacity and 32 Bit Transfer Mode.

4-6.3 Advanced BIOS Features

Advanced BIOS Features improves your system performance or sets up system features according to your preference.

Run the Advanced BIOS Features as follows:

1. Choose “Advanced BIOS Features” from the Main Menu and a screen with a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

Advanced BIOS Features		**Setup Help**
Quick Boot	Enabled	
Delay for Hard Drive (Sec.)	2	
1st Boot Device	Floppy: 1.44 MB 3.5	
2nd Boot Device	CD-ROM	
3rd Boot Device	IDE-0 :Maxtor 20560 A4 -	
Try Other Boot Devices	Yes	
Initial Display Mode	Silent	
Display Mode at Add-On ROM Init	Force BIOS	
S.M.A.R.T for Hard Disks	Disabled	
Bootup Num-lock	On	
Floppy Drive Swap	Disabled	
Floppy Drive Seek	Disabled	
PS/2 Mouse Support	Enabled	
Primary Display	VGA/EGA	
Password Check	Setup	
Boot To OS/2	No	
CPU Microcode Updation	Enabled	
L1 Cache	Enabled	
L2 Cache	Enabled	
System BIOS Cacheable	Enabled	
C000,32K Shadow	Cached	
C800,16K Shadow	Disabled	
CC00,16K Shadow	Disabled	
D000,16K Shadow	Disabled	
D400,16K Shadow	Disabled	
D800,16K Shadow	Disabled	
DC00,16K Shadow	Disabled	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide.

Quick Boot To enable (default) this item ill increase the detection speed of SDRAM at bootup.
Choices: Enabled(default); Disabled

Delay for Hard Drive (Sec.) Allows you to adjust the time of detecting hard disk on board at booting system.
Choices: Disabled; 1~10 sec. in 1 sec. stepping.

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

Try Other Boot Devices Allows you to enable/disable system to try to boot with other boot devices.
Choises: Yes (default); No

Initial Display Mode If option is "Silent", it allows user to add logo to initial screen. If option is "BIOS", the normal BIOS display mode will be shown.
Choices: Silent (default); BIOS

Display Mode at Add-On ROM Init If the item "Initial Display Mode" is set to "Silent", two sub-modes are provided for the initial display mode. If "Force BIOS" (default) is chosen, the vendor's logo screen will be followed by the "Add-on ROM" initial screen (the screen showing the add-on card BIOS message). If "Keep Current" is chosen, no "Add-On ROM" screen is followed.

S.M.A.R.T. for Hard Disks Allows you to enable / disable the Self Monitoring Analysis and Reporting Technology for the hard disk.
Choices: Enabled; Disabled (default)

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.

Floppy Drive Swap Disabled (default), Floopy Drive A will not be chnged to B, nor B to A. Enabled, Floppy Drive a and B will change position.

Floppy Drive Seek Disabled (default), Floppy Drives will not be checked and diagnosed at system bootup; Enabled, Floppy Drives will be checked and diagnosed at system bootup.

PS/2 Mouse Support Enabled (default), PS/2 mouse is supported. Disabled, PS/2 Mouse is not supported

Primary Display Allows you to choose the primary display for the system.
Choices: VGA/EGA (default); CGA40x25; CGA80x25; Mono; Absent

Password Check Allows you to set BIOS to check up password with a password prompt at BIOS Setup or whenever restarting system.
Choices: Setup (default); Always

Boot to OS/2 Allows you to set your system to OS/2 operating system.
Choices: Yes; No (default)

CPU Microcode Updation Allows you to enable/disable the CPU Microcode Update function.
Choices: Disabled; Enabled (default)

L1 /L2 Cache Use this item to enable/disable the L1/L2 cache.
Choices: Enabled (default); Disabled

System BIOS Cacheable Allows you to enable (default)/ disable the System BIOS Cacheable function.

C000, 32K Shadow Allows you to set these addresses cached, Enabled or Disabled. Default: Cached

C800,CC00,D000,D400, D800,DC00 16K Shadow Allows you to set these addresses cached, Enabled or Disabled. Default: Disabled

4-6.4 Advanced Chipset Features

Advanced Chipset Features is used to modify the values of chipset buffers. These buffers control the system options.

Run the Advanced Chipset Features as follows:

1. Choose “Advanced Chipset Features” from the Main Menu and a list of option will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

Advanced Chipset Features		Setup Help
DRAM Timing		
Turbo Mode	Disabled	
SDRAM Frequency	Auto	
Configure SDRAM timing by SPD	Enabled	
SDRAM CAS# Latency	(2.5 Clocks)	
SDRAM RAS# Precharge	(3 Clocks)	
SDRAM RAS# to CAS# Delay	(3 Clocks)	
SDRAM Precharge Delay	(7 Clocks)	
SDRAM Idle Timer	Infinite	
SDRAM Read Thermal Management	Disabled	
DRAM Integrity Mode	Disabled	
Memory Hole	Disabled	
(Hyper-threading Function)	(Enabled)	
AGP Aperture Size	64MB	
USB Controller	6 USB Ports	
USB 1.1 Device Legacy Support	Disabled	
USB 1.1 Port 64/60 Emulation	Disabled	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: “Help” gives options available for each item.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

Turbo Mode This item will show up when 133MHz CPU is on board. It allows you to enable/disable the Turbo mode function for raising the performance of DDR 400 on board. When enabled, the "Configure SDRAM Timing by SPD" option will be hidden.
Choices: Enabled; Disabled

