4D845AP

User's Manual Version 1.0

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Chapter 1

1.1 Introduction

The 4D845AP motherboard is designed for using Intel P4 Front Side Bus Frequency 400/533MHz CPU, which utilizes the Socket-478 design and the memory size expandable to 2.0GB.

This motherboard use the latest Intel 845E chipset, appling 266MHz (Double Data Rate) Front Side Bus frequency and 266MHz memory interface delivers a clear upgrade path to the future generation of 266MHz processors, PC-1600/PC-2100 DDR SDRAM. The 4D845AP motherboard offers ULTRA ATA 100 to provide speedier HDD throughout that boosts overall system performance.

It is ideal for multi-tasking and fully supporting MS-DOS, Windows, Windows NT , Windows ME, Windows 2000, Novell, OS/2, Windows95/98, Windows 98SE, Windows XP, UNIX, Liunx, SCO UNIX etc. This manual also explains how to install the mainboard for operation, and how to setup your CMOS configuration with the BIOS setup program.

1.2 Package Contents

- HDD UDMA66/100 Cable.
- FDD Cable.
- Flash Memory written for BIOS update.
- USB2 Cable (Optional).
- Fully Setup CD Driver built in utilities (Ghost, Antivirus, Adobe Acrobat).
- This Manual.

1.3 Features

CPU Processor
* Support 400/533MHz System Interface speed or higher.
* Single Socket 478 for Intel P4™ 1.5GHz to 2.4GHz or higher (Northwood Processor).
* Support Intel Netburst™ Micro-architecture.

Chipset
* Intel 845E North Bridge.
* Intel 82801DB South Bridge.

PCI/AGP Speed
* Supports 33MHz PCI Bus speed.
* Supports AGP 66 MHz/1.5V for 4X device.

DDR SDRAM Memory
* Supports 64/128/256/512....MB DDR module socket.
* Supports Synchronous DRAM(2.5V)
* Supports a maximum memory size of 2GB with DDR SDRAM.

Bus Slots
* Provide one AGP slot.
* Six 32-bit PCI bus.

Universal Serial Bus
* Supports two back Universal Serial Bus(USB)Ports and four front Universal serial Bus(USB)Ports.
* Compliant with Universal Serial Bus(USB) specification revision 1.1&2.0.
*S1& S3 green mode wake up only support by USB1.

Integrate LAN (Optional)
* Fast Ethernet Controller 10/100 Mbps.

1.3 Features

BIOS
* The mainboard BIOS provides Plug & Play BIOS which detects the peripheral devices and expansion cards of the board automatically.
* BIOS support CD-ROM, SCSI, LAN BOOT, Temperature sensor, Lan, Alarm Bus CLK setup with BIOS.

IDE Built-in On Board
* Supports four IDE devices.
* Supports PIO Mode 5, Master Mode, high performance hard disk drives.
* Support Ultra DMA 33/66/100 Bus Master Mode.
* Supports IDE interface with CD-ROM.
* Supports high capacity hard disk drives.

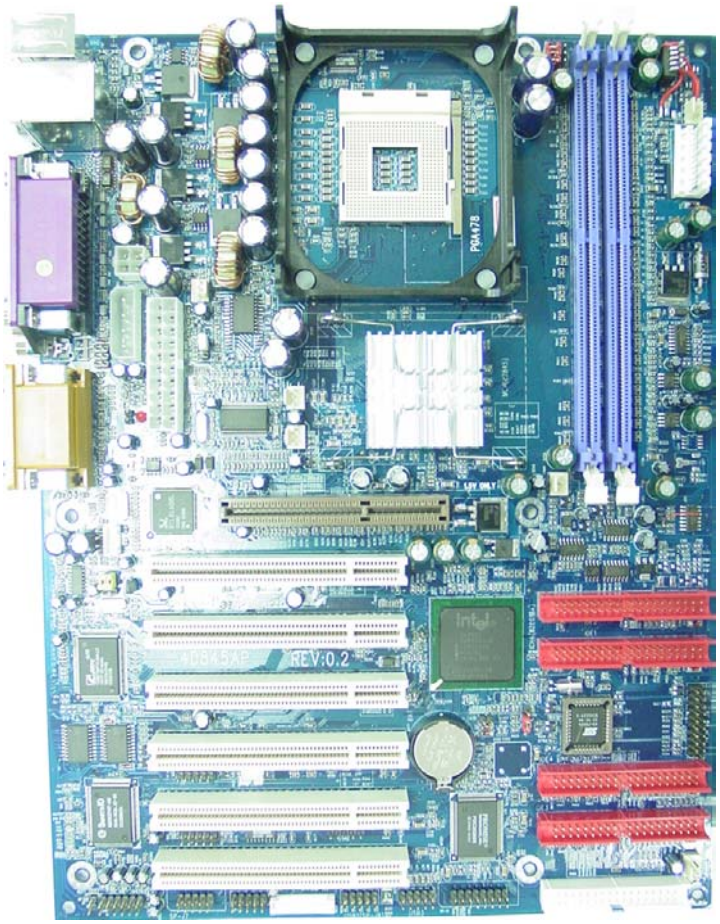
On-board ATA/100 IDE RAID (IDE3/IDE4 only) (Optional)
* Support DMA and PIO IDE and ATAPI device.
* Support ATA 66/100 & striping (RAID 0) or mirrioring (RAID1).

Smart Card Reader (Optional)
* Secured storage facilities for sensitive personal information. (such as Private keys, Account numbers, Passwords, Medical information....etc.)

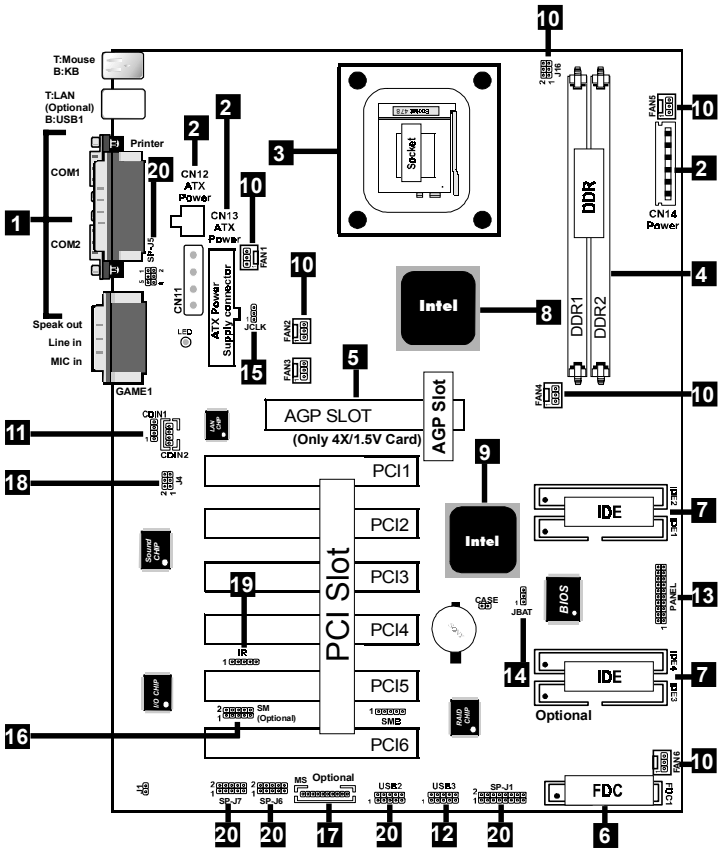
Memory Stick (Optional)
* The memory stick has been a new mainstream media for storing and transferring data. It ultra-small size and high storage capacity make it can be used in very wide variety products, including the Audio, Video and PC.

PCI-Based AC 97 Digital Audio Processor
* Onboard CMI8738/PCI-6CH support 4.1/5.1 Speaker. C3DX positional Audio in 4/6 Speaker Mode.
* With high speed PCI V2.1 bus controller.
* 16-bit full duplex CODEC.

1.4 4D845AP Motherboard Layout



1.4 4D845AP Layout



1. Back Panel I/O Connectors (Mouse, Keyboard, USB1, COM1, COM2, LAN, Printer, MIC in, Line in, Speaker out, Game stick)
2. ATX Power Connectors (CN11/CN12/CN13/CN14)
3. CPU Processor (Socket 478)

4. DDR SDRAM Sockets (DDR1/DDR2)
5. AGP Slot
6. Floppy Connector
7. IDE Connectors (IDE1/IDE2/ID3/ID4)
8. North Bridge (Intel 845E)
9. South Bridge (Intel 82801DB)
10. Fan Connectors (FAN1/FAN2/FAN3/FAN4/FAN5/FAN6)
11. CD Audio-In Connectors (CDIN1/CDIN2)
12. Front USB Port Connectors (USB2[SP-J8]/USB3)
13. Front Panel Connector (PANEL)
14. CMOS Function Selection (JBAT)
15. CPU Clock Frequency Setting (JCLK)
16. Support Smart card Reader (SM) (Optional)
17. Support Memory stick Reader (MS) (Optional)
18. Sound Center/Bass Selector (J4)
19. IR Connector
20. Smart Panel Function (SP-J1/SP-J6/SP-J5/SP-J7/SP-J8) (optional)

1.5 CPU Installtion

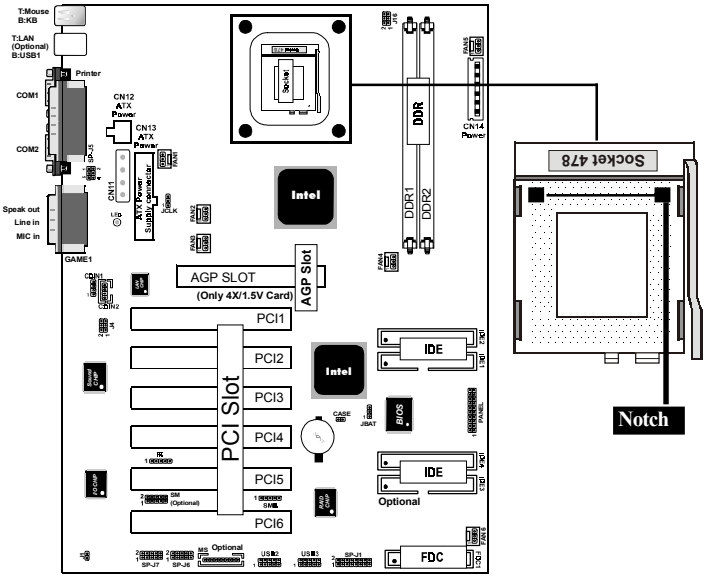
The motherboard operates with Socket 478 for Intel P4™ processor. The CPU should always has a Heat Sink and cooling fan attached to prevent overheating.

CPU Installation Procedures: Socket 478

1. Pull the lever sideways away from the socket then raise the lever to a 90-degree angle.
2. Locate Pin 1 in the socket and look for the white dot or cut edge in the CPU. Match Pin 1 with the white dot or cut edge then insert the CPU.
3. Press the lever down to complete the installation.

4. Make sure the spec of the cooling fan is good enough.

5. Make sure that the cooling fan and retention mechanism assembly perfectly fits the heatsink and module base, otherwise you can't snap the hooks into the holes.



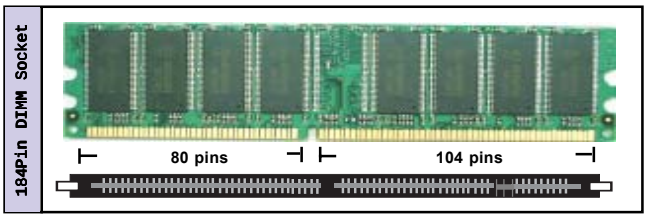
1.6 DDR ØRAM Installtion

The motherboard supports a maximized 2GB memory. It provides three 184-pin unbuffered DDR sockets. It supports 64MB to 1GB DDR memory module.

