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Item Checkup

- Mainboard
- User Manual (Mainboard)
- Multi-lingual Quick Installation Guide
- Support CD
- Bundled Bonus Pack CD
- Floppy Disk with RAID Drivers (optional)
- Bundled Bonus Pack Manual
- Cables
 - ATA66/100 IDE Cable x 1
 - FDD Cable
 - USB Cable (optional)

Chapter 1 Specification

Introduction

Here comes the RAID and LAN solution with Pentium 4 Processor and its fast coworker Intel 845E plus ICH4. RAID or no RAID, LAN or no LAN, you can make your choices freely with this series of mainboards and it also promises you two more awesome features: the 533MHz System Bus and the 480Mb/s USB Bus.

This series is 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 533/400MHz system bus, while North Bridge Intel 845E is a high performance integrated chipset supporting processor interface, DDR266/200 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, LAN interface, USB V2.0 interface, AC'97 Audio interface as well as the interrupt control. This chapter is to introduce to you every advanced function of this high performance integration.

Topics included in this chapter are:

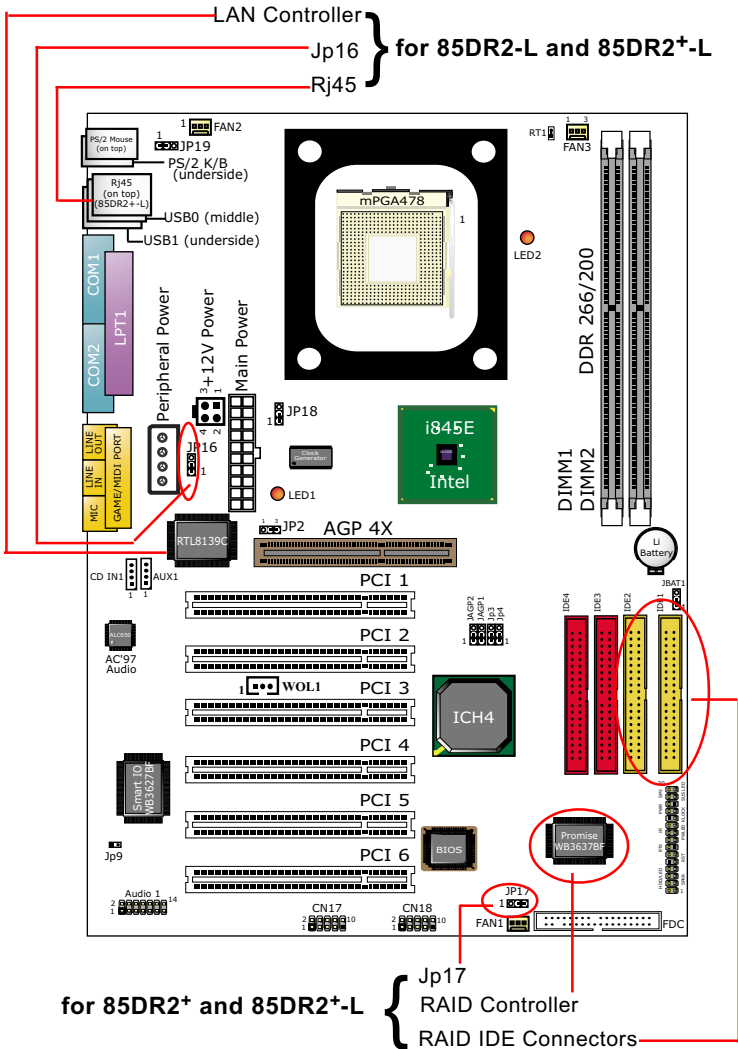
1-1 Mainboard Components Locations

1-2 Mainboard Specifications

1-3 Mainboard Specification Table

1-4 Chipset Diagram

1-1 Series 85DR2 Components Locations and Options



Optional Feature	85DR2	85DR2-L	85DR2+	85DR2+-L
LAN Controller	No	Yes	No	Yes
RAID Controller	No	No	Yes	Yes

1-2 Mainboard Specifications

1-2.1 CPU Socket

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

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

1-2.2 System Chipsets

North Bridge:

- Intel 845E for managing and supporting operations between processor interface, DDR266/200 SDRAM memory interface, Hub interface, AGP interface as well as Hyper-threading Technology
- With HT CPU running on board, showing Hyper-threading Logo on bootup screen

South Bridge:

- South Bridge ICH4 working with North Bridge supports the LPC Super I/O, upstream Hub interface, PCI interface, IDE interface, LAN interface, USB V2.0 interface, AC'97 Audio interface as well as the interrupt control.

1-2.3 Memory

2 DDR DIMM 184-pin slots on board for DDR 266/200 SDRAMs :

- Supporting unregistered, non-ECC DDR266/200 SDRAM up to 2 GBs
- Supporting installation of mixed volumes yet same type of DDR SDRAM modules
- No support for double-sided x16 DDR DIMMs

1-2.4 AMI BIOS

- Supporting Plug & Play V1.0
- Flash Memory for easy upgrade
- Supporting BIOS Writing Protection and Year 2000 compliant
- Supporting BIOS Setup (See Chapter 4 BIOS Setup)

1-2.5 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-transection longburst transfers up to 1GB/sec.
- AGP 4X only, AGP v2.0 compliant

1-2.6 Advanced System Power Management:

- ACPI 1.0B compliant (Advanced Configuration and Power Interface)
- APM V1.2 compliant (Legacy Power Management)
- ACPI POS (Power On Suspend) and Suspend To RAM (STR)
- PS/2 Keyboard & Mouse Power On
- Supporting Ring Power Up Control for Wake-on-Modem (external) and Wake-on-LAN
- Real Time Clock (RTC) with date alarm, month alarm, and century field
- USB Wake Up function supported.

1-2.7 Multi-I/O Functions :

- PCI EIDE Controller, supporting:
 - 2x Ultra ATA100 / 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, 480 Mb/s USB Bus, supporting Win 2000 and later operating system; USB drivers provided in Support CD for installation
 - 2 built-in USB connectors and 2 USB Headers (USB2, USB3) 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

1-2.8 Expansion Slots

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

1-2.9 AC'97 Audio Codec on board

AC'97 Audio Codec 2.2 compliant on board

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

1-2.10 LAN on board (85DR2-L and 85DR2+-L only)

PCI local bus single-chip Fast Ethernet Controller RTL8139C 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.

1-2.11 RAID Controller on board (85DR2+ and 85DR2+-L only)

RAID Controller Promise 20276 on board, supporting:

- 4 UATA-133 devices
- IDE RAID 0 and IDE RAID 1
- RAID Controller Driver enclosed in Support CD for user's installation
- Jp17 for enabling / disabling RAID Controller

1-2.12 Hardware Monitor on board

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

1-2.13 6-channel Sound Output Support (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.

1-1.14 Redstorm Overclocking Technology (optional)

Redstorm Overclocking Tech is a program embedded in BIOS for automatic CPU overclocking. Please see " Frequency / Voltage Control " of BIOS Setup for Redstorm Overclocking Technology configuration.

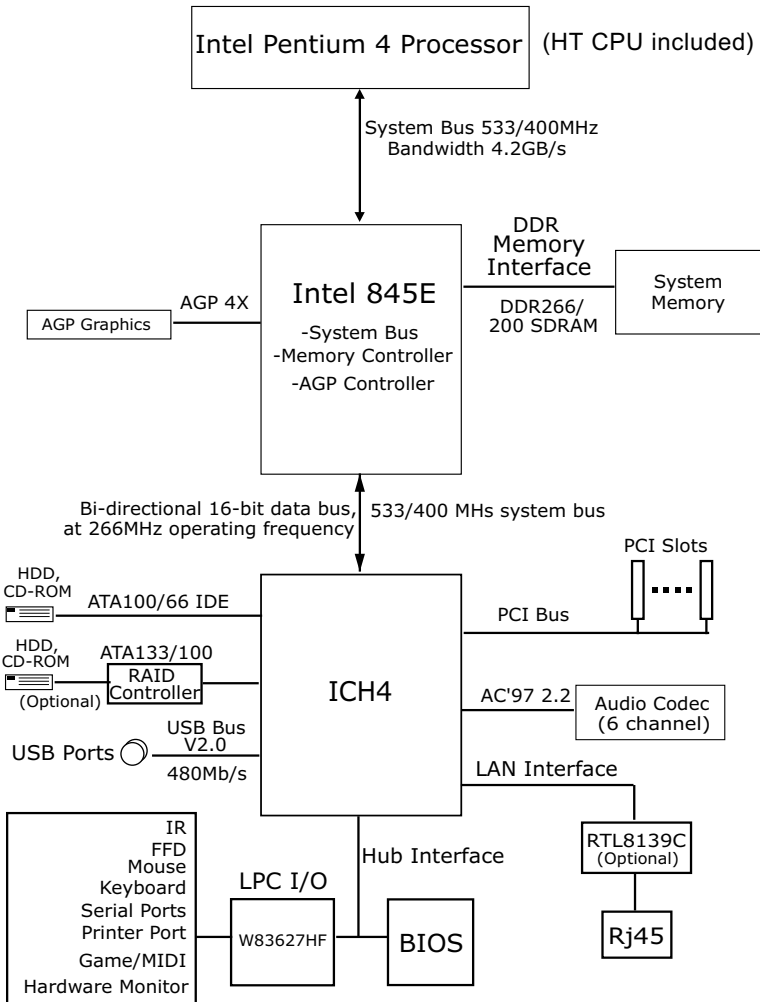
1-2.15 Form Factor

- ATX form factor, ATX power supply, version 2.03 compliant, supported by one Main Power Connector, one +12V Power Connector and one Peripheral Power Connector
- Mainboard size: 305mm x 220mm

1-3 Mainboard Specification Table

Series 85DR2 Specifications and Features				
CPU	Socket 478B for P4 CPU (HT CPU included)			
North Bridge	Intel 845E, supporting 533/400MHz FSB			
South Bridge	Intel ICH4			
BIOS	AMI BIOS			
Memory	Supporting DDR 266/200 SDRM, up to 2GB in two DDR DIMM slots			
I/O Chip	Winbond W82627HF with Hardware Moitor			
AGP interface	AGP 4X mode only			
Audio	AC'97 Audio 2.2 compliant, 6 channel audio			
IDE Interface	2 ATA 66/100 IDE ports, 2 RAID ATA100/133 ports			
VGA Display	No VGA built in			
PCI Slots	6 PCI Master slots on board			
I/O Connectors	6xUSB V2.0, 1xFDD port, 2xCOM ports, 1xLPT, 1xIrDA, 1xPS/2 K/B, 1xPS/2 Mouse			
Other common features	BIOS Writing Protection; keyboard/Mouse Power On; ATX 2.03 Power Supply; ATX form factor			
Optional Feature	85DR2	85DR2-L	85DR2+	85DR2+ -L
LAN Controller on board	No	Yes	No	Yes
RAID Controller on board	No	No	Yes	Yes

1-4 Chipset System Block Diagram



Intel Pentium 4 + Intel 82845E + Intel ICH4 Diagram

Chapter 2 Hardware Setup

To Get things ready for hardware setup !