SDRAM Frequency Allows you to set the SDRAM frequency.
Choices for 100MHz CPU: Auto; 200MHz; 266MHz
Choices for 133MHz CPU: Auto; 266MHz; 333MHz
Default: Auto

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

SDRAM 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

SDRAM 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

SDRAM 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

SDRAM Precharge Delay Allows you to set the SDRAM Precharge Delay cycle.
Choices: 5 clocks; 6 clocks; 7 clocks

SDRAM Idle Timer Allows you to set the SDRAM Idle Timer.
Choices: Infinite(default); 0 Clock; 8 Clocks; 16 clocks; 64 Clocks

SDRAM Read Thermal Management Allows you to enable/disable the SDRAM Read Thermal Management.
Choices: Enabled; Disabled(default).

SDRAM Integrity Mode Allows you to enable/disable the SDRAM integrity Mode.
Choices: Enabled; Disabled(default).

Memory Hole Allows you to enabled / disabled (default) the support of Memory Hole which is reserved for ISA card.
Choices: Disabled; 15MB-16MB

(Hyper-threading Function) If hyper-threading CPU is running on board, this item appears to show the enabled status.
Choices: Enabled; Disabled

AGP Aperture Size Allows you to set the AGP Aperture Size.
Choices: 4MB; 8MB; 16MB; 32MB; 64MB; 128MB; 256MB;

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

USB 1.1 Device Legacy Support Allows you to select the USB Device Legacy support.
Choices: No Mice; All Device; Disabled (default)

USB 1.1 Port 64/60 Emulation Allows you to enable / disable (default) the Port 64/60 Emulation.

4-6.5 Power Management Features

Power Management Features allows you to set the system's power saving functions.

Run the Power Management Features as follows:

1. Choose "Power Management Features" from the Main Menu and a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

Power Management Features		Setup Help
ACPI Standby State	S1/POS	
Power Management/APM	Enabled	
Video Power Down Mode	Suspend	
Hard Disk Power Down Mode	Stand By	
Standby Time Out (Minute)	Disabled	
Suspend Time Out (Minute)	Disabled	
Power Button Function	On/Off	
Restore on AC/Power Loss	Power Off	
Resume On Ring	Disabled	
Resume On LAN/PME#	Disabled	
Resume On RTC Alarm	Disabled	
RTC Alarm Date	15	
RTC Alarm Hour	12	
RTC Alarm Minute	30	
RTC Alarm Second	30	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

ACPI Standby State This item allows you to select the ACPI Suspend type. You can select S1 (POS) for Power on Suspend under ACPI mode.

Power Management/ APM Allows you to enable (optional)/ 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 (optional)

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

Resume on Ring Allows you to enable / disable (default)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 (default)the Resume on LAN/PME# function.

Resume On RTC Alarm Allows you to enable / disable (default)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

4-6.6 PNP / PCI Configurations

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

Run the PNP/PCI Configurations as follows:

1. Choose "PNP/PCI Configurations" from the Main Menu and a screen with a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

PNP/PCI Configurations		Setup Help
Clear NVRAM	No	
PCI Latency Timer (PCI Clocks)	32	
Primary Graphics Adapter	AGP	
PCI IDE Busmaster	Enabled	
PCI Slot1 IRQ Priority	Auto	
PCI Slot2 IRQ Priority	Auto	
PCI Slot3 IRQ Priority	Auto	
PCI Slot4 IRQ Priority	Auto	
PCI Slot5 IRQ Priority	Auto	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

Clear NVRAM Allows BIOS to clear the NVRAM data.
Choices: No (default); Yes

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

Primary Graphics Adapter Allows you to select the initial Graphics Adapter.
Choices: AGP(default); PCI

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

PCI Slot 1/2/3/4/5 IRQ Priority Allows you to specify the IRQ for the PCI slots.
Choices: Auto (default); 3; 4; 5; 7; 9; 10; 11

4-6.7 Integrated Peripherals

Integrated Peripherals option allows you to get some information inside your system when it is working.

Run the Integrated Peripherals as follows:

1. Choose “Integrated Peripherals” from the Main Menu and a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

Integrated Peripherals		Setup Help
Onboard IDE	Both	
Onboard AC’97 Audio	Auto	
Onboard FDC	Auto	
Onboard Serial Port A	Auto	
Onboard Serial Port B	Auto	
Serial Port B Mode	Normal	
IR Duplex Mode	Half Duplex	
IR Pin Select	IRRX/IRTX	
Onboard Parallel Port	Auto	
Parallel Port Mode	Normal	
EPP Version	N/A	
Parallel Port IRQ	Auto	
Parallel Port DMA Channel	N/A	
Onboard MIDI Port	Disabled	
Midi IRQ Select	5	
OnBoard Game Port	200	
PS/2 Keyboard PowerOn Function	Disabled	
Specific Key for PowerOn	N/A	
PS/2 Mouse PowerOn Function	Disabled	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: “Help” gives options available for each item.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

Onboard IDE Allows you to choose the Onboard IDE Mode. Choices: Disabled; Primary; Secondary; Both (default)

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

OnBoard FDC Allows you to enable / disable the Onboard FDC. Choices: Auto (default); Enabled; Disabled

Onboard Serial Port A Allows you to set the Onboard Serial Port A. Choices: Auto (default); Disabled; 3F8/COM1; 2F8/ COM2; 3E8/COM3; 2E8/COM4;

Onboard Serial Port B Allows you to set the Onboard Serial Port B. Choices: Auto (default); Disabled; 3F8/COM1; 2F8/ COM2; 3E8/COM3; 2E8/COM4;

Serial Port B Mode Allows you to set the Serial Port B Mode. Choices: Normal; 1.6 uS; 3/16 Baud; ASKIR;

IR Duplex Mode If Serial Port B is not at Normal mode, this item allows you to set the Serial Port B to Half or Full Duplex.