DDR SDRAM Installation Procedures:

1. The DDR socket has a “Plastic Safety Tab” and the DDR memory module has an asymmetrical notch”, so the DDR memory module can only fit into the slot in one direction.
2. Push the tabs out. Insert the DDR memory modules into the socket at a 90-degree angle then push down vertically to fit onto place.
3. The Mounting Holes and plastic tabs should fit over the edge and hold the DDR memory modules in place.

Bank	Memory module
DDR 1	64MB, 128MB, 256MB, 512MB, 1GB
(Bank 0-1)	184 pin, 2.5V DDR SDRAM
DDR 2	64MB, 128MB, 256MB, 512MB, 1GB
(Bank 2-3)	184 pin , 2.5V DDR SDRAM
	Total System Memory (Max 2GB)



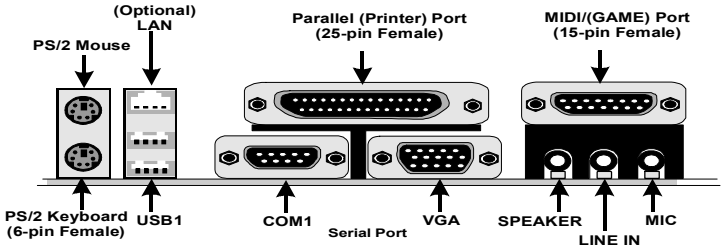
Note:

When you plug or unplug DDR module, you must check your power supply is OFF.

1.7 Connectors & Jumpers Setting

1.7.1 Back Panel I/O Connectors

This motherboard provides the following back panel connectors:



1.7.1.1 PS/2 Mouse / Keyboard CONN.

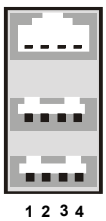
The motherboard provides a standard PS/2 mouse / Keyboard mini DIN connector for attaching a PS/2 mouse. You can plug a PS/2 mouse / Keyboard directly into this connector.

1.7.1.2 USB Port & LAN Connectors

¡ ´The motherboard provides a OHCI(Universal Host Controller Interface) & EHCI (Enhance Host Controller Interface)Universal Serial Bus Roots for attaching USB devices such as a keyboard, mouse and other USB devices.

¡ ´The RJ-45 connector is located on top of the USB connectors.The connector allows the motherboard to connect to a Local Area Network (LAN) through a network hub.

RJ-45

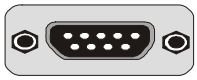


USB1

RJ-45	10/100M LAN Port
Pin	Signal
1	+5V_SB
2	USBP0-(USBP1-)
3	USBP0+(USBP1+)
4	GND

1.7.1.3 Serial Interface Ports: COM1/COM2

The serial interface port is sometimes refered to as an RS-232 port or an asynchronous communication port. Mice, printers, modems and other peripheral devices can be connected to a serial port. The serial port can also be used to connect your computer system. If you like to transfer the contents of your hard disk to another system, it can be accomplished by serial port.

COM1/COM2 

1.7.1.4 Parallel Interface Port

Unlike serial ports, parallel interface ports have been standardized and should not present any difficulty interfacing peripherals to your system. Sometimes called a Centronics port, the parallel port is almost exclusively used with printers. The parallel port on your system has a 25-pin, DB 25 connector.

1.7.1.5 Joystick / Midi Connector

You can connect a joystick or game pad to this connector.

1.7.1.6 Audio Port Connectors

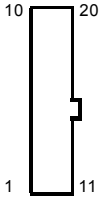
Speaker out is a connector for Speakers or Headphones. Line in is used for external CD player, Tape player, or other audio devices. Mic is a connector for the microphones.

1.7.2 ATX Power Connectors: CN11/CN12/CN13/CN14

- ¡´ This connector supports the power button on-board. Using the ATX power supply, functions such as Modem Ring Wake-Up and Soft Power Off are supported on this motherboard . This power connector supports instant power-on functionality, which means that the system will boot up instantly when the power connector is inserted on the board.
- ¡´ ATX 4-pin power connector only support +12V voltage.

Pin CN11	Signal	Pin CN11	Signal
1	+12V	2	GND
3	GND	4	+5V

PinCN12	Signal	PinCN12	Signal
1	GND	2	GND
3	+12V	4	+12V



PinCN13	Signal	PinCN13	Signal
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	5V	14	PS-ON
5	GND	15	GND
6	5V	16	GND
7	GND	17	GND
8	PW-OK	18	-5V
9	5V_SB	19	5V
10	12V	20	5V

PinCN14	Signal	PinCN14	Signal
1	GND	4	+3.3V
2	GND	5	+3.3V
3	GND	6	+5V

Note:

1. Make sure that the ATX PIII power supply can take at least 1Amp load on the 5Volt standby lead (5VSB).
2. When you use P4 power supply, you must plug CN12 & ATX power connector on your system.

Important:

Before you switch on your power supply, please make sure:
1. Memory Module installing is OK.
2. Power supply setting is OK.
3. AGP card for 2X or 4X device is OK.

1.7.3 Floppy Disk Connector: FDC

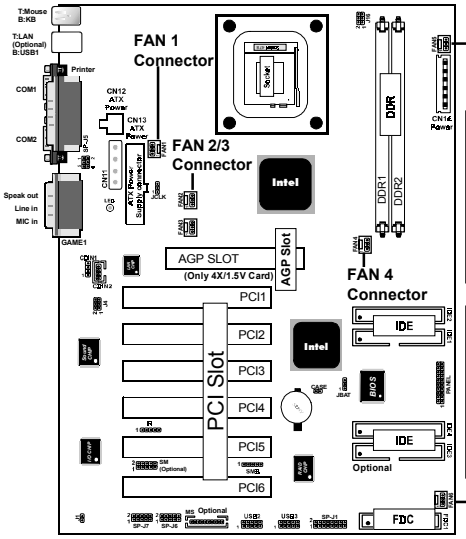
This connector supports the provided floppy drive ribbon cable. After connecting the single end to the board, connect the two plugs on the other end to the floppy drives.

1.7.4 Hard Disk Connectors: IDE1/IDE2

These connectors support the provided IDE hard disk ribbon cable. After connecting the single end to the board, connect the two plugs at the other end to your hard disk.

If you install two hard disks, you must configure the second drive to Slave mode by setting its jumper settings. BIOS now supports SCSI device or IDE CD-ROM boot up (see "HDD Sequence SCSI/IDE First" & "Boot Sequence" in the BIOS Features Setup of the BIOS SOFTWARE) (Pin 20 is removed to prevent inserting in the wrong orientation when using ribbon cables with pin 20 plugged).

1.7.5 Fan Connectors: FAN1~6



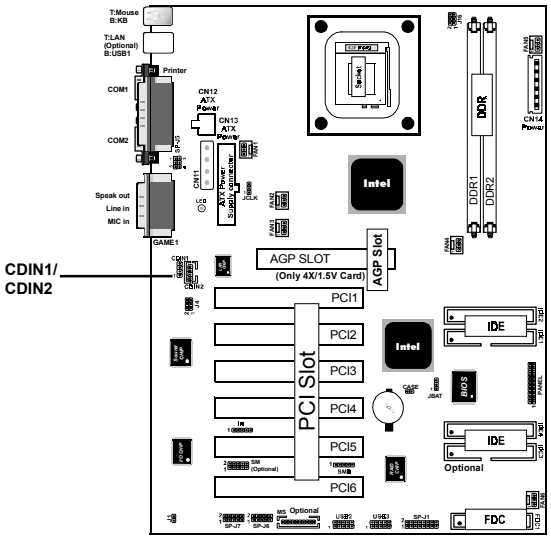
Fan1,6	Definition
1	Signal
2	+12VDC
3	Ground

Fan2~5	Definition
1	Ground
2	+12VDC
3	NC

These connectors support cooling fans of 1Amp or less. Orientate the fans so that the heatsink fins allow airflow to go across the onboard heat sink(s) instead of the expansion slots. Depending on the fan manufacturer, the wiring and plug may be different. The red wire should be positive, while the black should be ground. Connect the fan's plug to the board taking into consideration the polarity of the this connector.

1.7.6 CD Audio-In Connectors: CDIN1/CDIN2

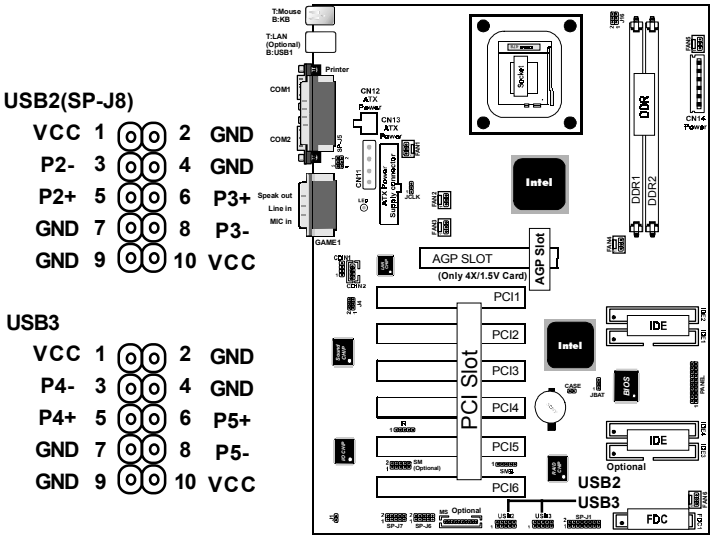
CDIN1/2 are the connectors for CD-Audio Input signal. Please connect it to CD-ROM CD-Audio output connector.



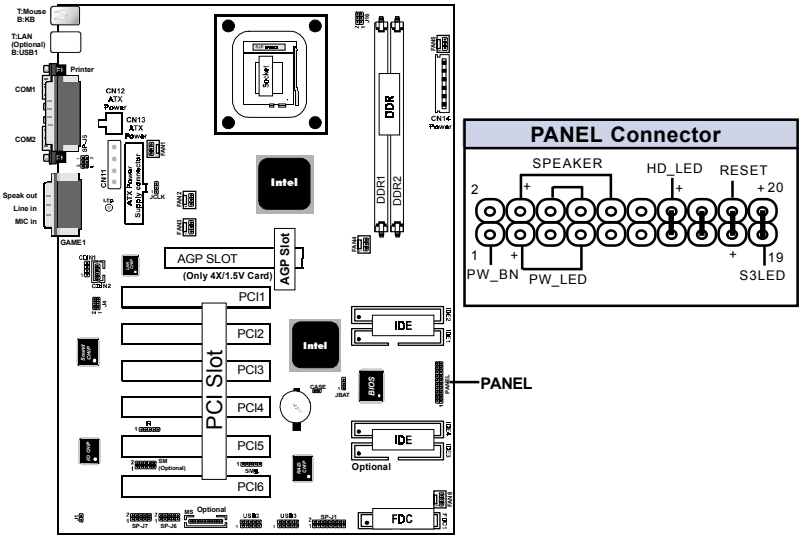
Pin CDIN1	Definition
1	CD-L
2	GND
3	GND
4	CD-R

Pin CDIN2	Definition
1	GND
2	CD-L
3	GND
4	CD-R

1.7.7 Front USB Port Connector: USB2(SP-J8)/USB3



1.7.8 Front Panel Connector: PANEL



ATX Power Switch (PW_BN)
The system power is controlled by a momentary switch connected to this lead. Pushing the button once will switch the system ON.

Power LED Lead (PW_LED)
The system power LED lights when the system power is on.