1. We recommend to install your CPU before any other components. For detailed installation instructions of processor, you can also refer to the pamphlet enclosed in your CPU package.
2. Installing a cooling fan with a good 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 on board, 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 P4 CPU Identification and Installation

2-2 Pentium 4 CPU Fan Installation

2-3 Memory Installation with Warning LED

**2-4 AGP4X Installed with Jumper and LED
Safeguard**

2-5 IDE Connector Installation

2-6 Floppy Drive Connector (FDC) Installation

2-7 ATX 2.03 Power Supply Installation

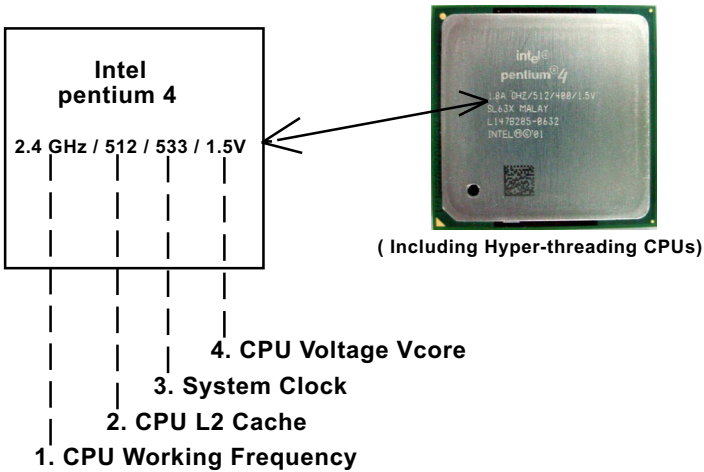
2-8 Jumper Settings

2-9 Other Connectors Configuration

2-10 IRQ Description

2-1 CPU Identification and Installation

2-1.1 To Identify a Pentium 4 CPU



On the heatsink side of a Pentium 4 CPU, there printed a line of figures to identify its specifications. The line consists of 4 parts:

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

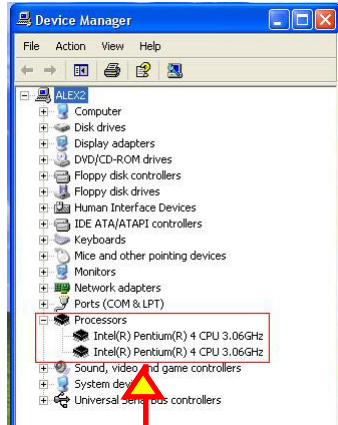
Note: System Clock vs CPU Clock

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

2-1.2 CPU Installation with Socket 478B

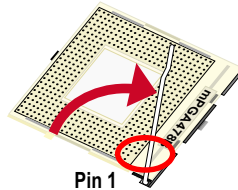
This mainboard is built with CPU Socket 478B (478-pin) supporting the Intel Pentium 4 CPU:

- Follow the steps described in this section to install the 478-pin Pentium 4 CPU into the on board Socket 478.
- After installation of Pentium 4 CPU, you must also install the specific Pentium 4 CPU fan designed in tandem with this CPU. This CPU Fan installation is described in next section.
- This mainboard supports Hyper-threading dual-in-one CPU, the function of which can be enabled by Windows XP. (See illustration on the right.)

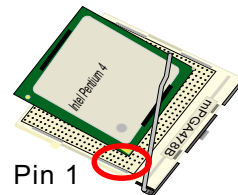


(If Hyper-threading CPU is installed successfully with O/S Win XP, the O/S will enable the dual-in-one CPU function.)

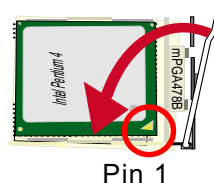
1. First pull sideways the lever of Socket 478, and then turn it up 90° so as to raise the upper layer of the socket from the lower platform.



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.

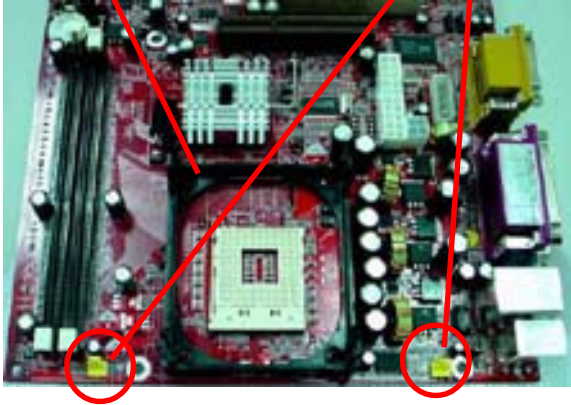


3. Make sure that all CPU pins have completely entered the socket and then lower down the lever to lock up CPU to socket.

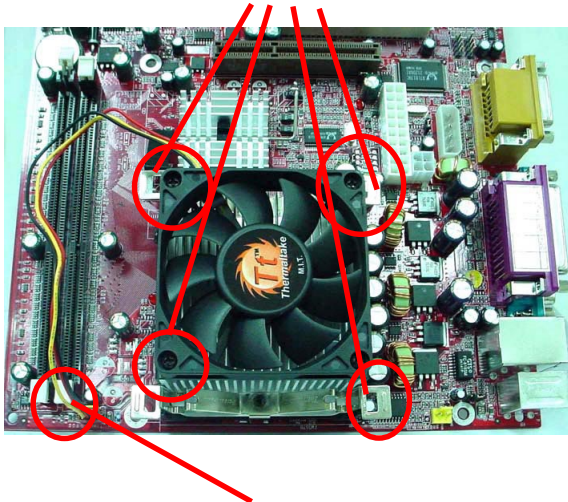


2-2 Pentium 4 CPU Fan Installation

Pentium 4 Fanbase CPU Fan Connector



Press down 4 corners to lock fan to fanbase



Connect Fan Connector to CPU FAN connector

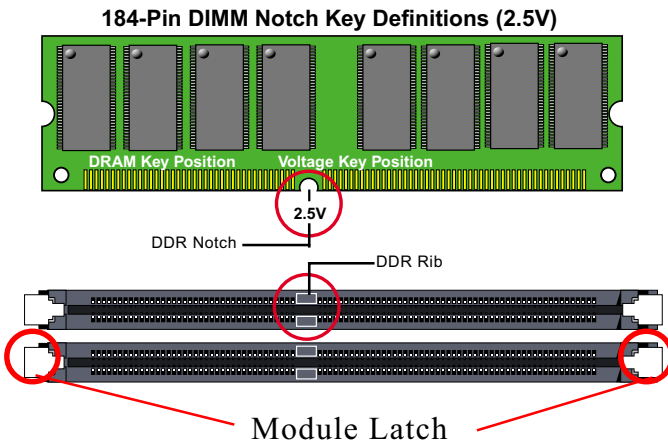
2-3 Memory Installation with Warning LED

How to tackle with 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 slot itself.
- Make sure you have the right type of memory module for your mainboard.

2-3.1 To Install DDR SDRAM Module for this series

- This series only supports up to 2GB unbuffered DDR 266/200 SDRAM, with 2 DDR DIMM slots on board. Do not insert other type of modules 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 a bit more firmly.



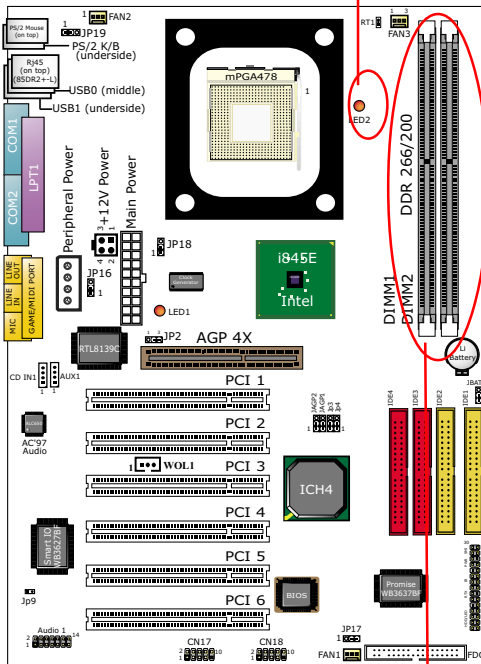
2-3.2 To Remove a DIMM

Press down the holding latches on both sides of slot to release the module from the DIMM slot.

2-3.3 Warning LED2: DIMM Slot Powered On:

An indicator LED2 is designed on board. Whenever system is started or is in STR status (Suspend to RAM), all the DIMM slots on board will also get powered on with the set voltage, resulting in LED2 lighting up. This indicator LED2 is to warn users that, whenever DIMM slot is powered on, no memory module should be removed from or added into it.

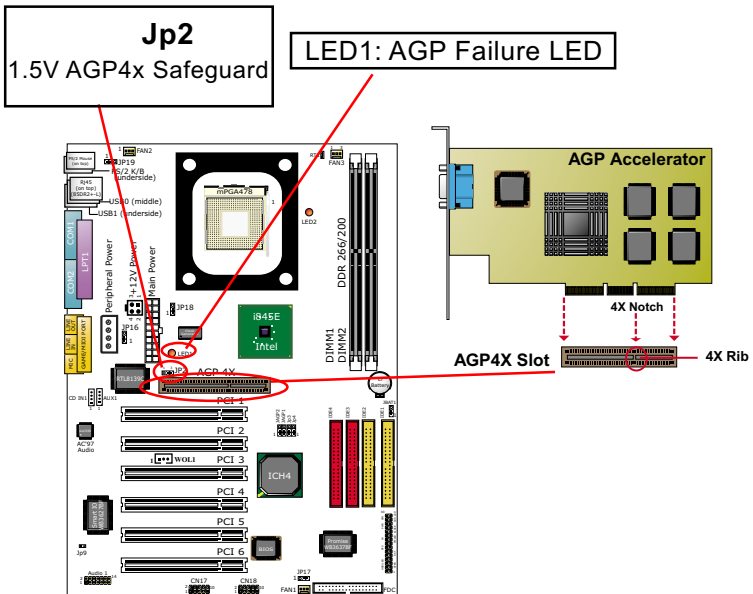
LED2 DIMM Powered On Indicator



DDR DIMM Slots
(184-pin)