IR Pin Select If Serial Port B is not at Normal mode, this item allows you to set the Serial Port B Pin to IRRX/IRTX or SINB/SOUTB.

OnBoard Parallel Port Allows you to configure onboard Parallel port . Choices: Auto (default); Disabled; 378; 278; 3BC;

Parallel Port Mode If Parallel Port is not disabled, this item allows you to configure parallel port mode. Choices: ECP; Bi-Dir; Normal(default); EPP

EPP Version If Parallel Port Mode is EPP, this item allows you to set the EPP Version. Choices: 1.9; 1.7

Parallel Port IRQ If OnBoard Parallel Port is set at 378(278, 3BC), this item allows you to set the Parallel Port IRQ.
Choices: 5; 7

Parallel Port DMA Channel If OnBoard Parallel Port is set at 378(278, 3BC), this item allows you to set the DMA Channel.
Choices: 0; 1; 3

OnBoard MIDI Port Allows you to configure onboard MIDI port address.
The choices: Disabled; 300; 310; 320; 330

Midi IRQ Select If the onboard MIDI port is set at 300h or 330h, this item shows up to allow you to configure the MIDI Port IRQ3 to IRQ11.

OnBoard Game Port Allows you to configure Onboard Game port address.
Choices: Disabled; 200h (default); 208h

PS/2 Keyboard Power On Function Allows you to configure the Keyboard Power On Function.
Choices: Disabled (default); Specific Key

Specific Key for PowerOn If Keyboard Power On function is set at "Specific Key", this item shows up to allow you to set the password to boot up the system.

PS/2 Mouse Poweron Function Allows you to disable or use the PS/2 mouse to power on system.
Choices: Disabled (default); Left-button; Right-button

4-6.8 Hardware Monitor Status

This menu helps you to read only and get more information on the working CPU temperature, FAN speed and voltage.

1. Choose “Hardware Monitor Status” from the Main Menu and a screen with a list of current status of your working system will appear:

AMIBIOS EASY SETUP UTILITY - VERSION 3.31a

Hardware Monitor Status		Setup Help
CPU1 Temperature	26 °C/78°F	
CPU2 Temperature	36 °C/96 °F	
System Temperature	33˚C/91˚F	
CPU Fan Speed	3068 RPM	
Case Fan Speed	4905 RPM	
Vcore	+1.680 V	
+1.5V	+1.504 V	
+3.3V	+3.408 V	
Battery	+3.296V	
+5V SB	+5.164V	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

2. Press <ESC> to return to the Main Menu. In case any irregular reading appears about your system, it indicates that a problem exists therein. To solve the problem, a hardware engineer or your dealer is recommended.

CPU1 Temperature Shows current CPU internal temperature.

CPU2 Temperature Shows current CPU external temperature.

System Temperature Shows current system temperature.

CPU/Case Fan Speed Displays the current speed of CPU Fan, and the other device which user has connected to the onboard Fan Connectors.

Vcore Shows CPU core actual voltage value.

+1.5V Shows current voltage against the +1.5V power supply.

+3.3V Shows current voltage against the +3.3V power supply.

Battery Shows current voltage against battery power supply.

+5V SB Shows current voltage against the +5V SB power supply.

4-6.9 Frequency/Voltage Control

Run the “Frequency/Voltage Control” as following:

1. Choose “Frequency/Voltage Control” from the Main Menu and a screen with a list of options will appear:

AMIBIOS EASY SETUP UTILITY - VERSION 3.31a

Frequency/Voltage Control		Setup Help
RedStorm Overclocking Tech (Optional)	(Press Enter)	
CPU Ratio Selection	Locked	
CPU Linear Freq	Disabled	
CPU Clock	(100 MHz)	
PCI Clock Auto Detection	Disabled	
Spread Spectrum Selection	Disabled	
AGP Voltage Control	1.5V	
DIMM Voltage Control	2.5V	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: “Help” gives options available for each item.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

(Optional) Redstorm Overclocking Tech Press <Enter> to start *RED STORM OVERCLOCKING TECH*. This option gives user an easy way to overclocking. It will increase CPU external clock automatically. When CPU external clock increases to an unacceptably high value, BIOS will restart your system, then running at an acceptable CPU external clock.

CPU Ratio Selection If CPU onboard is one with an adjustable or unlocked CPU ratio, this item allows you user to adjust the CPU Ratio.

CPU Linear Frequency This item allows you to enable / disable this setting function.

CPU Clock If CPU Linear Frequency is set Enabled, this item allows you to set CPU Clock.
Choices: 100MHz ~200MHz in 1MHz stepping.

PCI Clock Auto Detection Allows you to enable / disable (default)this auto detection function on PCI clock.