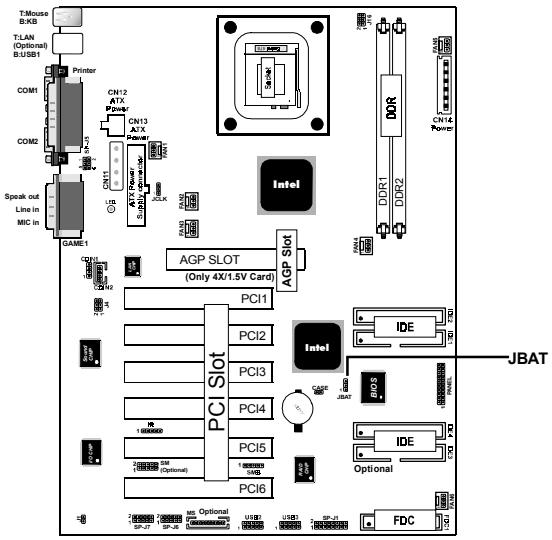
Speaker Connector (SPEAKER)
The speaker (onboard or offboard) provides error beep code information during the Power Self-Test when the computer cannot use the video interface. The speaker is not connected to the audio subsystem and does not receive output from the audio subsystem.

Hard Drive LED Connector (HD_LED)
This connector supplies power to the cabinet IDE activity LED. Read and write activity by devices connected to the Primary or Secondary IDE connectors will cause the LED to light up.

Reset Switch Lead (RESET)
The connector can be connected to a momentary SPST type switch that is normally open. When the switch is closed, the motherboard resets and runs the POST.

1.7.9 CMOS Function Selection: JBAT

A battery be used to retain the mainboard configuration in CMOS RAM.



Pin JBAT	Definition
1-2	Normal (Default)
2-3	Clear CMOS

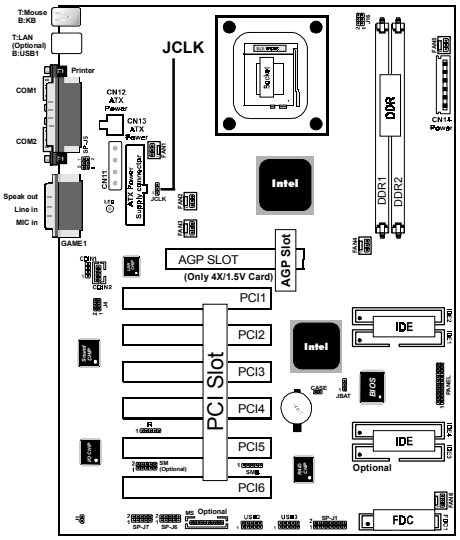
NOTE:

(Please follow the procedure below to clear CMOS data **)**

(1)Remove the AC power line.
(2)JBAT(2-3)Closed.
(3)Wait five seconds.
(4)JBAT(1-2) Closed.
(5)AC Power on.
(6)Reset your desired password or clear CMOS data.

1.7.10 CPU Clock Frequency Setting: JCLK

Overclocking is operating a CPU/Processor beyond its specified frequency. JCLK jumper is used for the CPU Front Side Bus Frequencies from 100MHz to 133MHz.

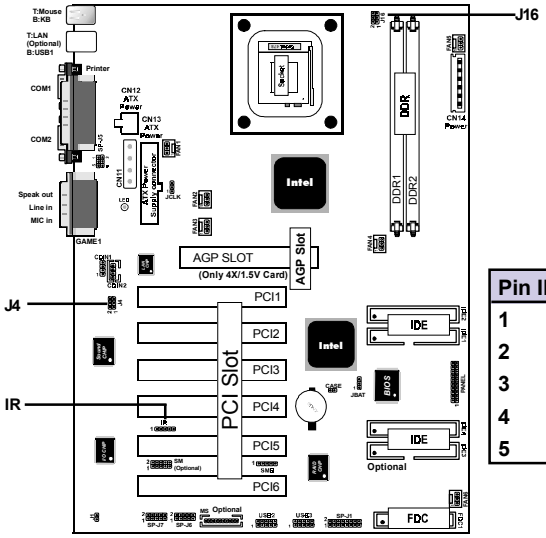


Note:

We don't recommend you overclocking, since it will make the CPU life short and get the risk of CPU damage.

Pin JCLK	CPU(MHz)	PCI(MHz)	Default
1-2	Auto	33.3	*
2-3	100	33.3	
Open	133	33.3	

1.7.11 Sound Center/Bass Selector: J4



Pin IR	Assignment
1	+5V
2	N/A
3	IRRX
4	GND
5	IRTX

Pin J4	Definition
1-3 2-4	Default
3-5 4-6	Inverse

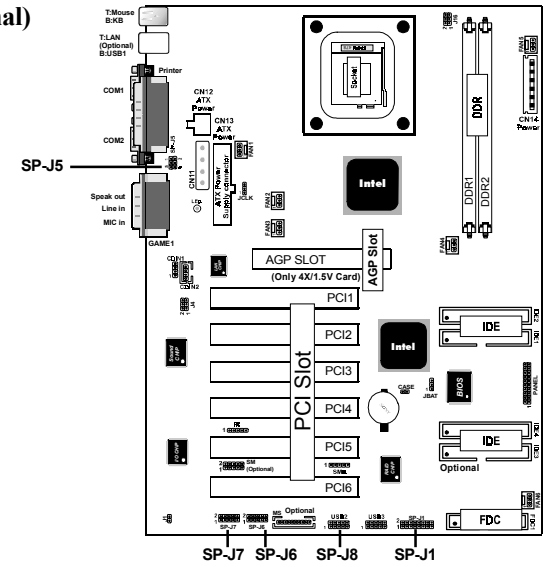
Pin J16	Definition
1-2	DDR Voltage 2.5V
3-4	DDR Voltage 2.6V
5-6	DDR Voltage 2.7V

1.7.12 DDR OVP Select: J16

1.7.13 IR infrared module: IR

This connector supports the optional wireless transmittinng and receiving infrared module. You must configure the setting through the BIOS setup to use the IR function.

1.7.14 Smart Panel Function: SP-J1/SP-J6/SP-J5/SP-J7 /SP-J8 (optional)



Note:

The motherboard provides the pin leads for Smart Panel. If you want POST Error Code or Smart Panel function, please refer to Smart Panel (SPD845AP) manual.

The Smart Panel provides the following panel connectors:

1.7.14.1 Port 80 Debug Function: SP-J6

For Smart Panel connector(SP-J6) to M/B (SP-J6).

Pin	SP-J6 Assignment	Pin	SP-J6 Assignment
1	ERD4	2	ERD0
3	ERD5	4	ERD1
5	ERD6	6	ERD2
7	ERD7	8	ERD3
9	GND	10	NC

1.7.14.2 Second BIOS Connector: SP-J1

For Smart Panel connector(SP-J1) to M/B (SP-J1).

Pin	SP-J1 Assignment	Pin	SP-J1 Assignment
1	VCC3	2	+5V
3	PCI_RST#	4	33MHz
5	CLAD0	6	P66DET
7	CLAD1	8	S66DET
9	GND	10	GND
11	CLAD2	12	HINT
13	CLAD3	14	FWH_IDD1
15	CLAD4	16	VCC3

1.7.14.3 AUX Line Connector: SP-J5

For Smart Panel connector(SP-J5) to M/B (SP-J5).

Pin	SP-J5 Assignment	Pin	SP-J5 Assignment
1	LINE_OUT_L	2	LINE_OUT_R
3	LINE_IN_L	4	LINE_IN_R
5	MIC_IN_L	6	NC

1.7.14.4 Front COM2 Port Connector: SP-J7

For Smart Panel connector(SP-J7) to M/B (SP-J7).

Pin	SP-J7 Assignment	Pin	SP-J7 Assignment
1	DCD	2	RX
3	TX	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI		

1.7.14.5 Front USB3,4 Port Connector: SP-J8

For Smart Panel connector(SP-J8) to M/B (SP-J8).

Pin	SP-J8 Assignment	Pin	SP-J8 Assignment
1	VCC	2	GND
3	P2-	4	GND
5	P2+	6	P3+
7	GND	8	P3-
9	GND	10	VCC

Chapter 2

Introduction

This chapter discusses the Award Setup program built into the ROM BIOS. The Setup program allows the user to modify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the setup information when the power is turned off.

The Award BIOS installed in your computer system's ROM (Read Only Memory)is a custom version of an industry standard BIOS. This means that it supports Intel P4 Processor. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

The rest of this manual is intended to guide you through the process of configuring your system using Setup.

Plug and Play Support

This AWARD BIOS supports the Plug and Play Version 1.0A specification. ESCD(Extended System Configuration Data)write is supported.

EPA Green PC Support

This AWARD BIOS supports Version 1.03 of the EPA Green PC specification.

PCI Bus Support

This AWARD BIOS also supports Version 2.1 of the Intel PCI (Peripheral Component Interconnect)local bus specification.

APM Support
This AWARD BIOS supports Version 1.1&1.2 of the Advanced Power Management(APM) specification.Power management features are implemented via the System Management Interrupt(SMI). Sleep and Suspend power management modes are supported. Power to the hard disk drives and video monitors can be managed by this AWARD BIOS.

DRAM Support
SDRAM (Synchronous DRAM) are supported.

Support CPU
This AWARD BIOS supports the Intel P4 Processor.

Using Setup
In general, you use the arrow keys to highlight items, press <Enter>to select, use the <PgUp>and <PgDn>keys to change entries, press<F1>for help and press <Esc>to quit. The following table provides more detail about how to navigate in the Setup program by using the keyboard.

Note:

(BIOS version 1.0 is for reference only. If there is a change in BIOS version, please use the actual version on the BIOS.)

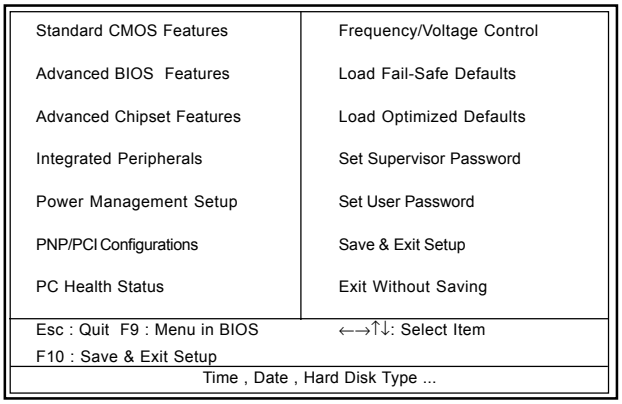
Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left(menu bar)
Right arrow	Move to the item on the right(menu bar)
Esc	Main Menu: Quit without saving changes Submenus: Exit Current page to the next higher level menu
Move Enter	Move to item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+Key	Increase the numeric value or make changes
-Key	Decrease the numeric value or make changes
Esc Key	Main menu-Quit and not save changes into CMOS Status Page Setup Menu and option Page Setup Menu-Exit Current page and return to Main Menu
F1 Key	General help on Setup navigation keys.
F5 Key	Load previous values from CMOS
F6 Key	Load the fail-safe defaults from BIOS default table
F7 Key	Load the optimized defaults
F10 Key	Save all the CMOS changes and exit

2.1 Main Menu

Once you enter AWARD BIOS CMOS Set up Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup function. Use the arrow keys to select among the items and press<Enter> to accept and enter the sub-menu.

"WARNING"
The information about BIOS defaults on manual (Figure 1,2,3,4,5,6,7,8,9,10,11,12,13,14)is just for reference, please refer to the BIOS installed on the board for updated information.

¡ · Figure 1. Main Menu



Standard CMOS Features

This setup page includes all the items in standard compatible BIOS.

Advanced BIOS Features

This setup page includes all the items of the BIOS special enchanced features.

Advanced Chipset Features

This setup page includes all the items of the Chipset special enchanced features.

Integrated Peripherals

This selection page includes all the items of the IDE hard drive and Programmed Input/Output features.

Power Management Setup

This setup page includes all the items of the power manage ment features.

PnP/PCI Configurations

This setup page includes the user defined or default IRQ Setting.

PC Health Status

This page shows the hardware Monitor information of the system.

Frequency / Voltage Control

This setup page controls the CPU's clock and frequency ratio.

Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults

These settings are more likely to configure a workable computer when something is wrong. If you cannot boot the computer successfully, select the BIOS Setup options and try to diagnose the problem after the computer boots. These settings do not provide optional performance.

Set Supervisor Password

Change, set, or, disable password. It allows you to limit access to the system and Setup, or just to Setup.

Set User Password

You can specify both a User and a Supervisor password. When you select either password option, you are prompted for a 1-6 character password. Enter the password and then retype the password when prompted.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

2.2 Standard CMOS Features

This item in the Standard CMOS Setup Menu is divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

¡ · Figure 2. Standard CMOS Features

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Standard CMOS Features

Date(mm:dd:yy)	Tue,Jun 6 2002	Item Help
Time (hh:mm:ss)	11:26:10	Menu Level
IDE Primary Master	None	Change the day, month,year and century.
IDE Primary Slave		
IDE Secondary Master		
IDE Secondary Master	None	
Drive A	1.44M,3.5 in	
Drive B	None	
Video	EGA/VGA	
Halt On	All,But Keyboard	
Base Memory	640K	
Extended Memory	65472K	
Total	1024K	

←→↑↓: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit
F1:General Help F5:Previous Values F6:Fail-Safe Defaults
F7:Optimized Defaults

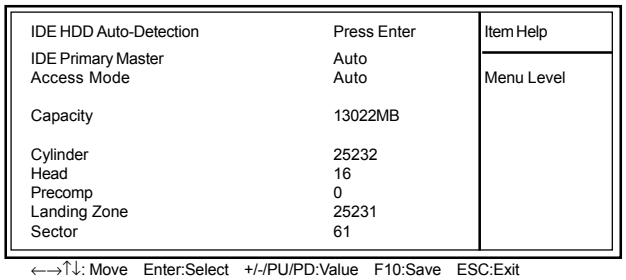
Main Menu Selections

This table shows the selections that you can make on the Main Menu.

Item	Options	Description
Date	Month DD YYYY	Set the system,date. Note that the 'Day' automatically changes when you set the data.
IDE Primary Master	Options are in its sub menu.	Press<Enter> to enter the sub menu of detailed.
IDE Primary Slave	Options are in its sub menu.	Press<Enter> to enter the sub menu of detailed.
IDE Secondary Master	Options are in its sub menu.	Press<Enter> to enter the sub menu of detailed.
IDE Secondary Slave	Options are in its sub menu.	Press<Enter> to enter the sub menu of detailed.
Drive A Drive B	None 360K,5.25in 1.2M,5.25in 720K,3.5in 1.44M,3.5in 2.88M,3.5in	Select the type of floppy disk drive installed in your system.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.

Item	Options	Description
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/Key	Select the situation in which you want the BIOS to stop the POST process and notify.
Base Memory	N/A	Displays the amount of conventional memory detected during boot up.
Extended Memory	N/A	Displays the amount of conventional memory detected during boot up.
Total Memory	N/A	Displays the total memory available in the system.

CMOS Setup Utility-Copyright (C) 1984-2001Award Software IDE Primary Master



2.3 Advanced BIOS Features

¡ · Figure 3. Advanced BIOS Features

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Advanced BIOS Features

Virus Warning	Disabled	Item Help
CPU L1 & L2 Cache	Enabled	
Quick Power On Self Test	Enabled	Menu Level
First Boot Device	Floopy	
Second Boot Device	HDD-0	Allows you to
Third Boot Device	LS-120	choose the
Boot Other Device	Enabled	VIRUS warning
Swap Floppy Drive	Disabled	feature for IDE
Boot Up Floppy Seek	Enabled	Hard Disk boot
Boot Up NumLock Status	On	sector protection.
Gate A20 Option	Fast	If this function
Typematic Rate Setting	Disabled	is enabled and
Typematic Rate (Chars/Sec)	6	someone attempts
Typematic Delay (Msec)	250	to write data into
Security Option	Setup	this area,BIOS
APIC Mode	Enabled	will show a
MPS Version Control For OS	1.1	warning message
OS Select For DRAM >64MB	Non-OS2	on screen and
Report No FDD For WIN 95	No	alarm beep
EPA / (H/W Monitor) Show	H/W Monitor Show	

←→↑↓: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit
F1:General Help F5:Previous Values F6:Fail-Safe Defaults
F7:Optimized Defaults

Virus Warning

This option allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempts to write data into this area, BIOS will show a warning message on screen and alarm beep.

The Choices: Disabled(default), Enabled.

CPU L1 & L2 Cache

This fields allow you to Enable or Disable the CPU's "Level 1 & Level 2" cache. Caching allows better performance.

Enabled (default)	Enabled cache.
Disabled	Disabled cache.

Quick Power On Self Test

This category speeds up Power on self-Test(POST) after you power up the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

Enabled (default)	Enabled quick POST.
Disabled	Normal POST.

First/Secondary/Third Boot Device

This BIOS attempts to load the operating system from the devices in the sequence selected in these items.
The Choices: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, LAN, Disabled.

Boot Other Device

The Choices: Enabled(default), Disabled.

Swap Floppy Drive

If the system has two floppy drives, you can swap the logical drive name assignments.
The Choices: Disabled(default), Enabled.

Boot Up Floppy Seek

Seek disk drives during boot up. Disabled speeds boot-up.
The Choices: Enabled(default), Disabled.

Boot Up NumLock Status

Select power on state for Numlock.

On (default)	Numpad is number keys.
Off	Numpad is arrow keys.

Gate A20 Option

Select if chipset or keyboard controller should control Gate A20.

Normal	A pin in the keyboard controller controls Gate A20.
Fast (default)	Lets chipset control Gate A20.

Typematic Rate Setting

Enabled	Enabled this option to adjust the keystroke repeat rate.
Disabled (default)	Disabled.

Typematic Rate (Char/Sec)

Range between 6**(default)** and 30 characters per second. This option controls the speed of repeating keystrokes.

Typematic Delay (Msec)

This option sets the time interval for displaying the first and the second characters.

The Choices: 250(default), 500, 750, 1000.

Security Option

This category allows you to limit access to the system and Setup,or just to Setup.

System	The system will not boot and access to Setup will be denied if the correct password is not entered in prompt.

Setup (default)	The system will boot, but access to Setup will be denied if the correct password is not entered in prompt.

APIC Mode

The Choices: Enabled(default), Disabled.

MPS Version Control For OS

The Choices: 1.1(default), 1.4.

OS Select For DRAM >64MB

Select the operating system that is running with greater than 64MB of RAM on the system.

The Choices: Non-OS2(default), OS2.

Report No FDD For Window 95

No (default)	Assign IRQ6 For FDD.
Yes	FDD Detect IRQ6 Automatically.

EPA / (H/W Monitor) Show

The Choices: H/W Monitor Show(default), EPA Logo.

2.4 Advanced Chipset Features

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and external cache. It also coordinates communications of the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered that data was lost while using your system.

¡ · Figure 4. Advanced Chipset Features

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Advanced Chipset Features

DRAM Timing Selectable	By SPD	Item Help
DRAM Latency Time	1.5	
Active to Precharge Delay	7	Menu Level
DRAM RAS# to CAS# Delay	3	
DRAM RAS# Precharge	3	
Memory Frequency For	Auto	
Buffer Strength Control	Press Enter	
DRAM Read Thermal Mgnt	Enabled	
System BIOS Cacheable	Enabled	
Video BIOS Cacheable	Disabled	
Video RAM Cacheable	Disabled	
Memory Hole At 15M-16M	Disabled	
Delayed Transaction	Enabled	
Delay Prior to Thermal	16 Min	
AGP Aperture Size (MB)	64	
Flash Write Protect	Enabled	

←→↑↓: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit
F1:General Help F5:Previous Values F6:Fail-Safe Defaults
F7:Optimized Defaults

DRAM Timing Selectable

The DRAM timing is controlled by the DRAM Timing Registers. The Timings programmed into this register are dependent on the system design.

The Choices: By SPD(default), Manual.

DRAM Latency Time

1.5 (default)	Set DRAM latency Time to 1.5.
2	Set DRAM latency Time to 2.
2.5	Set DRAM latency Time to 2.5.
3	Set DRAM latency Time to 3.

Active to Precharge Delay

7 (default)	Set DRAM Precharge Delay in 7.
6	Set DRAM Precharge Delay in 6.
5	Set DRAM Precharge Delay in 5.

DRAM RAS# to CAS# Delay

3 (default)	Set DRAM RAS# to CAS# delay 3 SCLKs.
2	Set DRAM RAS# to CAS# delay 2 SCLKs.

DRAM RAS# Precharge

3 (default)	Set DRAM RAS# Precharge Time to 3.
2	Set DRAM RAS# Precharge Time to 2.

Memory Frequency For

This option is supprot momory frequency auto detect.
The Choices: Auto(default), PC100, PC133.

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Buffer Strength Control

CMD Strength Control	Auto	Item Help
DQ/DQS Strength Control	Auto	
CKE X16 Strength Control	Auto	Menu Level
CKE X8 Strength Control	Auto	
CS# X16 Strength Control	Auto	
CS# X8 Strength Control	Auto	
CK X16 Strength Control	Auto	
CKE X8 Strength Control	Auto	
RCVE out# Strength Control	Auto	

←→↑↓: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit
F1:General Help F5:Previous Values F6:Fail-Safe Defaults
F7:Optimized Defaults

DRAM Read Thermal Mgnt

This option is supprot momory read thermal management.
The Choices: Enabled(default), Disabled.

System BIOS Cacheable

When enabled, the access to the system BIOS ROM address at F0000H-FFFFFFH is cached.
The Choices: Enabled(default), Disabled.

Video BIOS Cacheable

Enabled	Enabled Video BIOS Cacheable.
Disabled (default)	Disabled Video BIOS Cacheable.

Video RAM Cacheable

Enabled	Enabled Video RAM Cacheable.
Disabled (default)	Disabled Video RAM Cacheable.

Memory Hole At 15-16M

In order to improve performace, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory's space below 16MB.
The Choices: Disabled(default), Enabled.

Delayed Transaction

Enabled(default)	Slow speed ISA device in system.
Disabled	Disabled.

Delay Prior to Thermal

The Choices: 16 min(default), 4min, 8min, 32min.

AGP Aperture Size (MB)

64 (default)	AGP Graphics Aperture Size is 64 MB.
32	AGP Graphics Aperture Size is 32 MB.

Flash Write Protect

The Choices: Enabled(default), Disabled.

2.5 Integrated Peripherals

¡ · Figure 5. Integrated Peripherals

CMOS Setup Utility-Copyright (C) 1984-2001 Award Software

Integrated Peripherals

On-Chip Primary PCI IDE	Enabled	Item Help
IDE Primary Master PIO	Auto	
IDE Primary Slave PIO	Auto	Menu Level
IDE Primary Master UDMA	Auto	
IDE Primary Slave UDMA	Auto	
On-Chip Secondary PCI IDE	Enabled	
IDE Secondary Master PIO	Auto	
IDE Secondary Slave PIO	Auto	
IDE Secondary Master UDMA	Auto	
IDE Secondary Slave UDMA	Auto	
USB Controller	Enabled	
USB Keyboard Support	Disabled	
USB Mouse Support	Disabled	
Init Display First	AGP	
IDE HDD Block Mode	Enabled	
Power On Function	Button Only	
KB Power On Password	Enter	
Hot Key Power On	Ctrl-F1	
Onboard FDC Controller	Enabled	
Onboard Serial Port 1	3F8/IRQ4	
Onboard Serial Port 2	2F8/IRQ3	
UART Mode Select	Normal	
RxD,TxD Active	Hi,Lo	
IR Transmission Delay	Enabled	
UR2 Duplex Mode	Half	
Use IR Pins	IR/Rx2Tx2	
Onboard Parallel Port	378/IRQ7	
Parallel Port Mode	SPP	
EPP Mode Type	EPP1.7	
ECP Mode Use DMA	3	
PWRON After PWR-Fail	Off	
Game Port Address	Disabled	
Midi Port Adress	Disabled	
Midi Port IRQ	10	
SCR Port Address	Disabled	
MS/SD Port Address	Disabled	

←→↑↓: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit
F1:General Help F5:Previous Values F6:Fail-Safe Defaults
F7:Optimized Defaults

On-Chip Primary PCI IDE

Enabled (default) Enabled onboard 1st channel IDE port.