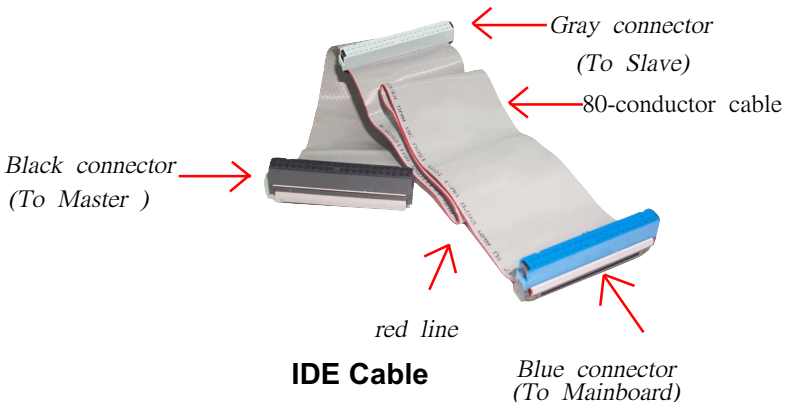
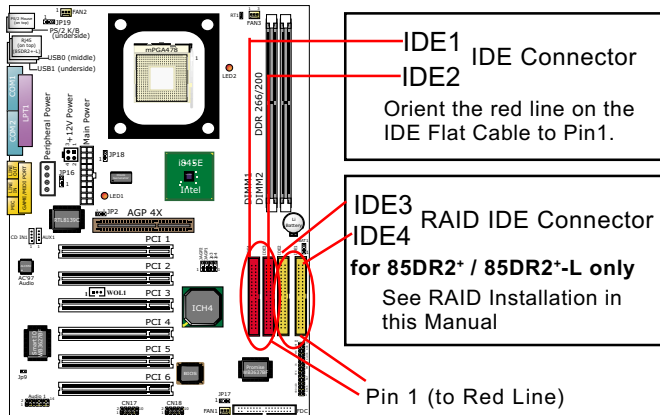
2-4 AGP 4X Installed with Jumper and LED Safeguard

1. The AGP slot on board supports 1.5V AGP4X card only. A Rib is specifically added to the 4X AGP slot so as to match the AGP 4X card. To insert a 3.3V AGP 2X card into the AGP 4X slot will damage the system chip and burn the 1.5V circuitry.
Jp2 is designed on board to check the voltage of the AGP card inserted in the AGP slot. When Jp2 is set to 1-2 closed, safeguard is enabled to allow only 1.5V AGP4X card to boot system. If a 3.3V AGP2X card is mistakenly inserted to AGP slot, it will not boot system.
2. In case you have to use a PCI VGA card for the display, you must first set Jp2 to 2-3 closed to disable the safeguard. If a 3.3V AGP2X card is mistakenly inserted to AGP slot under no safeguard, the 3.3V power will burn the 1.5V circuitry. So, take care never to apply 3.3V AGP card to this mainboard. (See Jumper Setting Section for detailed jumper setting description).
3. LED1 is a Warning LED. Whenever an AGP card is not inserted to the AGP slot, or if the card is not a correct one, LED1 will keep lighting up until proper installation is done.



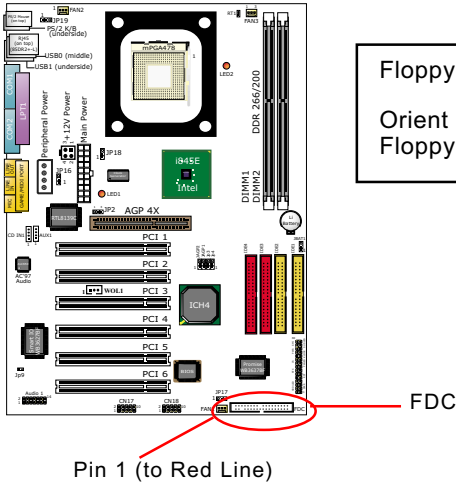
2-5 IDE Connector Installation

To install IDE Connector, you may connect the blue connector of IDE cable to the primary (IDE3) or secondary(IDE4) 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.

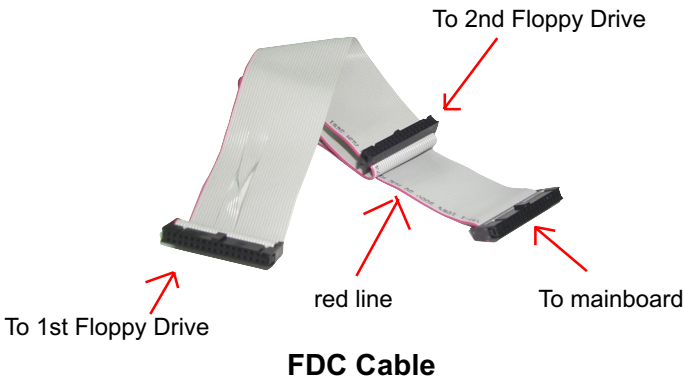


2-6 Floppy Drive Connector (FDC) Installation

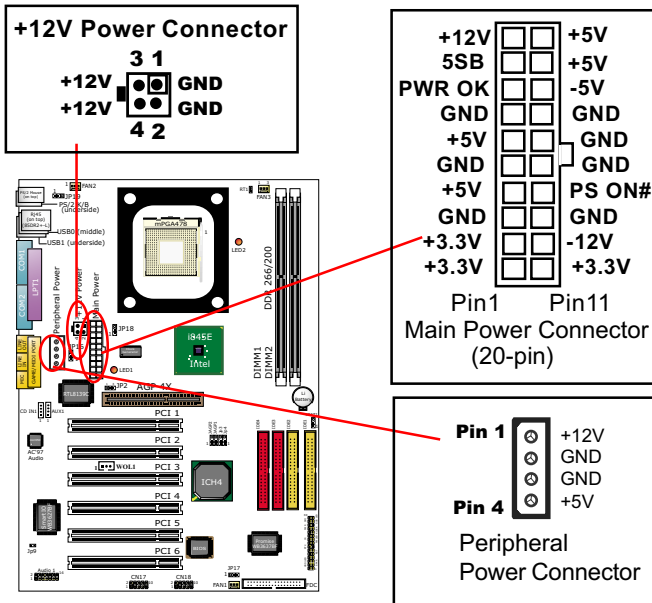
To install FDC (Floppy Drive Connector), you should connect the end of FDC cable with single connector to the board , and connect the other end with two connectors to the floppy drives.



Floppy Drive Connector:
Orient the red line of the Floppy Flat Cable to Pin 1.



2-7 ATX V 2.03 Power Supply Installation



ATX V2.03 power supply is strongly recommended for mainboard running with 2GMHz or higher CPU.

To set up Power Supply on this mainboard:

1. Connect the on-board Main Power Connector (20-pin) to the Main Power Connector (20-pin) of an ATX Power Supply which can be either of the latest version 2.03 or of earlier ATX format.
2. If you use an ATX Power Supply Version 2.03 or later, you can now connect the on-board square-shaped +12V Connector to the square-shaped +12V Connector of your ATX Power Supply. In this case, it is not necessary for you to connect the on-board 4-pin Peripheral Power Connector to your Power Supply.
3. If you use an ATX power Supply of an older version than V2.03, you cannot find a square-shaped +12V Connector with your Power Supply; you must then connect the on-board 4-pin Peripheral Power Connector to the 4-pin Peripheral Power Connector of your Power Supply.

2-8 Jumper Settings

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







<p>Jp18 CPU Clock Select</p> <p>1 1-2 closed (default) CPU Auto-detect</p> <p>1 2-3 closed 133MHz Select</p>	<p>Jp19: KB / Mouse Power On/Wakeup</p> <p>1 1-2 closed (default) Disabled</p> <p>1 2-3 closed Enabled</p>	<p>Jp2: 1.5V AGP4X Safeguard</p> <p>1 (Default) 1-2 closed for 1.5V AGP 4X only; (Warning: 3.3V AGP 2X card can not boot system.)</p> <p>1 2-3 closed for PCI VGA card or 1.5V AGP 4X; (Warning: 3.3V AGP2X card will cause circuit burn.)</p>																								
<p>Jp16 (85DR2-L / 85DR2+-L) LAN Controller Select</p> <p>1 1-2 closed (default) LAN Enabled</p> <p>1 2-3 closed LAN Disabled</p>	<p>Jp3 & Jp4: DIMM Voltage Select</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Voltage</th> <th>Jp3</th> <th>Jp4</th> </tr> </thead> <tbody> <tr> <td>2.5V (default)</td> <td>2-3 closed 1 </td> <td>1-2 closed 1</td> </tr> <tr> <td>2.6V</td> <td>2-3 closed 1 </td> <td>1-2 closed 1</td> </tr> <tr> <td>2.7V</td> <td>1-2 closed 1 </td> <td>2-3 closed 1</td> </tr> </tbody> </table>	Voltage	Jp3	Jp4	2.5V (default)	2-3 closed 1	1-2 closed 1	2.6V	2-3 closed 1	1-2 closed 1	2.7V	1-2 closed 1	2-3 closed 1	<p>JAGP1 & JAGP2: AGP Voltage Select</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Voltage</th> <th>JAGP2</th> <th>JAGP1</th> </tr> </thead> <tbody> <tr> <td>1.5V (default)</td> <td>1-2 closed 1 </td> <td>1-2 closed 1</td> </tr> <tr> <td>1.6V</td> <td>2-3 closed 1 </td> <td>1-2 closed 1</td> </tr> <tr> <td>1.7V</td> <td>1-2 closed 1 </td> <td>2-3 closed 1</td> </tr> </tbody> </table>	Voltage	JAGP2	JAGP1	1.5V (default)	1-2 closed 1	1-2 closed 1	1.6V	2-3 closed 1	1-2 closed 1	1.7V	1-2 closed 1	2-3 closed 1
Voltage	Jp3	Jp4																								
2.5V (default)	2-3 closed 1	1-2 closed 1																								
2.6V	2-3 closed 1	1-2 closed 1																								
2.7V	1-2 closed 1	2-3 closed 1																								
Voltage	JAGP2	JAGP1																								
1.5V (default)	1-2 closed 1	1-2 closed 1																								
1.6V	2-3 closed 1	1-2 closed 1																								
1.7V	1-2 closed 1	2-3 closed 1																								
<p>Jp17: (85DR2+ / 85DR2+-L only) RAID Controller Select</p> <p>1 2-3 closed RAID Controller Disabled</p> <p>1 1-2 closed (default) RAID Controller Enabled</p>		<p>JBAT1 Clear CMOS</p> <p>1 1-2 closed (default) To hold data</p> <p>1 2-3 closed To clear CMOS</p>																								

How to tackle with Jumpers:

- Do not remove the jumper when power is on. Always make sure the power is off before changing any jumper settings. Otherwise, main-board could be damaged.
- In the Jumper setting diagram, all jumper pins covered with black marks stand for closed pins by jumper caps.

2-8.1 JAGP1 & JAGP2: AGP Voltage Select



The default voltage 1.5V at AGP slot is for normal operation of the supported AGP 4X. In some case, when you try to do CPU overclocking, you then may also need to raise the transfer rate of the AGP interface. JAGP1 & JAGP2 are designed on board to provide settings for selecting a higher AGP voltage so as to raise the speed of the AGP interface.

JAGP1 & JAGP2: AGP Voltage Select		
Voltage	JAGP2	JAGP1
1.5V (default)	1-2 closed 	1-2 closed 
1.6V	2-3 closed 	1-2 closed 
1.7V	1-2 closed 	2-3 closed 

Warning: Selecting a higher voltage than the default , you are risking the stability of your system.

2-8.2 Jp2: 1.5V AGP4X Safeguard

1. Jp2 is designed on board to check the voltage of the AGP card inserted in the AGP slot. When Jp2 is set to 1-2 closed, safeguard is enabled to allow only 1.5V AGP4X card to boot system. If a 3.3V AGP2X card is mistakenly inserted to AGP slot, it will not boot system.