Spread Spectrum Selection If CPU Linear Frequency is disabled, use this item to enable/disable (default)Spread Spectrum Selection. This function will reduce the EMI (Electromagnetic Interference) in your system. If you do not have an EMI problem, leave this item disabled.

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: 2.5V; 2.6V; 2.7V; 2.8V

4-6.10 Set Supervisor Password

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

1. Choose “Set Supervisor Password” in the Main Menu 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 8 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:

[Retype new supervisor Password]

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

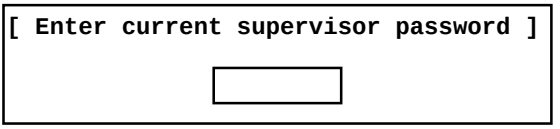
5. The following message appears to confirm the new password setup.

[New supervisor password installed]
Any Key to Continue

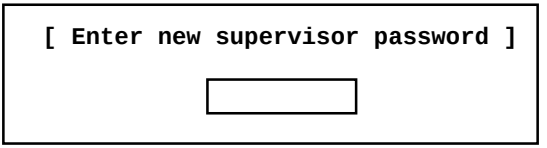
6. Then press any key to continue your CMOS Setup. To save the password setup, you should press “Save & Exit Setup” and choose “yes” to exit and save setup.

7. After the Supervisor password is set, you have to choose whether the password is for entering the system or only for entering BIOS Setup program. To make the choice, please enter BIOS Setup and choose “Advanced BIOS Features” in the main menu. (At entering BIOS Setup, you have to enter the password now.) In “Advanced BIOS Features”, choose “Password Check” and change the option. The “Setup” option is to set the password only for entering BIOS Setup. The “Always” option is to set the password for entering the system.

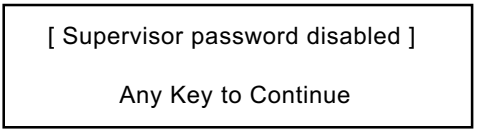
8. To change or remove a current supervisor password, choose “Set Supervisor Password” and press <Enter>. An instruction box appears on the screen, prompting you to enter the current password first:



9. Type the current password with keyboard and then press <Enter>. An instruction box appears, prompting you to enter new supervisor password:



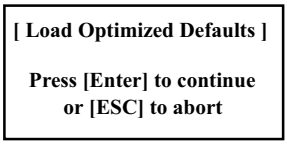
10. If you enter a new password into the box, you will be using this new password after you have finished and saved this new setup. Instead, if you press <Enter> before you enter any new password into the instruction box, another message box appears, telling you that you have disabled the Supervisor password. That means, no password is set for either entering BIOS Setup or system:



NOTE: If you forget or lose a supervisor password, the only way to access the system is to clear the CMOS. All setup informations will then be cleared including the password and you need to run the BIOS setup program again so as to reconfigure BIOS.

4-6.11 Load Optimized Defaults

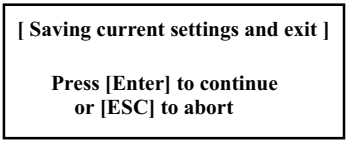
When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:



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

4-6.12 Save & Exit Setup

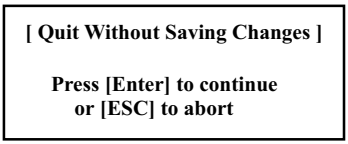
Save & Exit Setup allows you to save all modifications you have specified into the CMOS memory. Highlight this option on the Main Menu and press <Enter>. The following message appears:



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

4-6.13 Exit Without Saving

Exit Without Saving option allows you to 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:



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

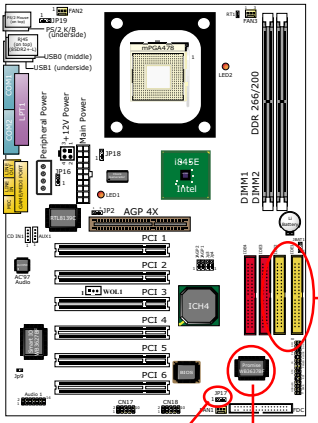
Memo

Chapter 5 Disk Array

The following topics are for Mainboards 85DR2+ and 85DR2+-L:

5-0 Before Creating Disk Array:

1. Please locate the Promise RAID Controller on your mainboard to make sure that you are using the right board.
2. Locate the RAID Controller Select Jumper JP17 on board, and make sure this Jumper is set at Pin 1-2 closed for enabling IDE RAID controller. Please refer to the following Setup illustration of JP17 on board:



Jp17: Raid Controller Select
1 ●●● 2-3 closed RAID Controller Disabled
1 ●●● 1-2 closed (default) RAID Controller Enabled

5-1 Creating Your Disk Array

To create your disk array, you have to open the FastBuild Utility, which should have already been built in your system BIOS through the Promise Controller. You can create two types of array with the help of FastBuild Utility.

1. An array for Performance in Striping type with 1 or 2 drives (or called RAID 0).
2. An array for Data Security in Mirroring type with 2 drives treated as one disk array (or called RAID 1).

WARNING : To create a Security array using an existing hard drive, backup any necessary data. Failure to follow this could result in data loss.

5-1.1 Creating An Array For Performance

FastTrak133-Lite allows users to create striped arrays with 1 or 2 drives.