Disabled Disabled onboard 1st channel IDE port.

IDE Primary Master PIO(for onboard IDE 1st channel)

Auto (default)	BIOS will automatically detect the IDE HDD Accessing mode.
Mode 0~4	Manually set the IDE Accessing mode.

IDE Primary Slave PIO(for onboard IDE 2nd channel)

Auto (default)	BIOS will automatically detect the IDE HDD Accessing mode.
Mode 0~4	Manually set the IDE Accessing mode.

IDE Primary Master UDMA

Auto (default)	BIOS will automatically detect the IDE HDD Accessing mode.
Disabled	Disabled.

IDE Primary Slave UDMA

Auto (default)	BIOS will automatically detect the IDE HDD Accessing mode.
Disabled	Disabled.

On-Chip Secondary PCI IDE

Enabled (default)	Enabled onboard 2nd channel IDE port.
Disabled	Disabled onboard 2nd channel IDE port.

IDE Secondary Master PIO(for onboard IDE 1st channel)

Auto (default)	BIOS will automatically detect the IDE HDD Accessing mode.
Mode 0~4	Manually set the IDE Accessing mode.

IDE Secondary Slave PIO(for onboard IDE 2nd channel)

Auto (default)	BIOS will automatically detect the IDE HDD Accessing mode.
Mode 0~4	Manually set the IDE Accessing mode.

IDE Secondary Master UDMA

Auto (default)	BIOS will automatically detect the IDE HDD Accessing mode.
Disabled	Disabled.

IDE Secondary Slave UDMA

Auto (default)	BIOS will automatically detect the IDE HDD Accessing mode.
Disabled	Disabled.

USB Controller

Enabled (default)	Enabled USB Controller.
Disabled	Disabled USB Controller.

USB Keyboard Support

Enabled	Enabled USB Keyboard Support.
Disabled (default)	Disabled USB Keyboard Support.

USB Mouse Support

Enabled	Enabled USB Mouse Support.
Disabled (default)	Disabled USB Mouse Support.

Init Display First

PCI Slot	Set Init Display First to PCI Slot.
AGP (default)	Set Init Display First to onboard AGP.

IDE HDD Block Mode

Enabled (default)	Enabled IDE HDD Block Mode.
Disabled	Disabled IDE HDD Block Mode.

Power On Function

Password	Enter from 1 to 7 characters to set the Keyboard Power On Password.
Hot Key	Hot Key.
Mouse Left	Mouse Left.
Mouse Right	Mouse Right.
Any Key	Any Key.
Button Only (default)	Button Only.
Keyboard 98	If your keyboard has an Owner key button, you can press the key to power on your system.

KB Power On Password

Enter	Enter from 1 to 7 characters to set the keyboard Power On Password.

Hot Key Power On

Ctrl-F1 (default)	First you must choose the Power On by Hot Key function then Enter from 1 to 8 characters to set the Hot Key Power On your system.
Ctrl-F2	
Ctrl-F3	
Ctrl-F4	
Ctrl-F5	
Ctrl-F6	
Ctrl-F7	
Ctrl-F8	

Onboard FDC Controller

Enabled (default)	Enabled onboard FDC Controller.
Disabled	Disabled onboard FDC Controller.

Onboard Serial Port1

Select an address and corresponding interrupt for the first and second serial ports.
The Choices: 3F8/IRQ4(default), Auto, (2F8/IRQ3), (3E8/IRQ4), (2E8/IRQ3), Disabled.

Onboard Serial Port2

Select an address and corresponding interrupt for the first and second serial ports.
The Choices: 2F8/IRQ3(default), Auto, (3F8/IRQ4), (3E8/IRQ4), (2E8/IRQ3), Disabled.

UART Mode Select

This item allows you to select which Infra Red(IR) function of the onboard I/O chip you wish to use.
The Choices: Normal(default), IrDA, SCR, ASKIR.

UR2 Duplex Mode

This item allows you to select which Infra Red(IR) function of the onboard I/O chip you wish to use.
The Choices: Half (default), Full.

ECP Mode Use DMA

The Choices: 3(default), 1.

Onboard Parallel Port

This item allows you to select the I/O address with which to access the onboard parallel port controller.
The Choices: 378/IRQ7(default) , 278/IRQ5, 3BC/IRQ7, Disabled.

Parallel Port Mode

SPP (default)	Using Parallel port as Standard Parallel Port.
EPP	Using Parallel port as Enhanced Parallel Port.
ECP	Using Parallel port as Extended Capabilites Port.

ECP/EPP Using Parallel port as ECP/EPP mode.

PWRON After PWR-Fail

This option will determine how the system will power on after a power failure.
The Choices: Off(default), On, Former-Str.

Game Port Address)

201	Set onboard game port to 201.
209	Set onboard game port to 209.
Disabled (default)	Disabled.

Midi Port Address

290	Set Midi Port address to 290.
300	Set Midi Port address to 300.
330	Set Midi Port address to 330.
Disabled (default)	Disabled.

Midi Port IRQ

10 (default)	Set Midi Port IRQ to 10.
5	Set Midi Port IRQ to 5.

SCR Port Address

Disabled (default)	Set Smart card reader to disabled.
Enabled	Set SCR Port IRQ to 11,5,4,3.
3F8, 2F8, 3E8, 2E8.	

MS/SD Port Address

Disabled (default)	Set memory stick to disabled.
Enabled	-Set MS/SD Port Mode to MS Socket, SD Socket. -Set MS/SD Port IRQ to 11, 5, 4, 3. -Set MS/SD Port DMA to 1, 3.
3F8, 2F8, 3E8, 2E8.	

2.6 Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use.

¡ · Figure 6. Power Management Setup

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Power Management Setup

ACPI Function	Enabled	Item Help
ACPI Suspend Type	S1(POS)	
Run VGA BIOS if S3 Resume	Auto	Menu Level
Power Management	User Define	
Video Off Method	DPMS	
Video Off In Suspend	Yes	
Suspend Type	Stop Grant	
Modem Use IRQ	3	
Suspend Mode	Disabled	
HDD Power Down	Disabled	
Soft-Off by PWR-BTTN	Instant-Off	
Power On by Ring	Enabled	
USB KB Wake-up From S3	Disabled	
Resume by Alarm	Disabled	
Data (of Month) Alarm	0	
Time (of hh:mm:ss) Alarm	0 0 0	
**Reload Global Timer Events **		
Primary IDE 0	Disabled	
Primary IDE 1	Disabled	
Secondary IDE 0	Disabled	
Secondary IDE 1	Disabled	
FDD,COM,LPT Port	Disabled	
PCI PIRQ[A-D]#	Disabled	

←→↑↓: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit
F1:General Help F5:Previous Values F6:Fail-Safe Defaults
F7:Optimized Defaults

ACPI Function

This item display status of the Advanced Configuration and Power Management (ACPI).

ACPI Suspend Type

The item allows you to select the suspend type under ACPI operating system.

S1(POS) (default)	Power on Suspend.
S3(STR)	Suspend to RAM.
S1&S3	

Power Management

This option allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

The Choices: User Define (default), Min Saving, Max Saving.

Video Off Method

This determines the manner in which the monitor is blanked.

V/H SYNC+Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
Blank Screen	This option only writes blanks to the video buffer.
DPMS Support (default)	Initial display power management signaling.

Video Off In Suspend

This field determines when to activate the video off feature for monitor power management.

The Choices: Yes(default), No.

Suspend Type

Stop Grant (default)	Set Susped type is stop grant.
PwrOn Suspend	Set Suspend type is Power on Suspend.

Modem Use IRQ

This determines the IRQ, which can be applied in Modem use.

3 (default)

4/5/7/9/10/11/NA.

Suspend Mode

Disabled (default)	Disabled.
1 min - 1 Hour	Set the timer to enter Suspend Mode.

HDD Power Down

By default, this is "Disabled", meaning that no matter the mode of the rest of system, the hard drive will remain ready. Otherwise, you have a range of choices from 1 to 15 minutes or Suspend. This means that you can select to have your hard disk drive be turned off after a selected number of minutes or when the rest or the system goes into a suspend mode.

Disabled (default)	Disabled.
1 - 15 mins	Enabled.

Soft-Off by PWR-BTTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has "hung".

The Choices: Instant-Off(default), Delay 4 Sec.

Power On By Ring

Enabled	Enabled.
Disabled (default)	Disabled.

Resume by Alarm

Disabled (default)	Disabled.
Enabled	Enabled.

Primary IDE 0/1

Disabled (default)	Disabled.
Enabled	Enabled monitor Primary IDE 0/1 for Green event.

Secondary IDE 0/1

Disabled (default)	Disabled.
Enabled	Enabled monitor Secondary IDE 0/1 for Green event.

FDD, COM, LPT Port

Disabled (default)	Disabled.
Enabled	Enabled monitor FDD, COM, LPT Port.

PCI PIRQ[A-D]#

Disabled (default)	Ignore PCI PIRQ[A-D]# Active.
Enabled	Monitor PCI PIRQ[A-D]# Active.

2.7 PnP/PCI Configurations

This section describes configuring the PCI bus system. PCI or Personal Computer Interconnect,is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced uses make any changes to the default settings.

¡ • Figure 7. PnP/PCI Configurations

CMOS Setup Utility-Copyright (C) 1984-2001 Award Software

PnP/PCI Configurations

Reset Configuration Data	Disabled	Item Help
Resources Controlled By	Auto(ESCD)	
IRQ Resources	Press Enter	Menu Level
PCI/VGA Palette Snoop	Disabled	When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt
Onboard LAN	Disabled	
Onboard Audio	Enabled	
Onboard RAID	Disabled	

←→↑↓: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit
F1:General Help F5:Previous Values F6:Fail-Safe Defaults
F7:Optimized Defaults

Reset Configuration Data

The system BIOS supports the PnP feature so the system needs to record which resource is assigned and proceeds resources from conflict. Every peripheral device has a node, which is called ESCD. This node records which resources are assigned to it. The system needs to record and update ESCD to the memory locations. These locations (4K) are reserved at the system BIOS. If

Disabled (Default) is chosen, the system's ESCD will update only when the new configuration varies from the last one. If Enabled is chosen, the system is forced to update ESCDs and then is automatically set to the "Disabled" mode.

IRQ3	assigned to: PCI PnP
IRQ4	assigned to: PCI PnP
IRQ5	assigned to: PCI PnP
IRQ6	assigned to: PCI PnP
IRQ7	assigned to: PCI PnP
IRQ8	assigned to: PCI PnP
IRQ9	assigned to: PCI PnP
IRQ10	assigned to: PCI PnP
IRQ11	assigned to: PCI PnP
IRQ12	assigned to: PCI PnP
IRQ13	assigned to: PCI PnP
IRQ14	assigned to: PCI PnP
IRQ15	assigned to: PCI PnP

The above settings will be shown on the screen only if "Manual" is chosen for the resources controlled by function.

Resources Controlled By

By Choosing "Auto" (default), the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral. By Choosing "Manual", the user will need to assign IRQ & DMA for add-on cards. Be sure that there are no IRQ/DMA and I/O port conflicts.

IRQ Resources

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

PCI / VGA Palette Snoop

Choose Disabled or Enabled. Some graphic controllers which are not VGA compatible take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility.

However, the color information coming from the VGA controller is drawn from the palette table inside the VGA controller to generate the proper colors, and the graphic controller needs to know what is in the palette of the VGA controller. To do this, the non-VGA graphic controller watches for the write access to the VGA palette and registers the snoop data. In PCI based systems, the Write Access to the palette will not show up on the ISA bus if the PCI VGA controller responds to the Write.