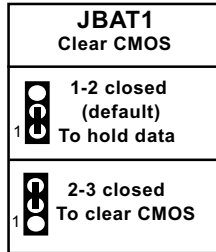
Jp2: 1.5V AGP4X Safeguard
<p>1  (Default) 1-2 closed for 1.5V AGP 4X only; (Warning: 3.3V AGP 2X card can not boot system.)</p>
<p>1  2-3 closed for PCI VGA card or 1.5V AGP 4X; (Warning: 3.3V AGP2X card will cause circuit burn.)</p>

2. In case you have to use a PCI VGA card for the display, you must first set Jp2 to 2-3 closed to disable the safeguard. If a 3.3V AGP2X card is mistakenly inserted to AGP slot under no safeguard, the 3.3V power will burn the 1.5V circuitry. So, take care never to apply 3.3V AGP card to this mainboard.

2-8.3 JBAT1: Clear CMOS

When you have problem with rebooting you 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.



2-8.4 Jp3 & Jp4: DIMM Voltage Select:

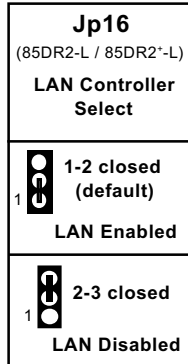
The default voltage 2.5V at DIMM slots is for normal operation of the supported DDR SDRAM. In some case, when you try to do CPU overclocking, you may also need to raise the transfer rate of the memory interface. Jp3 & Jp4 are designed on board to provide settings for selecting a higher DIMM voltage so as to raise the speed of the memory interface.

Warning: In selecting a higher voltage than the default , you are risking the stability of your system.

Jp3 & Jp4: DIMM Voltage Select		
Voltage	Jp3	Jp4
2.5V (default)	1-2 closed 	1-2 closed 
2.6V	2-3 closed 	1-2 closed 
2.7V	1-2 closed 	2-3 closed 

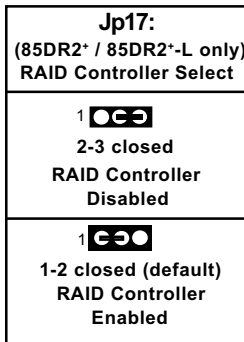
2-8.5 Jp16: LAN Controller Select (85DR2-L and 85DR2+-L)

Jp16 is designed to enable / disable the onboard LAN Controller. If your mainboard has got the LAN controller onboard, you should first enable the LAN controller by setting Jp16 to 1-2 closed before you can install the driver for the LAN controller.



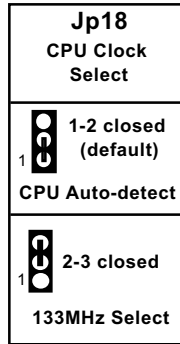
2-8.6 Jp17: RAID Controller Select (85DR2+ and 85DR2+-L)

Jp17 is designed to enable / disabled the onboard RAID Controller. If your mainboard has got a RAID Controller onboard, you should first enable the RAID controller by setting Jp17 to 1-2 closed before you can install the driver for RAID controller.



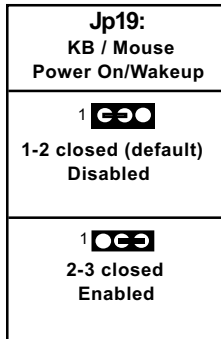
2-8.7 Jp18: CPU Clock Select

This series of Mainboards is shipped to users with a Jp18 CPU Clock Select design, with which user can select the CPU clock for the Pentium 4 processor selected on board. Yet users are not recommended to take Jp18 as a tool for overclocking. It is safer and more advisable for users to select the default (CPU auto-select) clock on board.



2-8.8 Jp19: KB / Mouse Power-on /Wake-up

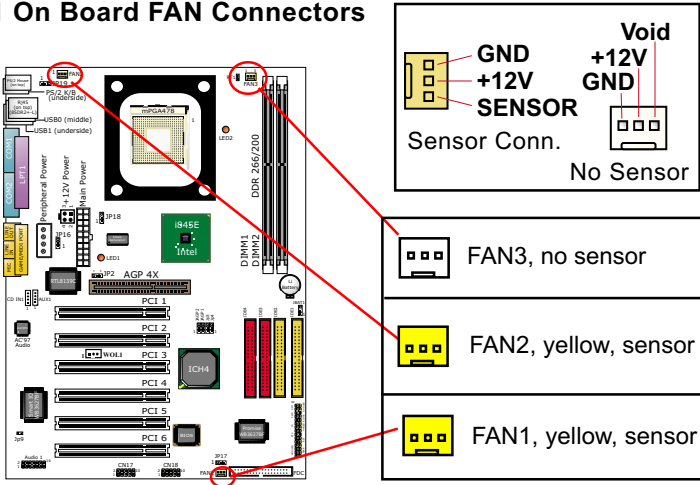
Jp19 is a Jumper for user to enable/disable the KB/Mous Power-On or Wake-up function. Setting Jp19 to 1-2 closed will disable this function. Setting Jp19 to 2-3 closed will enable this function, such that users can power on system (from system off) by PS/2 KB or Mouse or wake up system (from Suspend modes) either by PS/2 or USB KB/Mouse. However, to use this function, users should also enter BIOS setup and configure the USB/Keyboard Power On items. That is, users should need both Jp18 and the BIOS support to execute this function.



2-9 Other Connectors Configuration

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

2-9.1 On Board FAN Connectors



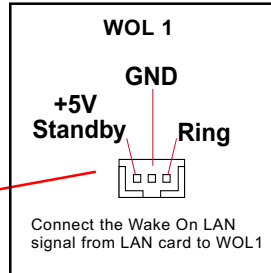
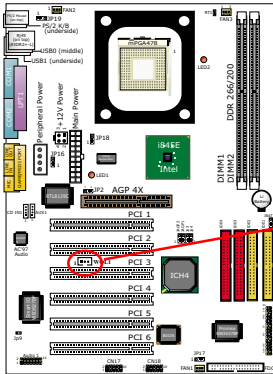
These fan connectors support CPU/AGP/Case cooling fan with +12V mode. When connecting the wire to FAN connectors, users should make sure that the red wire is for the positive current and should be connected to pin +12V, and the black wire is Ground and should be connected to pin GND. There is a Hardware Monitor chipset on board, with which user can install a Hardware Monitor Utility and read the fan speed transmitted from the sensor fan. Or, user read the fan speed from the "Hardware Monitor Status" of CMOS BIOS.

For fans plugged to a fan connector with speed sensors, each rotation of the fan blades will send out 2 electric pulses, By counting the pulses, System Hardware Monitor will work out the fan rotation speed and show it by the monitoring program.

NOTE : 2 "Yellow" fan connectors are used on this mainboard to mark that they support fan speed sensor function.

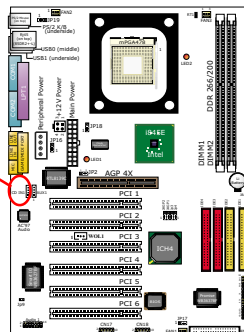
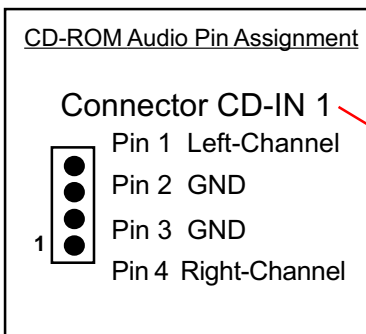
2-9.2 Connector WOL1: Wake On LAN

1. This connector connects to a LAN card with a Ring signal output. The connector powers up the system when it receives a wake-up packet or signal through the LAN card.
2. This feature requires that Resume On Ring 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.



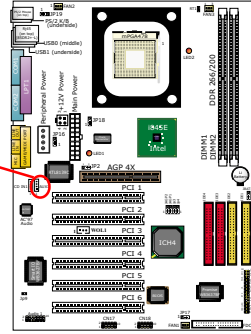
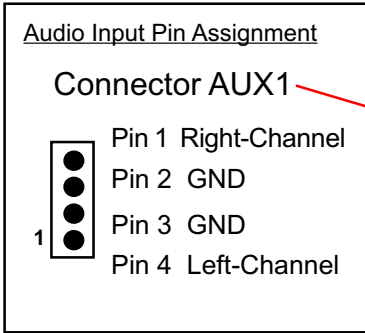
2-9.3 CD-ROM Audio Connector (CD_IN1)

CD-In1 is audio connector connecting CD-ROM audio to mainboard.

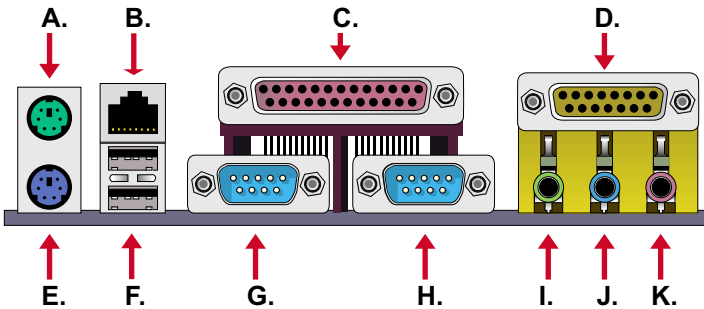


2-9.4 AUX1: Audio Input Connector

This connector connects to the Video Tuner Card and acts as Audio Input connector.



2-9.5 Chassis Panel Connectors

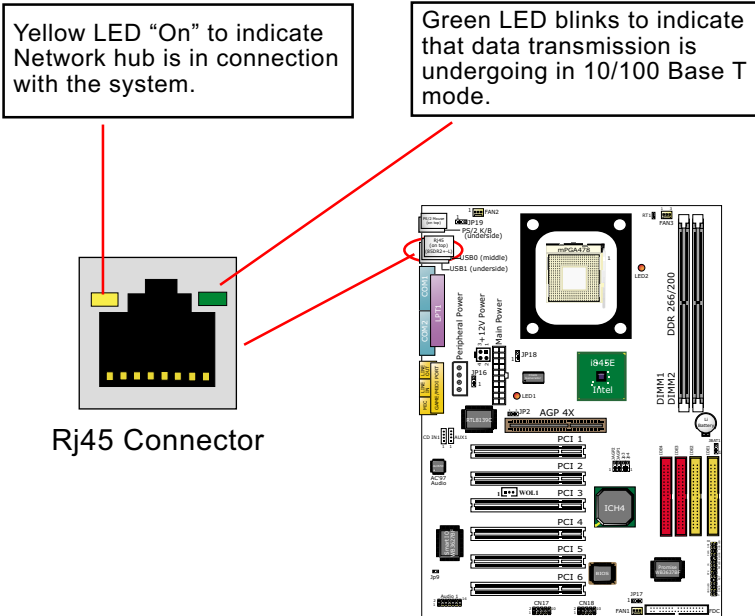


- A : PS/2 MOUSE PORT
- B : Rj45 (85DR2-L / 85DR2+-L)
- C : LPT1 PORT
- D : GAME/MIDI PORT
- E : PS/2 KEYBOARD PORT
- F : USB 1 PORT (Bottom)
- F : USB 0 (Middle)
- G : COM1 PORT