1. Boot your system with FastTrak133-Lite Controller enabled by JP17 and your hard drive(s) connected to IDE3/IDE4. Suppose this is the first time to create a Disk Array. The Promise BIOS on board with FastBuild Utility built in will scan the IDE devices and display the result as below:

```
FastTrak133-Lite (tm) BIOS Version 1.xx (Build xxxx)
(c) 1995-2000 Promise Technology, Inc. All Rights Reserved.

        No array is defined...

Press <Ctrl-F> to enter FastBuild (tm) Utility
Or press <ESC> key to continue booting the system.
```

2. Press <Ctrl-F> keys to display the FastBuild (tm) Utility Main Menu.

```
                Main Menu

Auto Setup.....[ 1 ]
View Drive Assignments.....[ 2 ]
View Array.....[ 3 ]
Delete Array.....[ 4 ]
Rebuild Array..... ...[ 5 ]
Controller Configuration.....[ 6 ]
```

3. Press “1” to display the Auto Setup Menu below. This is the fastest and easiest method to create your first array.

```
FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc.
                    [Auto Setup Options Menu]

  Optimize Array for:                    Performance
  Typical Application usage:             Desktop

                    [Array Setup Configuration]

  Mode ..................................... Stripe
  Spare Drive ..............................0
  Drives used in Array .....................1
  Array Disk Capacity .....................38166

                        [Keys Available]

          [ ↑ ] Up [ ↓ ] Down  [←,→, Space] Change Option
                    [ESC] Exit  [Ctrl-Y] Save
```

4. Using Spacebar, choose “Performance” under “**Optimize Array** for “ section.
5. Select how you will use your PC under the **Typical Application usage** section The choices are A/V Editing, Server, and Desktop (the default).
6. Press <Ctrl-Y> keys to save and create the array.
7. Reboot your system.
8. Once the array has been created on new drive(s), you would need to FDisk and format the array as if it were a new single hard drive.
9. Also proceed to “Installing Drivers” section of this Chapter (see Section 5-2) for system and FastTrak133 Driver setup.

5-1.2 Creating A Security (Mirror) Array With New Drives

FastTrak133-Lite on board permits only two drives to be used for a single Mirroring array with FastBuild Utility.

1. Boot your system with FastTrak133-Lite Controller enabled by JP17 and your hard drive(s) connected to IDE3/IDE4. Suppose this is the first time to create a Disk Array. The Promise BIOS on board with FastBuild Utility built in will scan the IDE devices and display the result as below:

```
FastTrak133-Lite (tm) BIOS Version 1.xx (Build xxxx)
(c) 1995-2000 Promise Technology, Inc. All Rights Reserved.

        No array is defined...

 Press <Ctrl-F> to enter FastBuild (tm) Utility
 Or press <ESC> key to continue booting the system.
```

2. Press <Ctrl-F> keys to display the FastBuild (tm) Utility Main Menu.
3. Press "1" to display the Auto Setup Menu below. This is the fastest and easiest method to create your first array.

```
FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc.
                [Auto Setup Options Menu]

 Optimize Array for:                  Performance
 Typical Application usage:           Desktop

                [Array Setup Configuration]

 Mode ..................................... Stripe
 Spare Drive ..............................0
 Drives used in Array .....................1
 Array Disk Capacity .....................38166

                [Keys Available]

      [↑] Up [↓] Down  [←,→, Space] Change Option
                [ESC] Exit  [Ctrl-Y] Save
```

4. Using the Spacebar, choose “Security” under the **“Optimize Array for** ” section.
5. Press <Ctrl-Y> keys to save and create the array.
6. The window below will appear:

```
Do you want the disk image to be duplicated to anther? (Yes/No)
Y - Create and Duplicate
N - Create Only
```

7. Press “N” for the Create Only option.
8. A window will appear almost immediately confirming that your Security array has been created. Press any key to reboot the system.

```
Array has been created.
<Press Any key to Reboot>
```

9. Proceed with normal FDISK and format procedures as if you hajust installed a new hard drive.
10. Once the arrayed drives have been formatted, proceed to Section 5-2 “**Installing Driver”** to install your operating system and Fast Trak133-Lite driver.

5-1.3 Creating Security Array With Existing Data Drive

FastTrak133-Lite on board permits only two drives to be used for a single Mirroring (Security) array with FastBuild Utility.

Checkpoints before creating a Security Array:

(1) You may use a drive that is containing data or a bootable O/S. Then you will need another new drive of identical or larger storage capacity.

(2) Backup any necessary data before proceeding. Failure to follow this accepted PC practice could result in data loss.

(3) If you wish to include your current bootable drive holding Window NT 4.x or Windows 2000 O/S as part of a bootable Mirroring (RAID 1) array on your FastTrak133-Lite controller , you SHOULD first install the Windows NT4 or 2000 driver software to this drive while it is still attached to your system hard drive controller (e.g. IDE1/IDE2). For all other Operating Systems except Win NT4.0 and 2000, you can proceed with your hard driver(s) connected to IDE3/DIE4.