In this case, the PCI VGA controller should not respond to the Write, it should only snoop the data and permit the access to be forwarded to the ISA bus. The non-VGA ISA graphic controller can then snoop the data on the ISA bus. Unless you have the above situation, you should disable this option.

Disabled (default)	Function Disabled.
Enabled	Function Enabled.

Onboard LAN (Optional)

The Choices: Disabled(default), Enabled.

Onboard Audio

The Choices: Enabled(default), Disabled.

Onboard RAID (Optional)

The Choices: Disabled(default), Enabled.

2.8 PC Health Status

¡ ·**Figure 8. PC Health Status**

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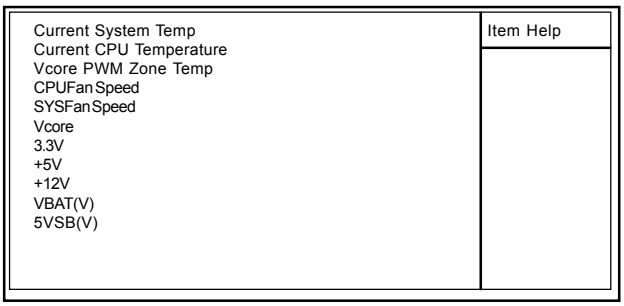
PC Health Status



Current Voltage(V) CPU Vcore/ +12V/+5V/3.3V/5VSB

Detect system's voltage status automatically.

Current CPU/System/Vcore PWM Zone Temperature (¢J/¢K)

This field displays the current CPU temperature,if your computer contains a monitoring system.

Current CPUFan / SYSFan Speed

These field displays the current speed of up to System Fans,if your computer contains a monitoring system.

2.9 Freqency / Voltage Control

¡ ·Figure 9. Frequency / Voltage Control

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Frequency / Voltage Control

CPU Clock Ratio	24X	Item Help
Auto Detect PCI CLK	Enabled	
Spread Spectrum	Disabled	Menu Level
CPU Clock	100MHz	
CPU Vcore Select	Default	
AGP Voltage Select	Default	
DRAM Voltage Select	Default	

←→↑↓: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit
F1:General Help F5:Previous Values F6:Fail-Safe Defaults
F7:Optimized Defaults

CPU Clock Ratio

This option will not be shown if you are using a CPU with the locked ratio.

The Choices: X8~X50.

Auto Detect PCI CLK

This item allows you to enable/disable auto detect DIMM / PCICLOCK.

The Choices: Enabled(default), Disabled.

Spread Spectrum

This function is designed for the EMI test only.

The Choices: Disabled(default), Enabled.

CPU Clock

This item allows you to select the CPU Host Clock (CPU/ PCI).

The Choices: 100MHz~165MHz.

CPU Vcore Select

This option is support CPU vcore select.

The Choices: +0.025V~+0.20V, -0.025V~-0.100V.

AGP Voltage Select

This option is support AGP vcore select.
The Choices: +1.5V, +1.6V, +1.7V.

DRAM Voltage Select

This option is support DRAM vcore select.
The Choices: +2.5V, +2.6V, +2.7V.

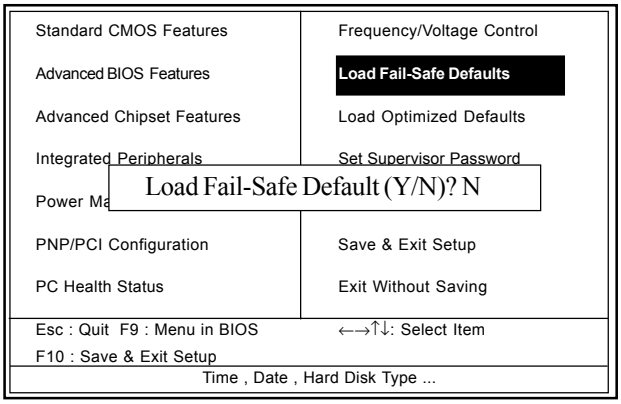
NOTE:

Intel CPU doesn't support overclock and overvcore, we don't recommend users use these functions for possible CPU damage.

2.10 Load Fail-Safe Defaults

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

¡ · Figure 10. Load Fail-Safe Defaults

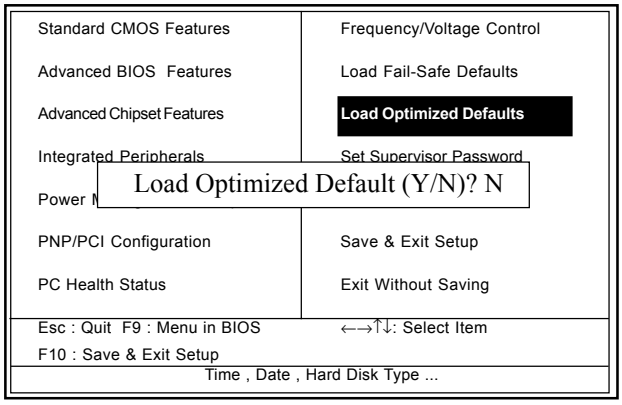


Pressing 'Y' loads the default values that are factory settings for optimal performance of system operations.

2.11 Load Optimized Defaults

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

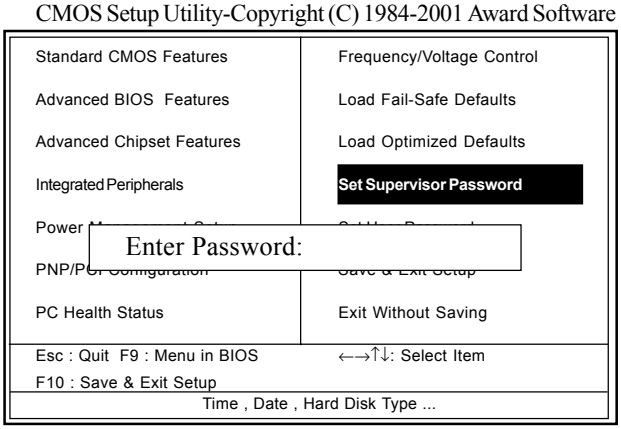
¡ · Figure 11. Load Optimized Defaults



Pressing 'Y' loads the default values that are factory settings for optimal performance of system operations.

2.12 Set Supervisor / User Password

¡ ·**Figure 12. Set Supervisor / User Password**



When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Enter Password

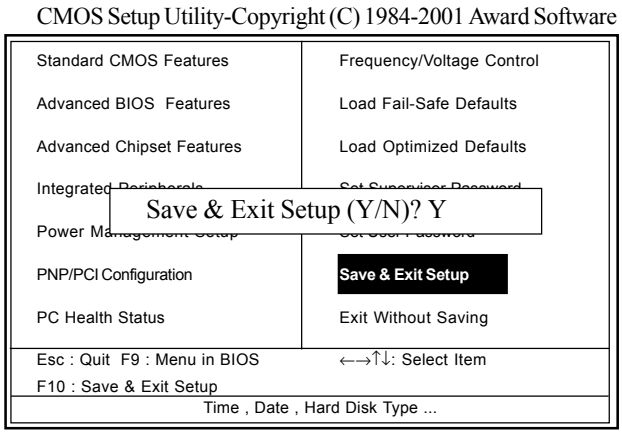
Type a password, up to eight characters, and press <Enter>. The password you type now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <ESC> to abort the selection and not enter a password. To disable the password, just press <Enter> when you are prompted to enter a password. A message will confirm that you wish to disable the password. Once the password is disabled, the system will boot and you can enter setup freely.

Password Disabled

If you select "System" at the Security Option of BIOS Features Setup Menu, you will be prompted for the password every time when the system is rebooted, or any time when you try to enter Setup. If you select "Setup" at the Security Option of BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

2.13 Save & Exit Setup

¡ • Figure 13. Save & Exit Setup

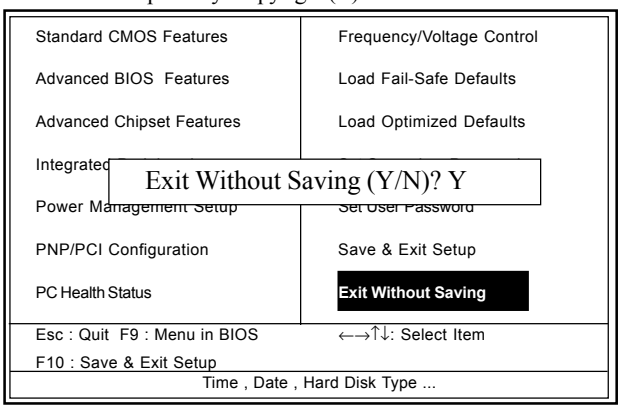


Typing "Y" will quit the Setup Utility and save the user setup value to RTC CMOS RAM.

Typing "N" will return to the Setup Utility.

2.14 Exit Without Saving

¡ • Figure 14. Exit Without Saving



Typing “Y” will quit the Setup Utility without saving to RTC CMOS RAM.

Typing “N” will return to the Setup Utility.

Chapter 3

There are motherboard drivers and utilities included in ACORP Bonus CD disc. You don't need to install all of them in order to boot your system. But after you finish the hardware installation, you have to install your operation system first (such as windows 98) before you can install any drivers or utilities. Please refer to your operation system installation guide.

***Note**: Please follow recommended procedure after install Windows 98/ME/XP/2000.*

3.1 Auto-run Menu

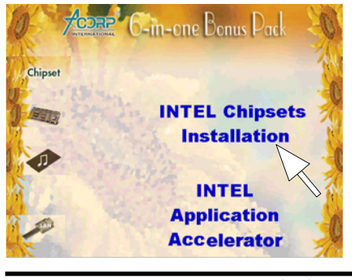
You can use the auto-run menu of Bonus CD disc.
Choose the utility or driver and select model name.

3.2 Installing Intelinf Driver

This item install the Intel Chipset Software installation Utility that enables Plug-n-Play INF support for Intel chipset components. This utility installs to the target system the Windows INF files that outline to the operating system how the chipset components will be configured.

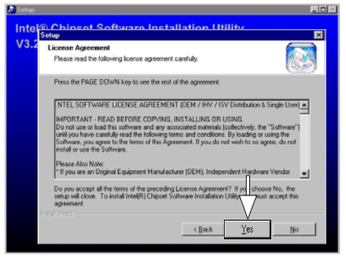
(1)
Click "Driver" Item.

(2)
Click "Chipset" Item.

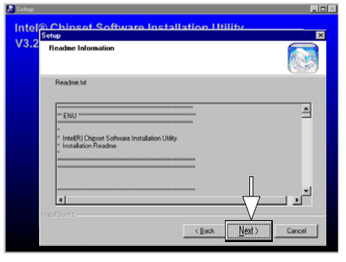


(3)
Click "Intel Chipsets Installation" Item.

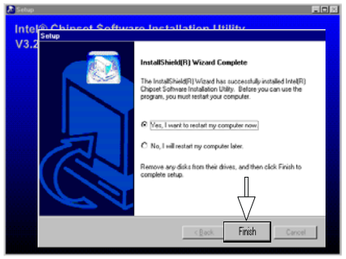
(4)
Click "Next".



(5)
Click "Yes".



(6)
Click "Next".



(7)
Click "Finish".

Note:
Install the Intel INF Driver before installing the Intel Application Accelerator Driver.

3.3 Installing Application Accelerator

This item install the Intel Application Accelerator for Microsoft Windows 98/98SE/ME/NT4.0/2000/XP. This program is designed to improve performance of the storage sub-system and overall system performance.

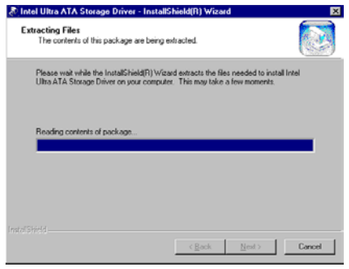
We recommend that:
If you operating system like Windows 98/98SE/NT4.0, please install the Ultra Driver. Besides, take note of the IAA and Ultra Driver can't using at the same time.