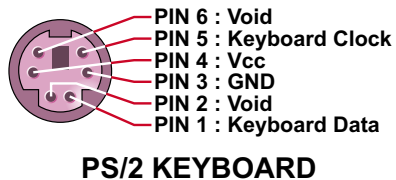
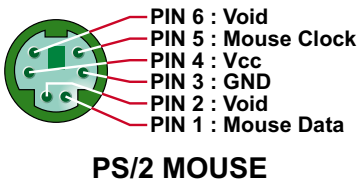
- H : COM2 PORT
- I : LINE Out / Front SPEAKER OUT
- J : LINE IN / Rear Speaker In
- K : MICROPHONE INPUT / Center Subwoofer Out

2-9.6 Rj45: LAN Connector (85DR2-L and 85DR2+-L only)

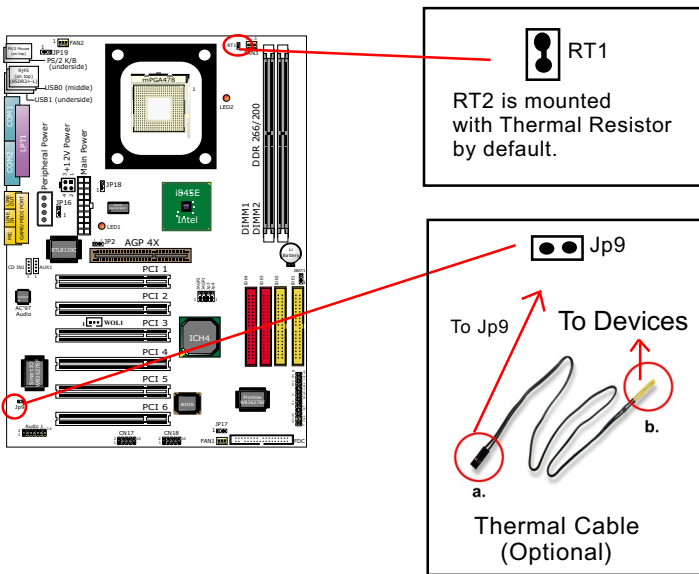
One Rj45 connector is on board for network connection and also provide support for Wake On LAN function.



2-9.7 PS/2 Mouse And PS/2 Keyboard



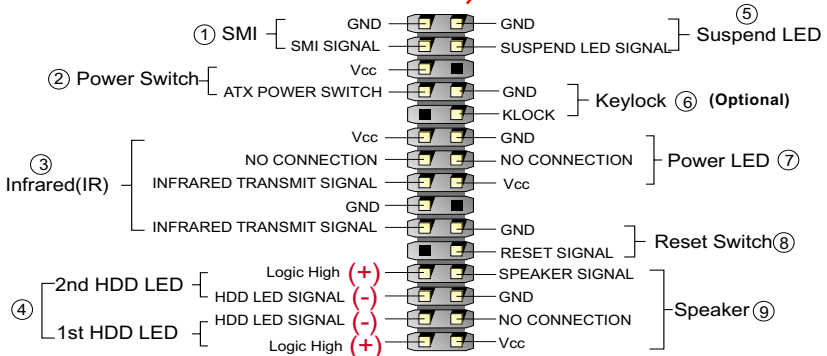
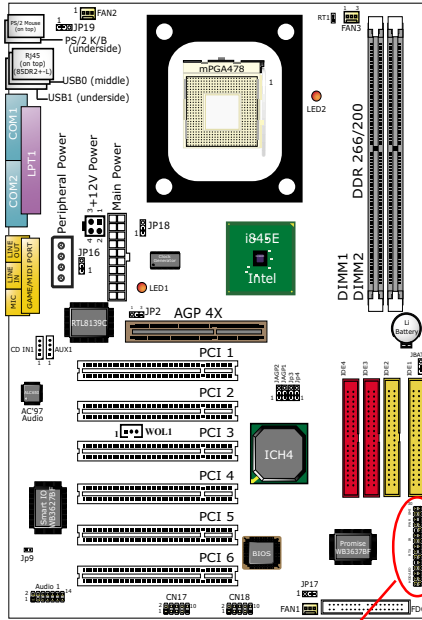
2-9.8 Thermal Sensor Connectors RT1 and Jp9



1. Connector 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 Jp9: A thermal cable is needed to connect Jp9 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 Jp9, 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.**

2-9.9 Complex Header

This complex Header consists of the following connectors for various supports:



(1) SMI Connector (Optional):

Connection: Connected to the case-mounted Suspend Switch.

Function: Manually selecting system into the Suspend Mode or “Green Mode” by System management interrupt.

(2) 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.

(3) IR Connector (Infrared Connector):

Connection: Connected to Connector IR on board.

Function: Supporting wireless transmitting and receiving module on board.

(4) 1st HDD LED Connector/2nd HDD LED Connector:

Connection: Connected to HDD LED.

Function: To supply power to HDD LED.

(5) Suspend LED Connector:

Connection: Connected to Suspend Indicator.

Function: To supply power to “Suspend Indicator”.

(6) keylock Connector (Optional):

Connection: Connected to keyboard.

Function: To lock keyboard and disable keyboard function.

(7) Power LED Connector:

Connection: Connected to System Power LED.

Function: To supply power to “System Power LED”.

(8) Reset Switch Connector:

Connection: Connected to case-mounted “Reset Switch”.

Function: To supply power to “Reset Switch” and support system reboot function.

(9) Speaker Connector:

Connection: Connected to the case-mounted Speaker.

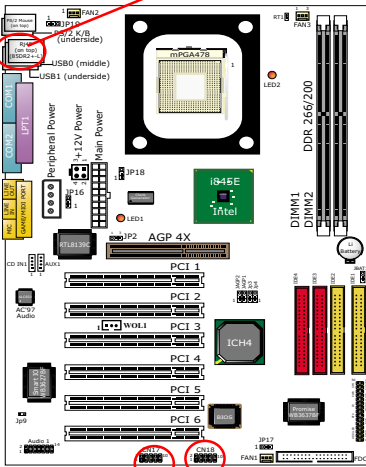
Function: To supply power to the case-mounted Speaker.

2-9.10 USB Ports and USB Headers

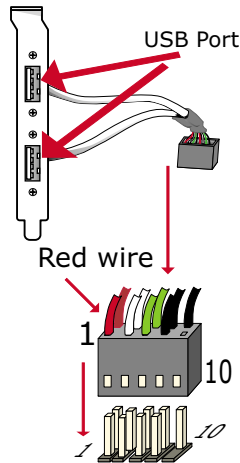
This mainboard provides two USB ports USB0 and USB1 on board supporting various USB devices. In addition, Headers CN17 and CN18 are added on board to provide expansion of 4 more optional USB ports by using two additional USB Cables. User can order the optional USB cables from your mainboard dealer or vender.

When plugging the USB cable to USB Header CN17 or CN18, user must make sure the red wire is connected to Pin 1.

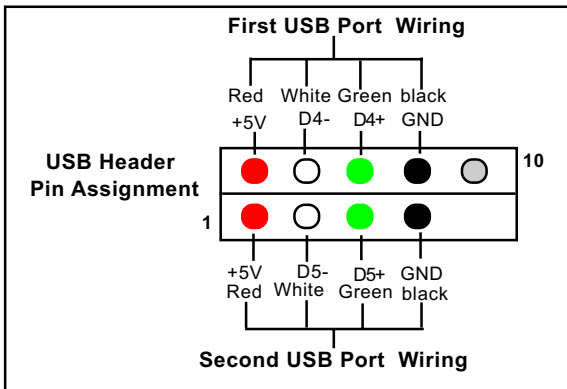
USB Ports USB 0 & 1



USB Cable (Optional)



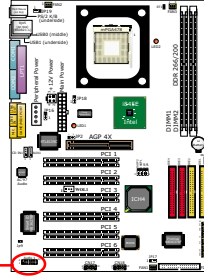
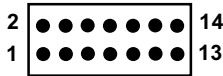
Header CN17 / CN18



2-9.11 Audio 1: 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.

- Contents of Support CD:

For this series, user should be able to find in the Support CD the following drivers and utilities:

1. INF Utility (Intel Chipset Software Installation Utility);
2. Intel Application Accelerator (IAA)
3. AC'97 Drivers
4. Hardware Monitor Utility
5. Other Drivers (including Network , RAID and USB)

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. The installation procedures for all these operating systems are all programmed into an auto-run mode. What users have to do is to read and follow the pop-up instructions to carry out the installation. We therefore take the installation on Windows 98 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 Open up the Support CD

3-2 Intel Chipset Software Installation Utility (INF Utility)

3-3 Intel Application Accelerator (IAA)

3-4 AC'97 Audio Drivers

3-5 Hardware Monitor Utility

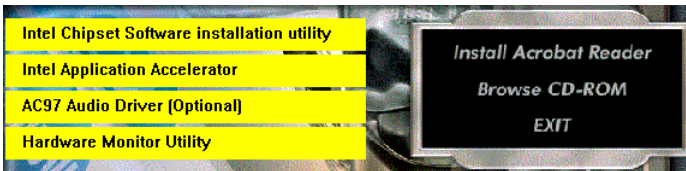
3-6 LAN Drivers (for 85DR2-L and 85DR2+-L only)

3-7 USB Drivers

3-8 RAID Drivers Installation (for 85DR2+ and 85DR2+-L only)

3-1 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:



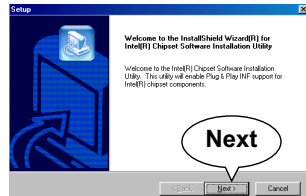
2. In case your system does not open the Support CD automatically, please click to the following path to enter the Main Installation Menu:

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

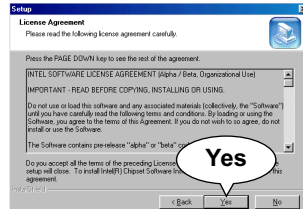
3. we should take “Intel Chipset Software installation Utility” as first installation priority to optimize the Intel system.
From next section, we provide detailed descriptions of all these installations with graphical illustrations.

3-2 Install “Intel Chipset Software Installation Utility”

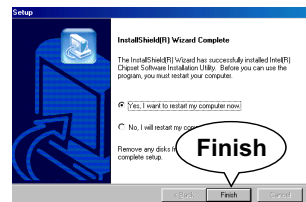
1. Following the procedures of opening the Support CD, click to “ Install Intel Chipset software installation Utility” to proceed.
2. The Intel Service Pack InstallShield Wizard will pop up to guide you to the Intel Service pack installation. Press “Next” button to continue.



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.