1. Boot your system with FastTrak133-Lite Controller enabled by JP17 and your hard drive(s) connected to IDE3/IDE4. Suppose this is the first time to create a Disk Array. The Promise BIOS on board with FastBuild Utility built in will scan the IDE devices and display the result as below:

```
FastTrak133-Lite (tm) BIOS Version 1.xx (Build xxxx)
(c) 1995-2000 Promise Technology, Inc. All Rights Reserved.

        No array is defined...

Press <Ctrl-F> to enter FastBuild (tm) Utility
Or press <ESC> key to continue booting the system.
```

2. Press <Ctrl-F> keys to display the FastBuild (tm) Utility Main Menu.

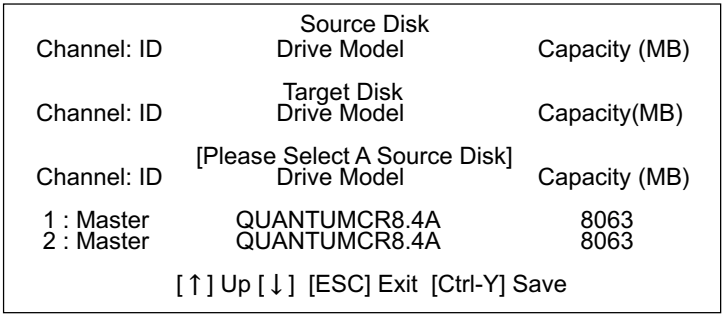
3. Press “1” to display the Auto Setup Menu below. This is the fastest and easiest method to create your first array.

```
FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc.
                    [Auto Setup Options Menu]

  Optimize Array for:                  Performance
  Typical Application usage:           Desktop

                    [Array Setup Configuration]

  Mode ..................................... Stripe
  Spare Drive ..............................0
  Drives used in Array .....................1
  Array Disk Capacity .....................38166

                        [Keys Available]

          [ ↑ ] Up [ ↓ ] Down  [←,→, Space] Change Option
                    [ESC] Exit  [Ctrl-Y] Save
```

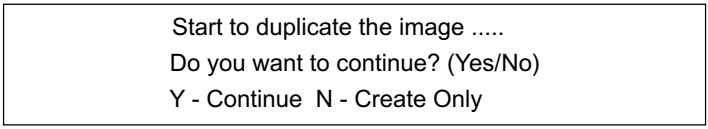
4. Using the Spacebar, choose “Security” under the **Optimize Array for** section.
5. Press <Ctrl-Y> keys to Save your selection. The window below will appear:

```
Do you want the disk image to be duplicated to anther? (Yes/No)
Y - Create and Duplicate
N - Create Only
```

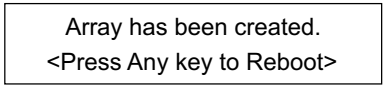
6. Press “Y” for the “Create and Duplicate” option. The window below will appear asking you to select the Source drive to use.



7. Use the arrow keys to choose which drive contains the existing data to be copied. FastBuild will copy all data from the Source drive to the Target drive.
8. Press [Ctrl-Y] keys to save selection and start duplication. The following progress screen will appear:



9. Select “Y” to continue. If you choose “N”, you will return to step 4.
10. Once complete, the following screen will appear confirming that your Security array has been created. Press any key to reboot the system.



11. Proceed to Section **5-2 Installing Driver** to install the FastTrak133-Lite driver and/or operating system.

5-2 Installing Drivers

This section details the FastTrak133-Lite driver installation for various operating systems. The driver should have been included either into the Support CD or into a Support Floppy Diskette.

Checkpoints for the driver installation:

1. To install FastTrak133-Lite Driver for an operating system, you must use *the driver in Floppy Diskette instead of the one in CD. If you are not provided with a Driver Diskette, you should create one by copying the driver files through the support CD with the path:*
   "E \Driver\Promise\FastTrak133-Lite. (Suppose that CD-ROM title is E).
2. *Set JP17 on board enabled (Pin 1-2 closed) for RAID Controller Select.* The following sections describe the detailed procedures of installing FastTrak133-Lite Driver for windows 2000/XP, Windows 95/98, Windows NT4.0, and Windows 3.1 / DOS.

5-2.1 For Windows 2000 / Windows XP

5-2.1-1 Installing Driver During New Windows 2000 / XP Installation

1. Connect your hard driver(s) for RAID Array to IDE3/IDE4, and enable FastTrak133-Lite Controller with JP17.
   Boot from the windows 2000 CD. Press <F6> after the message " Press F6 if you need to install third party SCSI or RAID driver" appears.
2. Then, the "Windows 2000/XP Setup" starts to load files from CD-ROM until it asks for "Specify Additional Device". Press "S" to Specify an Additional Device.
3. Then, "Windows 2000/XP Setup will ask for the hardware support disk, that is, the Promise RAID Driver. Insert into drive A the Support Floppy Disk containing the Promise FastTrak133 Lite RAID Controller Driver and then press "Enter" to continue.
4. Next, choose "Win2000/XP Promise MBFastTrak133-Lite Controller" from the list that appears on screen, then press the "Enter" key.
5. The Windows 2000/XP Setup screen will appear again saying "Setup will load support for the following mass storage devices:" The list will include "Win2000 Promise FastTrak133-Lite controller".

> ***Note:*** *If you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, continue to step 7.*

6. From the Windows 2000/XP Setup screen, press the Enter key. Setup will now load all device files and then continue the installation.

5-2.1-2 Installing Driver To Existing Windows 2000/XP System

WARNING: Your must first complete installing the driver before moving the boot drive containing the existing Windows 2000 operating system on to the FastTrak133-Lite controller (e.g. IDE3/IDE4). On this series, IDE1/0 are for system IDE controller, while IDE3 & IDE4 are for RAID IDE controller.