(1)
Click "Driver" Item.

(2)
Click "Chipset" Item.

(3)
Click "Intel Application Accelerator/Ultra ATA Storage Driver" Item.

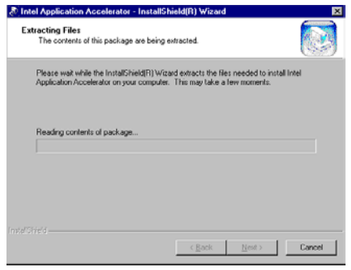
(4)
For Ultra ATA Driver.
Click "Windows 98SE/ Windows NT" Item.



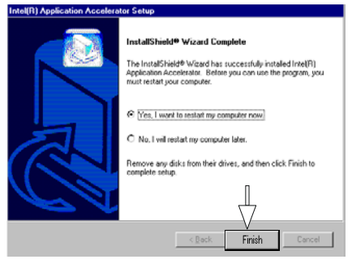
(5)

(6)
Click "OK".

(7)
For Intel Application Accelerator Driver.
Click "Windows ME/ Windows XP/2000" Item.



(8)



(9)
Click "Finish".

(10)
Click "OK".

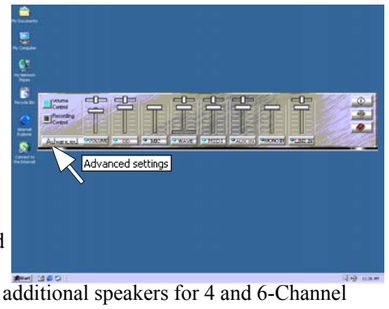
3.4 Installing Audio Driver

Installing the programs enables the multi-channel audio feature. Note: You must use 4 or 6 channel speakers for the setup.

3.4.1 The C-Media Audio Mixer

1. The *C-Media Mixer Icon* appears on the bottom right of the screen, or the *Mixer* may be turned on from the *PCI Audio Applications* & *Audio Rack* groups on the *Main Program* menu using the Windows *Start button*:Click on the icon to display the C-Media *Audio Mixer*.

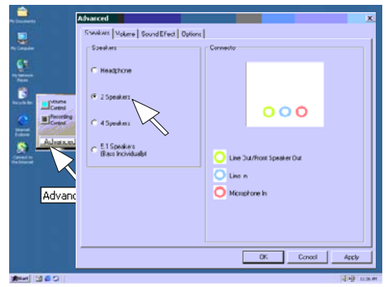
2. The *Addvanced* button activates the *Speaker, Volume, Sound Effects and Options* menus. The *Speaker* menu offers various configurations for your speaker system. This menu enables the *Line-in* and *Mic-in audio jacks* on the back panel to setup additional speakers for 4 and 6-Channel Audio.



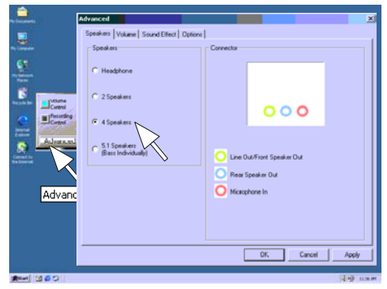
3.4.2 Connector Settings and Functions

	Headphone/ 2-Speaker	4-Speaker	5.1-Speaker
Lime	Line out/ Front Spkr Out	Line out/ Front Spkr Out	Line out/ Front Spkr Out
Light Blue	Line in	Rear Speaker Out	Rear Speaker out
Pink	Mic in	Mic in	Center Speaker Out, Sub-woofer

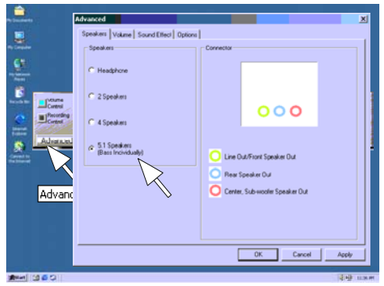
(a) Headphone/ 2-Speaker (standard spec.)



(b) 4-Speaker

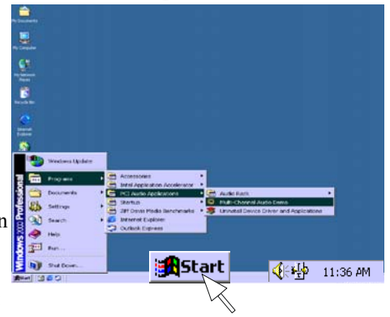


(c)
5.1-Speaker



3.4.3 The C-Media Audio Demo Program

1. The Audio Demo program offers an easy way to test and tune your new speaker system. Activate the *Multi-Channel Audio Demo* program from the *PCI Audio Applications* groups on the *Main Program* menu using the Windows *Start button*:



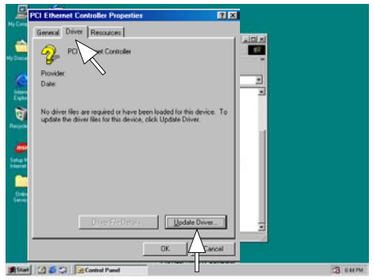
2. The *PCI Multi-Channel Audio Demo* has several Demos to help fine tune your PC speaker system. The *Help* menu features several pages of instructions and hardware diagrams to help configure and test the system. To activate the *Speaker Channel Configuration Menu*, point your mouse arrow and click on the *TV box*.

3.5 Installing LAN Driver (Optional)

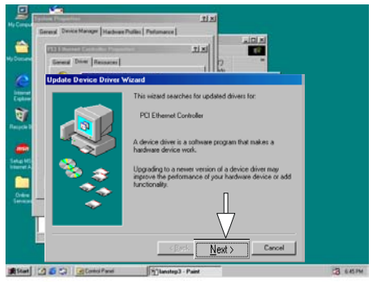
When your mainboard comes with the Realtek® RT8100 LAN controller, you must install the Realtek® LAN driver to support the LAN function. In some operating systems like Windows 98, Windows 2000, Windows NT the provided CD will auto-run when you insert the CD disk into the CD-ROM drive.

**(1)
Click
"System" Item.**

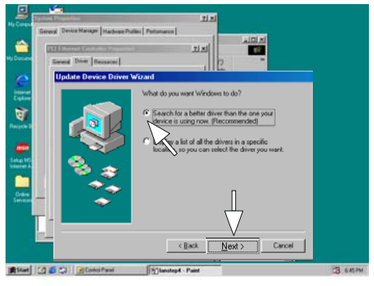
**(2)
Select
"Other Devices"
then Click
"PCI Ethernet
Controller" Item.**



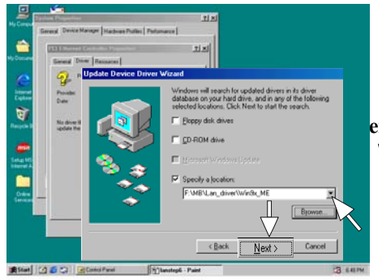
(3)
Select
"Driver"
then Click
"Update Driver" Item.



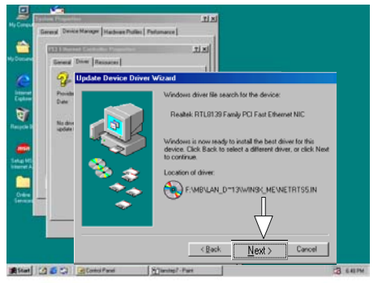
(4)
Click "Next" Item.



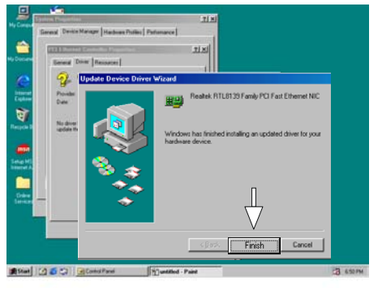
(5)
Click "Next" Item.



(6)
Selection your system
environment follow path :
\MB\LAN_driver\ then
Click "Next" Item.



(7)
Click "Next" Item.



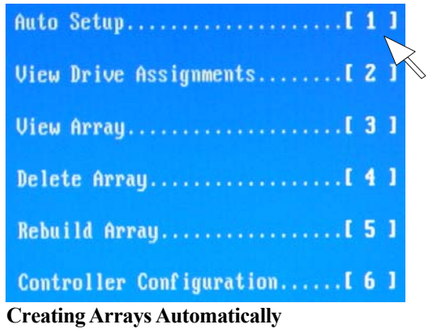
(8)
Click "Finish" Item.

3.6 Installing RAID Driver (Optional)

How to install Win2000 RAID driver, please follow the procedure below to set up RAID driver.

1. Boot your system. If this is the first time you boot the Promise onboard BIOS, it will display the following screen.

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

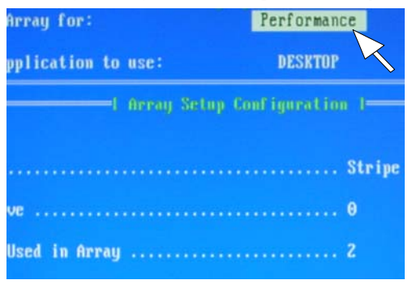


Creating Arrays Automatically

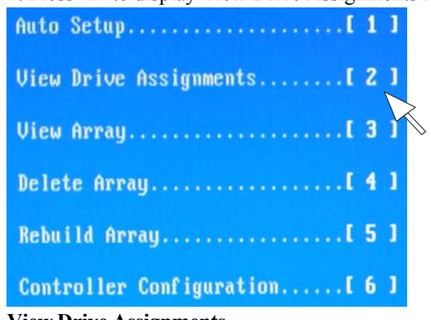
The Auto Setup <1> selection from the Main Menu can intuitively help create your disk array. It will assign all available drives appropriate for the disk array you are creating. After setting, use Ctrl-Y to Save selections. FastBuild will automatically build the array.

Optimize Array For

Select which you want, performance (RAID 0) or security (RAID 1) under the "Optimize Array For".

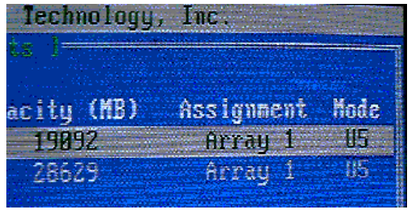


4. Press "2" to display View Drive Assignments Menu below.

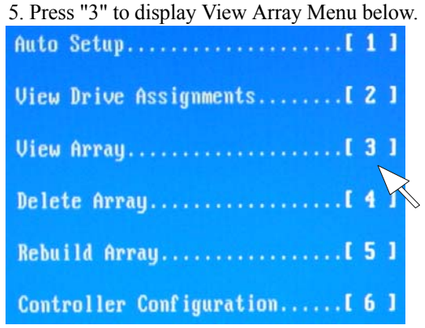


View Drive Assignments

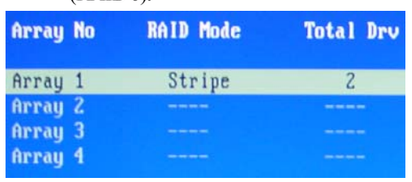
The View Drive Assignments <2> option in the Main displays which drives are assigned to a disk arrays or are unassigned.



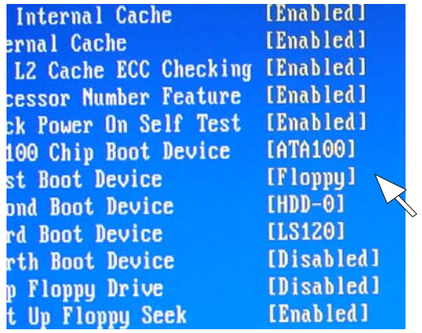
5. Press "3" to display View Array Menu below.



6.Then you will find the display below, if you select "performance" (RAID 0).