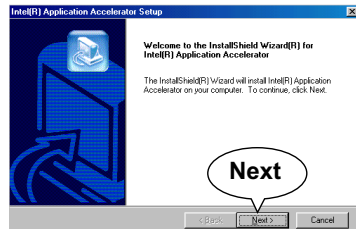


3-3 Install “Intel Application Accelerator”

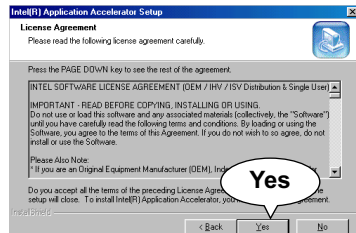
IAA supports all Windows 98/98se/Mellennium/NT4/2000/XP with Pentium III / 4 processor. Installations of this software for these operating systems are similarly programed to an auto-run mode. It is typically designed to improve performance of the storage sub-system and overall system performance. Below is a model installation on Windows 98. Users of Windows Me/NT4/2000/XP can also follow this example for IAA installation.

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

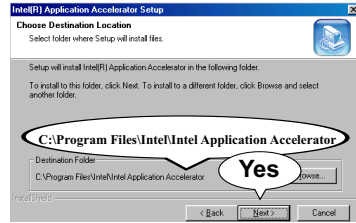
2. On the “InstallShield Wizard” screen, Click on “Next” to continue.



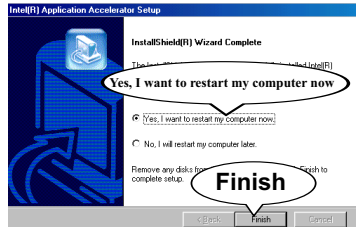
3. On the “Licence Agreement” screen, click on “Yes” to continue.



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



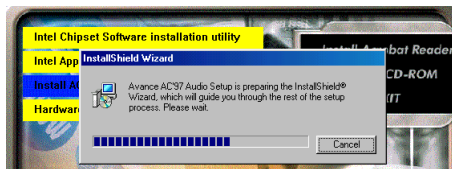
5. On "InstallShield Wizard Complete" screen, choose "Yes, I want to restart my computer now" and press "finish" to restart. Remember you must restart computer to put setup into effect.



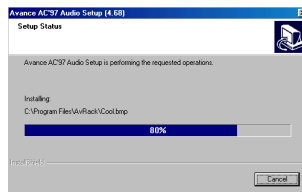
3-4 AC'97 Audio Driver Installation

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

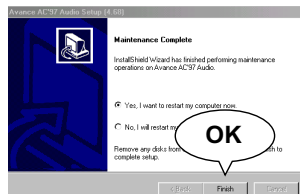
1. Following the procedures of opening the Support CD, click to " AC'97 Audio Driver" to proceed.
2. Instantly, the "installShield Wizard" screen appears to guide you through the "Avance AC'97 Audio Setup".



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.)



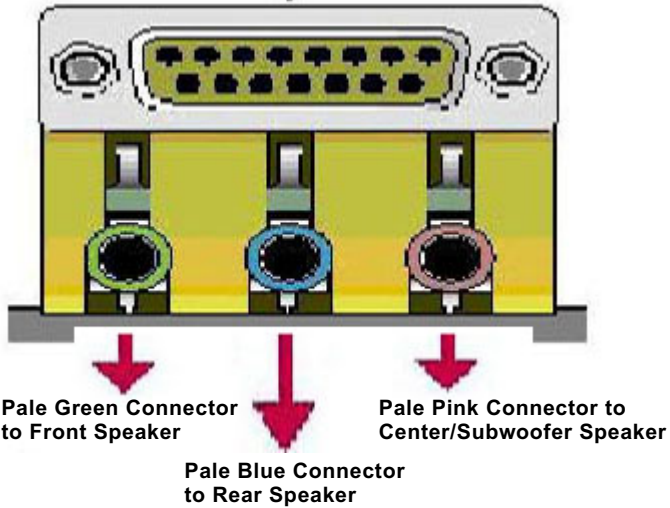
4. After the setup process is finished, please check the radial button "Yes, I want to restart my computer now." and click "OK" to restart your system.



3-6.2 Verifying 6-channel Audio

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

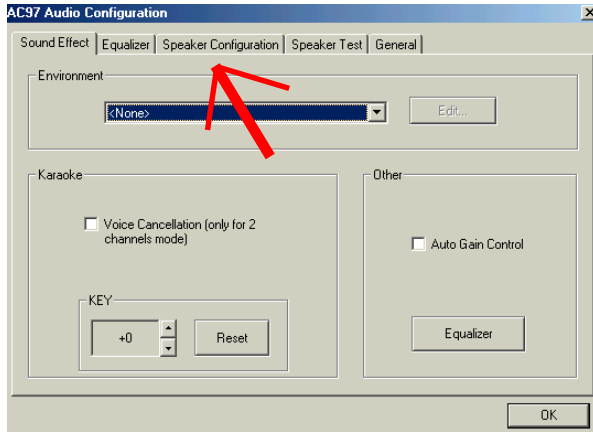
1. Connect your on-board Audio Connector to your 6-channel speakers as depicted in the figure below:



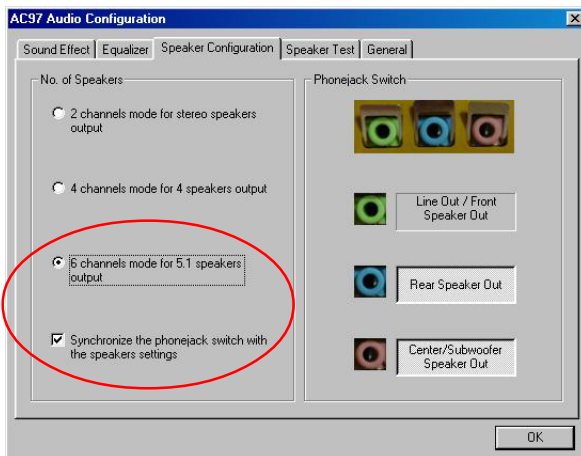
2. After Connection is done, start your Windows system and double click the Avance Sound Effect manager icon to enter 6-channel configuration:



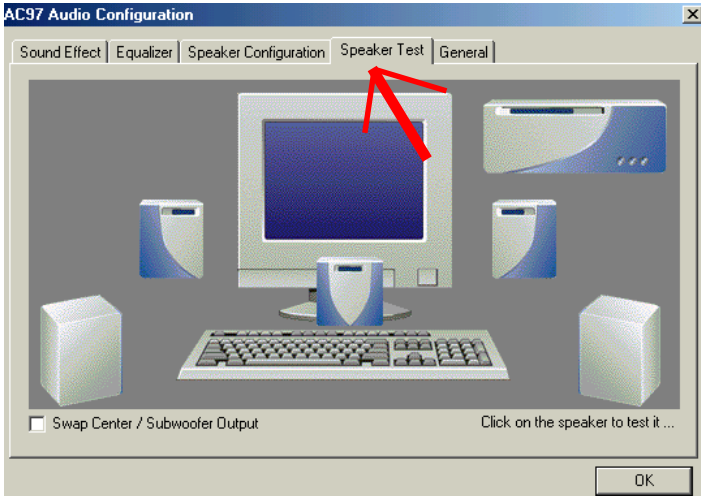
3. The “AC’97 Audio Configuration” screen will pop out. Click the “Speaker Configuration” bar with your mouse.



4. Instantly, the “Speaker Configuration” screen will pop out. Pick the items “6-channel mode for 5.1 speakers output” and “ Synchronize the 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 Install Hardware Monitor Utility

3-5.1 Installation

Hardware Monitor is built in chip IT8712F of this series. Its installation is programmed to a fully automated mode on Windows 9X/Me/NT4/2000/XP. User can follow the model installation below for its installation on various Windows System.

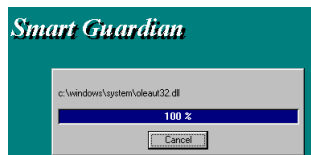
1. Following the procedures of opening the Support CD, click to “Hardware Monitor Utility” to proceed.
2. Instantly the “Smart Guardian Setup” screen appears to announce the setup of Hardware Monitor software “Smart Guardian”.

3. Next, the Setup Program will suggest to you the destination directory where the “Smart Guardian” will be installed. Select the Program folder and click “Next” to continue.

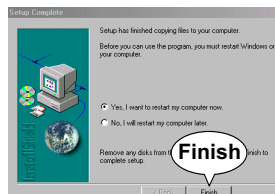


Next

4. Instantly, Setup Program starts to copy files and install the software.

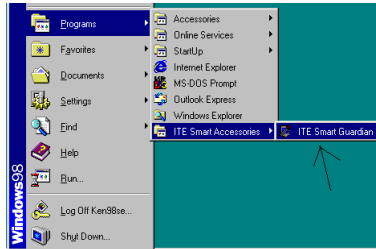


5. In one or two second, the “Setup complete” screen appears. Click “Finish” to restart your computer so that the Utility can be put into effect.

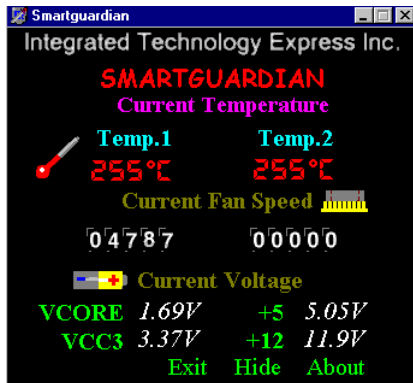


3-5.2 Verification

1. After restarting your computer, click “Start” and choose the path \Programs \ITE Smart Accessories\ITE Smart Guardian to open the main window of the Hardware Doctor.



2. Instantly, the Smartguardian Main Panel appears, telling you the CPU current temperature, CPU current Voltage and Current fan speed.

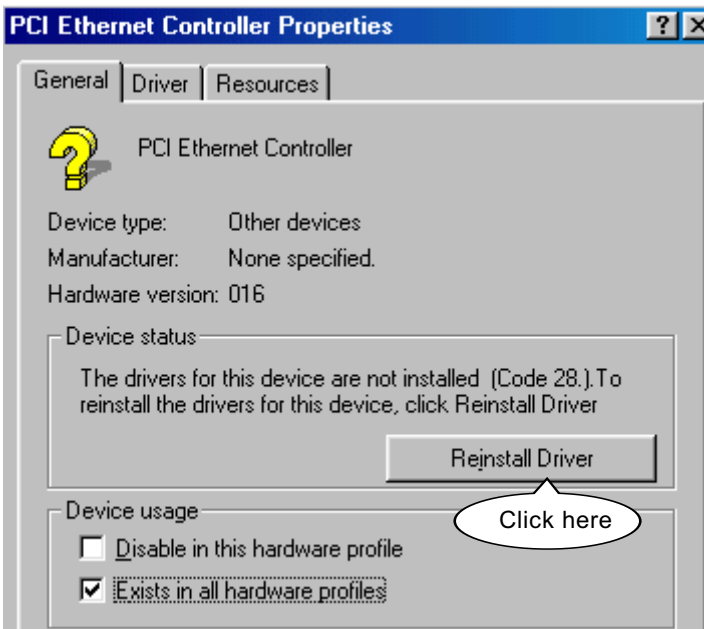


3-6 Install LAN Drivers (85DR2-L / 85DR2+-L only)

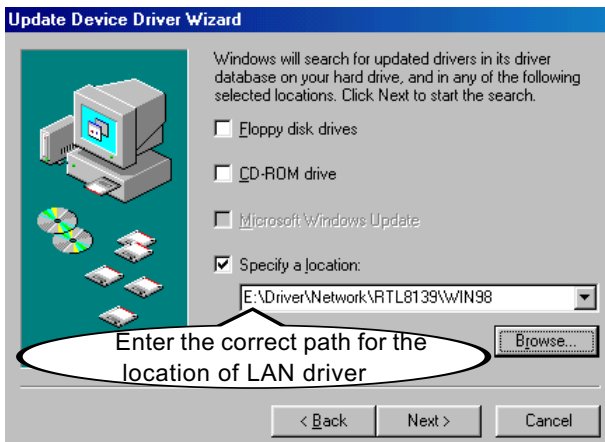
3-6-1. RTL8139C LAN driver on Windows 9X

The LAN driver contained in the Support CD is not included in the Autorun Menu. To install RTL8139C 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 RTL8139C 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. (If you are installing on Win 95OSR2, you should type W95OSR2 instead of Win98.) 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 Win 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.