At booting with Windows 2000/XP system with Jp17 enabled, and your hard drive(s) connected to IDE1/2, Windows 2000/XP setup will show a "New Hardware Found" dialog box. Under Windows 2000, the "PCI RAID Controller" will be displayed.

1. In the dialog box, choose "Driver from disk provided by hardware manufacturer " button.
2. In the A: drive, insert the FastTrak133-Lite driver diskette.
3. Type "A:\WIN2000" in the text box. Press "Enter".
4. Choose "Win2000 Promise FastTrak133-Lite Controller" from the list that appears on screen, then press the "Enter" key.
5. The Windows 2000 setup screen will appear again saying "Setup will load support for the following mass storage device - Win2000 Promise FastTrak133-Lite controller. The FastTrak133-Lite driver will now be copied on to the system and entered into the Windows 2000 driver database.
6. When the "System Setting Change" dialog box appears, remove the floppy diskette and click on "Yes" to restart the system. Windows 2000 will then restart for the driver installation to take effect.
7. Power off your system, then connect your hard drive to the FastTrak IDE3/IDE4 for Disk Array setup.

5-2.1-3 Confirming Windows 2000 Installation

1. From Windows 2000, open the Control Panel from " My Computer" followed by the System icon.
2. Choose the "Hardware" tab, then click the "Device Manager" tab.
3. Click the "+" in front of "SCSI & RAID Controllers hardware type." The driver "Win2000 Promise FastTrak/FastTrak133-Lite Controller" should appear, informing user that the controller driver is already installed.

5-2.2 Windows 95/98

The following three sections detail the installation of the FastTrak133-Lite drivers while installing Windows 95/98. If you're installing the FastTrak133-Lite drivers on a system with Windows 95/98 already installed, see "Installing Drivers with Existing Windows 95/98".

5-2.2-1 Installing Drivers During Windows 98 Installation

1. Connect your hard drive(s) for RAID Array to IDE3/IDE4, and enable FastTrak133-Lite Controller with JP17. Configure the hard drive (s), partition and format your hard driver(s).
2. Install Windows 98 normally.
3. After installation, go to "Start" menu and choose "Settings."
4. Form the "Settings" menu, choose "Control Panel."
5. In the "Controller Panel" window, double-click on the "System" icon.
6. In the "System" window, choose the "Device Manager" tab.
7. In the hierarchical display under "Other Devices" is a listing for "PCI RAID Controller." Choose it and then press the "Properties" button.
8. Choose the "Driver" tab in the "Properties" window, choose "Update Driver," and then press "Next."
9. Choose "Search for a better driver than the one your device is using now (recommended), "then press "Next".
10. Choose "Specify Location," and then type "A:\WIN95-98" in the text box.
11. Insert the "FastTrak133-Lite Driver" diskette into the A: drive.
12. Press the "Next" button. A message informing you that Windows 98 has found "Win95-98 Promise FastTrak133-Lite (tm) Controller" should appear.
13. Press "Next," then "Finish," then "Yes" when asked if you want to restart your computer. Be sure to remove the diskette from drive A:.

5-2.2-2 Installing Drivers During Windows 95 Installation

1. Connect your hard drive(s) for RAID Array to IDE3/IDE4, and enable FastTrak133-Lite Controller with JP17. Configure the hard drive(s) for RAID Array, partition and format your hard driver(s).
2. Install Windows 95 normally.
3. After installation, go to “Start” menu and choose “Settings.”
4. Form the “Settings” menu, choose “Control Panel.”
5. In the “Controller Panel” window, double-click on the “System” icon,
6. In the “System” window, choose the “Device Manager” tab.
7. In the hierarchical display under “Other Devices” is a listing for “PCI RAID Controller.” Choose it and then press the “Properties” button.
8. Choose the “Driver” tab in the “Properties” window, and then press the “Update Driver” button.
9. When asked if you want Windows to research for the driver, choose “Yes (recommended).”
10. Insert the “FastTrak133-Lite Driver” diskette into the A: drive, then press “Next.”
11. When Windows informs you that it was unable to find the drivers, press “Other Locations...”
12. In the “Select Other Location” dialog box, type “A:\WIN9x-ME”.
13. Press “Next” button. A message informing you that Windows 95 has found ” Win95-98 Promise FastTrak133-Lite (tm) Controller” should appear.
14. Press “Finish.” (If Windows can’t find the “FastTrak133-Lite.MPD” file, type “A:\WIN9x-ME” in the copy files from:” text box).
15. Choose “Yes” when asked if you wish to restart the system, and remove the diskette from Drive A.

5-2.3 Installing Drivers With Existing Windows 95/98

The following three sections detail the installation of the FastTrak133-Lite drivers on a system that has Windows 95/98 already installed. If you're installing the FastTrak133-Lite drivers on a system during a Windows 95/98 installation, see "Installing Drivers During Windows 95/98 Installation".

5-2.3-1 Windows 98

1. Connect your hard drive(s) for RAID Array to IDE3/IDE4, and enable FastTrak133-Lite Controller with JP17. Configure the hard drive(s) for RAID Array, power up the system and boot Windows.
2. The "Add New Hardware Wizard" will appear, informing you that it has found a "PCI RAID Controller."
3. Check the "Search for the best driver for your device" box and click the Next button.
4. Check the "Specify a Location" box and click the Next button.
5. Type "A:\WIN9x-ME" in the text box that appears.
6. Insert the "FastTrak133-Lite Driver" diskette in drive A:.
7. Click on "Next." The Add New Hardware wizard will say it has found "Win95-98 Promise FastTrak133-Lite Controller".
8. Click on "Next," and then on "Finish."
9. Choose "Yes" when asked if you want to restart your computer. Be sure to remove the diskette from drive A:.