3-6-2. RTL8139C LAN driver on Windows NT4.0

1. When you newly install Win NT4, the Setup program will ask you whether your computer will participate on a network. please check "Do not connect this computer to a network at this time" and continue with your installation. That means, you are going to install the LAN Adapter and driver after you have finished system installation. By this way, you will set up your LAN Adapter and driver more surely.
2. If you have now installed Win NT4 in your computer, please boot your system and in the "Start" screen click the following path to install your computer networking:
 \Start\Settings\Control Panel\Network (double click)
3. Instantly, a dialog box pops up, asking you, "Windows NT Networking is not installed. Do you want to install it now?" Please click "Yes" to continue.
4. The Network Setup Wizard will then proceed to guide you to the installation of LAN Adapter and Driver, until the "Select Network Adapter" screen pops up, on which you should click "Have Disk" to install the on-board RTL8139C LAN Controller.
5. Instantly, the "Insert Disk" dialog box pops up. You should **now** insert the Support CD into your CD-ROM drive, and then type to the white bar the correct path for the location of the LAN driver. Supposing your CD-ROM drive is drive D, please type the following path:
 D:\Driver\Network\RTL8139\Winnt4 and click "OK" button to continue.
6. Instantly, the Setup program detects the "Realtek RTL8139(A/B/C/8130) PCI Fast Ethernet Adapter" and shows it on the "Select OEM Option" screen. Please click "OK" to continue.
7. The Setup program will then proceed to install the RTL8139 Adapter and then other networking components such as TCP/IP protocol.
8. During the setup process, if "windows NT Setup" needs to copy some Windows files, you should then withdraw the Support CD and insert back the Win NT4 CD-ROM into your CD-ROM drive to continue.
9. After you have finished other networking components setup, you should restart your system to put all the new setups into effect.

10. To verify that the onboard RTL8139C Controller has been set up in system, please click “Start”, then “Control Panel”, then “Network”.
11. In the “Network” screen, click the “Adapter” bar. You can now see the “Realtek RTL8139(A/B/C/8130) PCI Fast Ethernet Adapter is already installed in system.

3-6-3. RTL8139C LAN driver on Win ME / 2000 / XP

1. When you newly install Windows ME , Windows 2000or 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 RTL8139C 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.

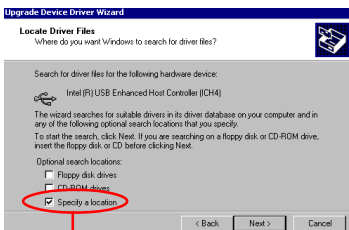
3-7 To Install USB 2.0 Driver for Win2000 or WinXP

USB V2.0 with its 480Mb/s transfer rate supports operating system Win2000 and WinXP with Intel USB drivers and Microsoft USB drivers. USB Driver installation procedures are of similar steps in Win2000 and WinXP. The point is the Intel USB drivers are already open to Intel Chipset users, while Microsoft USB drivers are to be found in the Win 2K and Win XP Service pack. User should install the latest Service Pack for Win 2K or Win XP before installing the Intel USB2.0 driver. The following procedures are for installation of USB2.0 drivers on both Win 2K and Win XP:

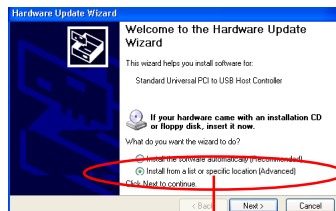
1. In Win2000 or WinXP, install the latest Service Pack version into the operating system (latest Service Pack can be found in Microsoft Web Site).
2. After installation of the Service Pack, insert the Mainboard Support CD into CD-ROM for installation of the USB2.0 driver.
3. Take the following path to search for the USB 2.0 driver for installation:

My Computer(right click of Mouse)\Properties\
Hardware\Device Manager\
Universal Serial Bus(USB) Controller (left double click of Mouse)\
Driver\Update Driver\

4. Instantly the “Upgrade Device Driver Wizard” will show up on screen. Click “Next” to continue.
4. Instantly, the Wizard Program will guide you through to search for the USB driver.
5. The following “Upgrade Device Driver Wizard” screen will appear. Tick “Specify a Location” and mouse click “Next” button to continue.



Specify the driver location in “Win2000”.



Specify the driver location in “WinXP”.

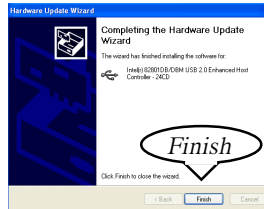
- When a dialog box pops out, asking user to key in the correct path for Intel_USB2.0 driver, please type the following path and mouse click “OK” button to install the Intel_USB 2.0 driver:

For both Win2000 and Win XP:

d:\driver\usb20\Intel_USB20

(supposing the CD-ROM Drive holding the Support CD is Drive D)

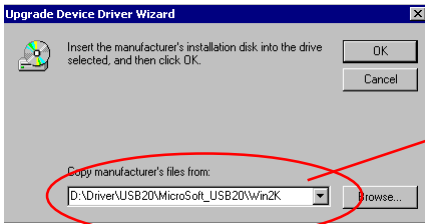
- After clicking “OK” button, the program will go on installing Intel_USB20” driver until installation completes. When the following screen appears. Click “Finish” to complete the installation, and your system supports USB 2.0 now.



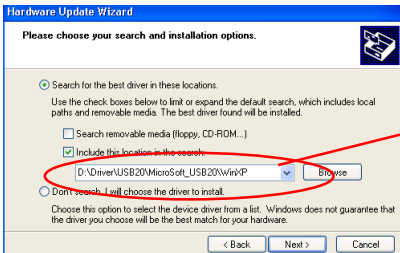
- After installing Intel_USB20, the program will prompt you to install “Microsoft_USB20” driver on the following dialog box. Type the following path and mouse click “OK” button to install the proper USB 2.0 driver:

For Win2000: d:\driver\usb20\Microsoft_USB20\Win2K

For WinXP: d:\driver\usb20\Microsoft_USB20\WinXP



Search and install the Microsoft_USB20 driver in “Win2000”.



Search and install the Microsoft_USB20 driver in “WinXP”.

- Instantly, the Upgrade Device Wizard will proceed to install the Microsoft_USB20 driver until the “Finish” screen appears. Then, click “Finish” button to complete installation.

3-8 Install RAID Controller Driver (85DR2+ / 85DR2+-L)

If your mainboard has got a Promise RAID Controller onboard, you should install the Promise RAID Controller Driver for your Disk Array system. Before installing the RAID driver, do the following jobs first:

1. Locate the Promise RAID Controller, and the two IDE RAID connectors on your Mainboard so as to make sure you have got the right board.
 2. Set the "RAID Controller Select" jumper to 1-2 closed so as to enable your RAID Controller.
 3. Create and set up your Disk Array as instructed in Chapter 5 of this manual.
 4. For users of Win 9X and Win Me, install your operating system first and then install the RAID Controller Driver as instructed in Chapter 5 of this manual.
 5. For users of Win 2000 and Win XP, install the RAID driver during installation of Win 2000 or WinXP, as instructed in Chapter 5 of this manual.
-

Chapter 4 AMI BIOS Setup

THE BIOS

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

BIOS performs the following functions:

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

This Chapter includes the following topics :

4-1 About BIOS Setup

4-2 To Run BIOS Setup

4-3 About CMOS

4-4 The POST (Power On Self Test)

4-5 To Update BIOS

4-6 BIOS Setup

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 win95/98, ME, NT WINDOWS 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 latest BIOS file and AMI update utility. The file name of AMI update utility will be “AMIXXX.EXE” of which “XXX ” stands for the version number of the file. 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).

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

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

4-6 BIOS SETUP --- CMOS Setup Utility

4-6.1 CMOS Setup Utility

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

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

PRESS TO RUN SETUP

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

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a	
<ul style="list-style-type: none"> ▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Advanced Chipset Features ▶ Power Management Features ▶ PNP/PCI Configurations ▶ Integrated Peripherals ▶ Hardware Monitor Status ▶ Frequency/Voltage Control 	<ul style="list-style-type: none"> Set Supervisor Password Load Optimal Defaults Save & Exit Setup Exit Without Saving
<p>F1: Help ↑↓ : Select Item +/- : Change Values F9: Setup Defaults Esc: Exit <- ->: Select Menu Enter: Select ▶Sub-Menu F10: Save & Exit</p>	
<p>Set Time, Date, Hard Disk Type...</p>	

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:

Standard CMOS Features	Setup Help
System Time 00 19 29 System Date Dec 05 2001 Wed ▶ Floppy options. ▶ IDE Devices Config	

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

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 Drive A / Floppy Drive B Select this field to the type(s) of floppy disk drive(s) installed in your system. The choices are:
 360KB, 5.25 in.
 1.2MB, 5.25 in.
 720KB, 3.5 in.
 1.44MB, 3.5 in.
 2.88MB, 3.5 in.
 Not Installed

Primary/Secondary IDE Master/Slave Press Enter on any one of these four items 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	

↑↓ :Select Item
 Esc :Previous Menu

+/- :Change Values
 Enter :Select ▶ Sub-Menu

F6 :Setup Defaults
 F10 :Save & 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 Update	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 & 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	Allows you to enable / disable quick boot of your system.
Delay For Hard Drive	Allows you to adjust the hard drive detection time during system boot.
1st/2nd/3rd Boot Device	Allows you to set floppy or IDE devices already installed to be the 1st/2nd/3rd boot device. Choices: Disabled; Device(s) installed
Try Other Boot Devices	Allows you to enable/disable system to try to boot with other boot devices. Choices: Yes; No
Initial Display Mode	If option is "Silent", the initial display mode will be set to one with Soltek logo. 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" 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

- Bootup Num-lock** Allows you to toggle between On 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), Floppy Drive A will not be changed 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 re-starting system. Choices: Setup; Always
- Boot to OS/2** Allows you to set your system to OS/2 operating system. Choices: Yes; No (default)
- CPU Microcode Update** Allows you to enable/disable the CPU Microcode Update function. Choices: Disabled; Enabled (default)
- L1 /L2 Cache** Allows you to set the Internal/External Cache Mode. Choices: WriteBack (default); WriteThru; Disabled
- System BIOS Cacheable** Allows you to enable / 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	
SDRAM Frequency	Auto
Configure SDRAM timing by SPD	Disabled
SDRAM CAS# Latency	2.5 Clocks
SDRAM RAS# Precharge	3 Clocks
SDRAM RAS# to CAS# Delay	3 Clocks
SDRAM Precharge Delay	7 Clocks
SDRAM Burst Length	4
SDRAM Idle Timer	Infinite
SDRAM Read Thermal Management	Disabled
DRAM Integrity Mode	Disabled
Memory Hole	Disabled
APIC interrupt Mode	Disabled
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 & 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.

- SDRAM Frequency** Allows you to set the SDRAM frequency.
Choices: Auto; 200MHz; 266MHz
- 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.
- SDRAM CAS# Latency** With SDRAM Timing by SPD disabled, you can select the SDRAM CAS# (Column Address Strode) latency manually.
Choices: 2Clocks; 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: 2Clocks; 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: 2Clocks; 3 Clocks
- DRAM Idle Timer** Allows you to select the SDRAM idle clock.
Choices: infinite; 0 clock; 8 clocks; 16 clocks; 64 clocks
- SDRAM Read Thermal Management** Allows you to enable / disable the SDRAM Read Thermal function.
- DRAM Integrity Mode** Allows you to enable / disable the DRAM ECC function. For DRAM not supporting ECC, this function should be disabled.
- Memory Hole** Allows you to enabled / disabled (default) the support of Memory Hole which is reserved for ISA card.
- APIC Interrupt Mode** Allows you to enable / disable (default) the APIC function for selecting the APIC interrupt Mode.

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: All USB; USB Port 0&1;
USB Port 2&3; disabled

USB 1.1 Device Legacy Support Allows you to select the USB Device Legacy support.
Choices: No Mice; all Devices; Disabled

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
USB Device Wakeup From S3/S4	Disabled
Re-Call VGABIOS at S3 Resume	Enabled
Power Management/APM	Enabled
Video Power Down Mode	Suspend
Hard Disk Power Down Mode	Suspend
Standby Time Out (Minute)	Disabled
Suspend Time Out (Minute)	Disabled
Power Button Function	On/Off
Restore on AC/Power Loss	Last State
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 & 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 S3(Suspend to RAM STR) for suspending to DRAM if your system supports this mode. Or you can select S1 (POS) for Power on Suspend under Windows 98 or later O/S.
Choices: S1(POS); S3(STR); Auto

USB Device Wake Up from S3/S4 If STR mode is selected, this item allows you to enable /disable (default) this function.

Re-Call VGABIOS at S3 Resuming If STR mode is selected, this item allows you to enable / disable this function.

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

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

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

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

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

- Power Button Function** allows you to set power Button function.
Choices: On/Off; Suspend
- Restore on AC/Power Loss** Allows you to set the restore state from AC/Power Loss.
Choices: Last State; Power Off; Power On
- Resume on Ring** Allows you to enable / disable the Resume on Ring Signal function.
An input signal on the serial Ring Indicator (RI) Line (in other words, an incoming call on the modem) Awakens the system from a soft off state.
- Resume on LAN/PME** Allows you to enable / disable the Resume on LAN /PME signal function.
- Resume On RTC Alarm** Allows you to enable / disable the Resume On RTC Alarm function.
- RTC Alarm Date / Hour / Minute / Second** If resume On RTC Alarm is enabled, this field allows you to set the Alarm date Hour, Minute and second.
Date Choices: Every Day; 01 ~ 31
Hour Choices: 00 ~ 23
Minute Choices: 00 ~ 59
Second Choices: 00 ~ 59

4-6.6 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
PCI Slot6 IRQ Priority	Auto

F1: Help ↑↓ : Select Item +/- : Change Values F9 : Setup Defaults
Esc: Previous Menu Enter: Select ▶ Sub-Menu F10 : Save & 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. The ESCD (Extended System Configuration Data) NVRAM (Non-volatile Random Access Memory) is where BIOS stores the resource information for both PNP and Non-PNP devices.
Choices: No (default); Yes

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

Primary Graphics Adapter Allows you to set the primary Graphics Adapter.
Choices: AGP; PCI

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

PCI Slot 1/2/3/4/5/6 IRQ Priority Use this item to select the PCI slot IRQ Priority.
Choices: 3~11; Auto

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:

AMBIOS NEW SETUP UTILITY - VERSION 3.31a

Integrated Peripherals	Setup Help
Onboard IDE	Both
Onboard LAN (optional)	Auto
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	Auto
Onboard MIDI Port	Disabled
MIDI IRQ Select	5
Onboard Game Port	200
PS/2 K/B 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 & 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
- (Optional) Onboard LAN** Allows you to enable / disable onboard LAN.
Choices: Enabled; Disabled
- Onboard AC'97 Audio** Allows you to disable AC' 97 Audio.
Choices: Auto; Disabled
- OnBoard FDC** Allows you to enable / disable the Onboard FDC.
Choices: Auto; Enabled; disabled
- Onboard Serial Port 1** Allows you to set the Onboard Serial Port A.
Choices; auto; Disabled; 3F8/COM1; 2F8/COM2;
3E8/COM3; 2E8/COM4;
- Onboard Serial Port 2** Allows you to set the Onboard Serial Port B.
Choices; auto; Disabled; 3F8/COM1; 2F8/COM2;
3E8/COM3; 2E8/COM4;
- Serial Port 2 Mode** Allows you to set the Serial Port B Mode.
Choices: Normal; 1.6 uS; 3/16 Baud; ASKIR;
- OnBoard Parallel Port** Allows you to configure onboard Parallel port .
Choices: auto; Disabled; 378; 278; 3BC;
- Parallel Port Mode** If Parallel Port is not disabled, this item allows you to configure parallel port mode.
Choices: ECP; EPP + ECP; Normal; EPP
- Parallel Port IRQ** If Parallel Port Mode is set at EPP, this item allows you to set the Parallel Port IRQ.
Choices: 5; 7
- Parallel Port DMA Channel** If Parallel Port Mode is set at ECP, 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; 300h; 330h
- 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 IRQ to IRQ 5.
- OnBoard Game Port** Allows you to configure Onboard Game port address.
The choices: Disabled; 200h; 208h
- PS/2 Keyboard Power On Function** Allows you to configure the Keyboard PowerOn Function.
Choices: Disabled; By Stroke Key; By Password.
- Specific Keys for PowerOn** If Keyboard PowerOn function is set at "Specific Key", this item shows up to allow you to key in a password for system power on.
- PS/2 Mouse PowerOn Function** Allows you to disable or use the PS/2 mouse to power on system..
choices: Disabled; Enabled

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 44 °C/111 °F CPU2 Temperature 29 °C/84 °F System Temperature -55 °C/-131 °F CPU Fan Speed 4891 RPM Case Fan Speed 0 RPM Vcore 1.680 V +1.5V 1.520 V +3.3V 3.408 V Battery 3.312 V +5V SB 5.126 V	

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

CPU1Temperature Shows current temperature of the CPU body.

CPU 2 Temperature Shows current temperature round the CPU.

System Temperature Shows current system temperature.

CPU Fan Speed Displays the current speed of CPU Fan.

Case Fan Speed Shows current Case Fan Speed.

Vcore Shows CPU core actual voltage value.

+1.5V/+3.3V Shows current voltage against the respective power supply voltage.

Battery Shows current voltage against battery power.

+5V SB Shows current voltage against the +5V SB(Standby) 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 2.01a

Frequency/Voltage Control	Setup Help
Redstorm Overclocking Tech (optional) Press Enter CPU Linear Freq Disabled CPU Clock 100 MHz CPU Ratio Selection Locked PCI Clock Auto Detection Disabled Spread Spectrum Selection Disabled	

↑↓ :Select Item +/- :Change Values F6 :Setup Defaults
 Esc :Previous Menu Enter :Select ▶ Sub-Menu F10 :Save & 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 unacceptable value, BIOS will restart your system, then running at an acceptable CPU external clock.

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

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

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

PCI Clock Auto Detection Allows you to enable / disable this auto detection function.

Spread Spectrum Selection Allows you to enable / disable this Spread Spectrum Selection function.

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:

[Enter current supervisor password]

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

[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:

[Supervisor password disabled]

Any Key to Continue

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:

[Load Optimized Defaults]
Press [Enter] to continue
or [ESC] to abort

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:

[Saving current settings and exit]
Press [Enter] to continue
or [ESC] to abort

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 the following message appears:

[Quit Without Saving Changes]
Press [Enter] to continue
or [ESC] to abort

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

Chapter 5 Disk Array

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

5-0 Before Creating Disk Array

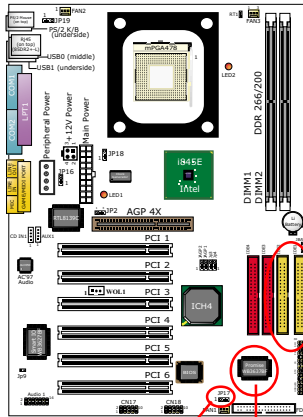
5-1 Creating your Disk Array

5-2 Disk Array Setup

5-2 Install FASTTRAKPCI 133 Driver

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:



ATA133 RAID Connectors

On-Board RAID Controller

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...

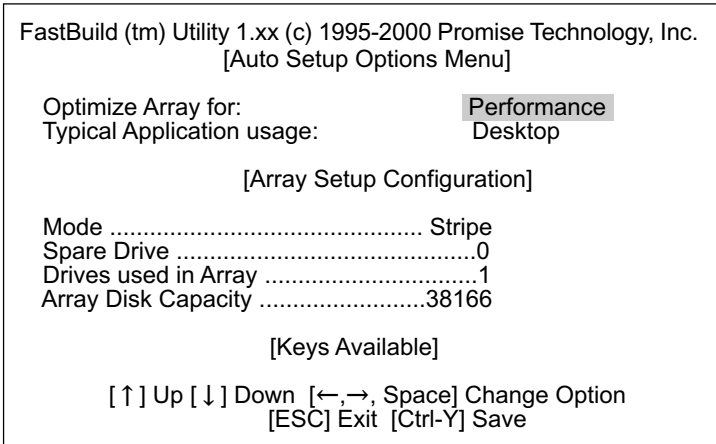
Press <Ctrl-F> to enter FastBuild (tm) Utility
Or press <ESC> key to continue booting the system.

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.



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
```

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

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

- Press "N" for the Create Only option.
- 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>

- Proceed with normal FDISK and format procedures as if you had just installed a new hard drive.
- 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 another? (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.

Channel: ID	Source Disk Drive Model	Capacity (MB)
Channel: ID	Target Disk Drive Model	Capacity(MB)
Channel: ID	[Please Select A Source Disk] Drive Model	Capacity (MB)
1 : Master	QUANTUMCR8.4A	8063
2 : Master	QUANTUMCR8.4A	8063
[↑] Up [↓] [ESC] Exit [Ctrl-Y] Save		

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:

Start to duplicate the image
Do you want to continue? (Yes/No)
Y - Continue N - Create Only

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.

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

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: You 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: You 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 hard 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 Promise 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.