5-2.3-2 Windows 95

1. Connect your hard drive(s) for RAID Array to IDE3/IDE4, and enable FastTrak133-Lite Controller with JP17. Configure the hard drive(s) for RAID Array, power up the system and boot Windows.
2. The "Update Device Drive Wizard" will appear, informing you that it has found a "PCI Mass Storage Controller."
3. Insert the "FastTrak133-Lite Driver" diskette in drive A:.
4. Type "A:\WIN9x-ME" in the text box, then click on "Next." Windows will inform you that it has found the "Win95/98 Promise FastTrak133-Lite controller".
5. Click on "Finish," and when prompted to insert the "FastTrak133-Lite Driver" diskette, click on "OK."
6. If a message informing you that the file "Win95/98 Promise FastTrak133-Lite.MPD" cannot be found, go to the "Copy files from:" text box and type: "A:\WIN9x-ME".

7. Choose “Yes” when asked whether you want to start your computer. Be sure to remove the diskette from drive A.

5-2.3-3 Confirming Driver Installation in Windows 98/95

To confirm that the driver has been properly loaded in Win 95/98, perform the following steps:

1. Choose “Settings” from the “Start” menu.
2. Choose “Controller Panel”, and then double-click on the “System” icon.
3. Choose the ”Device Manager” tab, and click the “+” in front of “SCSI & RAID controllers.” “Win95-98 Promise FastTrak133-Lite controller” should appear.

5-2.4 DOS/Windows 3.1x

For first -time installation, follow the standard procedure of installing DOS on to your hard disk (partition all hard drive with FDISK and format before performing the following procedure):

1. Insert “Disk 1” of your DOS installation diskettes into drive A:.
2. Type “A:\SETUP” at the “A:\” prompt.
3. Continue with normal DOS installation procedure, and refer to your DOS manual for additional details.

> ***Note:*** *The FastTrak133-Lite BIOS supports both DOS and Windows 3.1x without software drivers installed.*

5-2.5 Windows NT4.0

5-2.5-1 Installing Drivers During Windows NT 4.0 Installation

1. Connect your hard drive(s) for RAID Array to IDE3/IDE4, and enable FastTrak133-Lite Controller with JP17. Start the system installation by booting from the Windows NT disk:
   a) Floppy install: boot the system with the Windows NT installation diskettes.
   b) Other bootable Floppy: boot from the bootable floppy and type "WINNT /B". After files have been copied, the system will reboot. On the reboot, press the "F6" key when the message "Setup is inspecting your computer's hardware configuration..." appears.
   c) CD-ROM disk install: boot from the CD-ROM disk and press the "F6" key when the message "Setup is inspecting your computer's hardware configuration..." appears.
2. When the "Windows NT Setup" windows is generated, press "S" to specify an Additional Device(s).
3. Press "O" to select "Other" and press the "Enter" key.
4. Insert into drive A the Promise Technology ® FastTrak133-Lite driver diskette that you have made from the support CD: and press "Enter" key.
5. Choose "Win NT Promise FastTrak133-Lite (tm) Controller" from the list that appears on screen, then press the "Enter" key.
6. The Windows NT Setup screen will appear again saying "Setup will load support for the following mass storage devices:" The list will include "Win NT Promise FastTrak133-Lite (tm) controller".

> ***Note:*** *If you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, continue to step 7.*

7. From the Windows NT Setup screen, press the Enter key. Setup will now load all device files and then continue the Windows NT installation.
8. After a successful installation, the "SCSI Adapter Setup" box will show that the "Win NT Promise FastTrak133-Lite (tm) Controller" driver has been installed.

5-2.5-2 Installing Drivers With Existing Windows NT4.0

WARNING: Your must first complete installing the driver before moving the boot drive containing the existing Windows NT operating system on to the FastTrak133-Lite controller (e.g. IDE3/IDE4). On this series, IDE1/0 are for system IDE controller, while IDE3 & IDE4 are for RAID IDE controller.

With your bootable hare drive connected to IDE1/IDE2 and FastTrak133-Lite enabled by JP17, boot Win NT4.0.

1. Choose “Settings” from the “Start” menu.
2. Choose “Controller Panel” from the “Settings” menu.
3. Double-click on the “SCSI Adapters” icon, which generates the “SCSI Adapters” dialog box.
4. Choose “Drivers,” and then press “Add.”
5. In the “Install Drivers” dialog box, press “Have Disk...”
6. When the “Install From Disk” appears, insert into Drive A the “FastTrak133-Lite Driver” diskette that you have made from support CD:.
7. Type “A:\NT4” in the text box window, then choose “OK.”
8. When the “Install Driver” dialog box appears, select “ Win NT Prom ise FastTrak133-Lite controller” and then press “OK.”
9. When the “Select SCSI Adapter Option” dialog box appears, press “Install”.
10. After a successful installation, the “SCSI Adapter Setup” box will show that the “Win NT Promise FastTrak133-Lite (tm) Controller” driver has been installed.
11. Power off your system.
12. Now you can move the boot drive to the FastTrak133-LiteController.