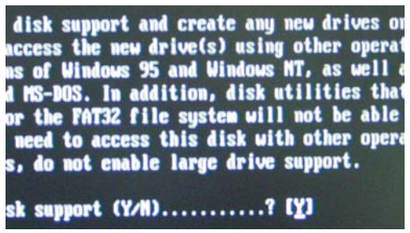
7. Save & reboot, then go into the BIOS setting to select the first boot device "Floppy" from "Advanced BIOS features" as follow.



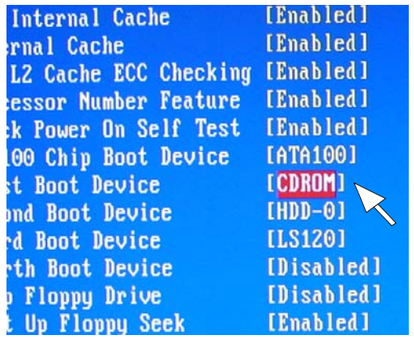
8. After reboot the system by bootable disk, modifying the "CONFIG.SYS" of the bootable disk as below and save it.

[CD]
device=himem.sys /testmem:off
device=oakcdrom.sys /D:mscd001
device=btdosm.sys
device=flashpt.sys
device=btcdrom.sys /D:mscd001
device=aspi2dos.sys
device=aspi8dos.sys
device=aspi4dos.sys
device=aspi8u2.sys
device=aspicd.sys /D:mscd001
DEVICE=FASTTRACK.SYS

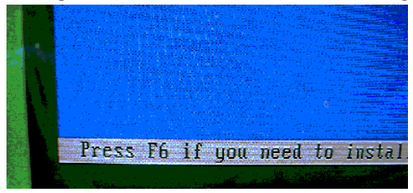
9. On the other hand, copying the files of "MB\FASTTTRACK\FT100 DRIVER\TXTSETUP.OEM & FASTTRACK as well as the folder of "Win2000" from the attached CD to the other FDD.
10. Using the modified disk to boot the PC.
11. Running FDISK.



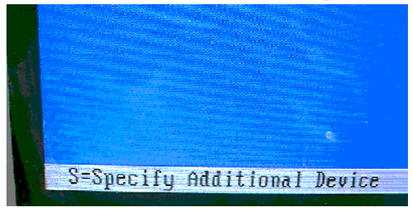
12. Separating and allocating the required volume of disk, and reboot the system then Format C:.
13. After that restart the system and set the CMOS from "Advanced BIOS features" as following chart.



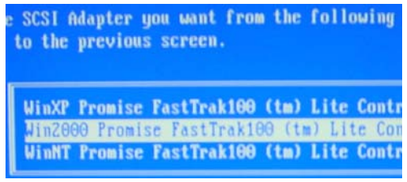
14. Input the Win2000 CD in CD Drive and boot the system from CD-ROM. Also, put the FDD that include the "FastTrack" & "TXTSETUP" files and "WIN2000" folder, then press F6 button as soon as the following message appeared.



15. After that, continue to install OS procedures.



16. Press "S".



17. Selecting "Win2000 Promise... " then go back to install Win2000 continuously.

** **Note:**
This test report is for your reference, we would like to suggest you to use these devises that we had apporoved.

A. CPU & Memory Compatibility Test Pass

CPU TYPE		MEMORY TYPE					
Nucleus	Model	Module Vender	IC_Vender & IC_NO	CAPACITY SIDE	DRAM CLK	Location	WS 2001 Business
Willamette	1.8G	ARMAS	SAMSUNG K4H280838B-TCB0	128MB(S)	266	DIMM 1,2	47.4
		Apacer	NANYA NT5DS16M8AT-7K	128MB(D)	266	DIMM 1,2	44.7
		Transcend	SAMSUNG K4H280838B-TCB0	128MB(S)	266	DIMM 1,2	46.8
		SILAN	SAMSUNG K4H280838B-TCB0	128MB(S)	266	DIMM 1,2	47.3
Willamette	1.9G	KINGSTON	NANYA NT5DS16M8AT-7K	256MB(D)	266	DIMM 1,2	46.7
		SILAN	NANYA NT5DS16M8AT-7K	256MB(D)	266	DIMM 1,2	49
		KINGSTON	HYUNDAI HY5DU288AT-H	256MB(D)	266	DIMM 1,2	48.1
		XANDER	KINGMAX KDL684T4A2A-05	256MB(D)	333	DIMM 1,2	49.3
Willamette	1.7G	ARMAS	SAMSUNG K4H280838B-TCB0	128MB(D)	266	DIMM 1,2	45.4
		Transcend	WINBOND W942508AH-75	256MB(S)	266	DIMM 1,2	N/A
		Transcend	SAMSUNG K4H560838C-TCB3	256MB(S)	333	DIMM 1,2	44.6
		CHINA	HYNIX HY5DU28822AT-H	256MB(D)	266	DIMM 1,2	41.7
Willamette	2.0G	CHINA	HYNIX HY5DU28822AT-H	128MB(S)	266	DIMM 1,2	47.3
		ARMAS	SAMSUNG K4H280838B-TCB0	256MB(D)	266	DIMM 1,2	49.7
		Apacer	NANYA NT5DS16M8AT-7K	128MB(D)	266	DIMM 1,2	50.7
		WEBLINK	ELIXIR N2DS12880AT-75B	256MB(D)	266	DIMM 1,2	52.4
Northwood	2.0AG	SILAN	SAMSUNG K4H280838B-TCB0	256MB(D)	266	DIMM 1,2	56
		ARMAS	SAMSUNG K4H280838B-TCB0	256MB(D)	266	DIMM 1,2	54.5
		XANDER	KINGMAX KDL684T4A2A-05	256MB(D)	333	DIMM 1,2	55.9
		Transcend	SAMSUNG K4H560838C-TCB3	256MB(S)	333	DIMM 1,2	55.3

CPU TYPE		MEMORY TYPE					
Nucleus	Model	Module Vender	IC_Vender & IC_NO	CAPACITY SIDE	DRAM CLK	Location	WS 2001 Business
Northwood	2.0AG	Transcend	SAMSUNG K4H560838C-TCB3	256MB(D)	333	DIMM 2	54.5
		Transcend	SAMSUNG K4H560838C-TCB0	512MB(D)	333	DIMM 2	54.3
		Transcend	SAMSUNG K4H280838B-TCB0	256MB(D)	266	DIMM 2	55.3
		Apacer	INFINEON HYB25D256800AT-75	256MB(D)	266	DIMM 2	52.6
Willamette	2.0G	ARMAS	SAMSUNG K4H280838B-TCB0	256MB(D)	266	DIMM 2	48.7
		TWINMOS	WINBOND W942508AH-6	512MB(D)	333	DIMM 2	49.9
		Apacer	NANYA NT5DS61M8AT-7K	128MB(D)	266	DIMM 2	47.4
		CHINA	HYNIX HY5DU28822AT-H	256MB(D)	266	DIMM 2	48.7
Northwood	1.73AG	Transcend	SAMSUNG K4H560838C-TCB3	512MB(D)	333	DIMM 2	50
		TWINMOS	WINBOND W942508AH-6	512MB(D)	333	DIMM 2	51.1

CPU TYPE		MEMORY TYPE					
Nucleus	Model	Module Vender	IC_Vender & IC_NO	CAPACITY SIDE	DRAM CLK	Location	WS 2001 Business
Northwood	1.6AG	SILAN	SAMSUNG K4H280838B-TCB0	128MB(S)	266	DIMM 1	39.6
		TWINMOS	WINBOND W942508AH-6	512MB(D)	333	DIMM 1	46.1
		Transcend	SAMSUNG K4H560838C-TCB3	512MB(D)	333	DIMM 1	48.9
		Transcend	SAMSUNG K4H560838C-TCB0	512MB(D)	266	DIMM 1	46.1
Northwood	2.4AG	Apacer	INFINEON HYB25D256800AT-75	256MB(D)	266	DIMM 1	58.6
		Apacer	NANYA NT5DS16M8AT-7K	256MB(D)	266	DIMM 1	60.5
		ARMAS	SAMSUNG K4H280838B-TCB0	128MB(S)	266	DIMM 1	56.7
		XANDER	KINGMAX KDL684T4A2A-05	256MB(D)	333	DIMM 1	58
Willamette	1.7G	KINGSTON	HYUNDAI HY5DU28822AT-H	128MB(S)	266	DIMM 1	40.3
		CHINA	HYNIX HY5DU28822AT-H	256MB(D)	266	DIMM 1	45.1
		CHINA	HYNIX HY5DU28822AT-H	128MB(S)	266	DIMM 1	43.7
		KINGSTON	NANYA NT5DS16M8AT-7K	256MB(D)	266	DIMM 1	45.2
Northwood	2.26AG	Transcend	SAMSUNG K4H560838C-TCB3	256MB(S)	333	DIMM 1	59.9
		Apacer	NANYA NT5DS16M8AT-7K	256MB(D)	266	DIMM 1	56.9
		WEBLINK	ELIXIR N2DS12880AT-75B	256MB(D)	266	DIMM 1	59.5
		Transcend	SAMSUNG K4H560838C-TCB0	512MB(D)	266	DIMM 1	57.4
Northwood	1.73AG	Apacer	INFINEON HYB25D256800AT-75	256MB(D)	266	DIMM 1	48.9
		XANDER	KINGMAX KDL684T4A2A-05	256MB(D)	333	DIMM 1	49.3
		ARMAS	SAMSUNG K4H280838B-TCB0	128MB(D)	266	DIMM 1	48.6
		SILAN	NANYA NT5DS16M8AT-7K	256MB(D)	266	DIMM 1	48.9

B. AGP Display Compatibility Test

Win98 SE 1024 x 768 x 32 bit

AGP Model	Vendor	AGP Mode	Dirver Version	3D MARK 2001 Bench Mode	Quake III Demo 001		
					frames	seconds	fps
GEFORCE 2 MX400	GIGABYTE	4X	4.13.01.2183	2492	1346	9.8	137.8
XPERT 200 PRO 32M	ATI	4X	4.13.7192	1428	1346	20.9	64.6
GEFORCE 2 MX 32M	LEMEL	4X	4.13.01.2183	2393	1346	9.9	135.9
GEFORCE 2 MX400	ASUS	4X	4.13.01.2183	2898	1346	9.1	148.3
GLADIAC 920	ELSA	4X	4.13.01.2183	6532	1346	8.2	163.3

Win98 SE 800 x 600 x 16 bit

AGP Model	Vendor	AGP Mode	Dirver Version	3D MARK 2000 Bench Mode	Quake III Demo 001		
					frames	seconds	fps
G400	MATROX	1X	4.12.01.2020	2036	1346	16.6	81.2
GEFORCE 3 TI500	WINFAST	4X	4.13.01.2183	7673	1346	8.2	163.5
GEFORCE 2 GTS 32M	ELSA	4X	4.13.01.2183	4657	1346	8.3	162.3
VOODOO 4500	3DFX	4X	4.12.01.0666	2698	1346	12.5	108.0
GEFORCE 4 MX440	ASUS	4X	4.13.10.2720	5733	1346	8.4	159.7

Win2000 1024 x 768 x 32 bit

AGP Model	Vendor	AGP Mode	Dirver Version	3D MARK 2001 Bench Mode	Quake III Demo 001		
					frames	seconds	fps
GEFORCE 2 MX400	TRIPLEX	4X	5.13.01.2183	2288	1346	9.3	145.0
GEFORCE 2 MX200	MSI	4X	5.13.01.2183	1731	1346	14.8	91.0
GEFORCE 3 64M	MSI	4X	5.13.01.2183	6619	1346	7.0	191.2
G450	MATROX	4X	5.12.01.1720	1750	1346	21.4	63.8
GEFORCE 2 MX200	PROLINK	4X	5.13.01.2183	1329	1346	14.8	91.1

Win2000 800 x 600 x 16 bit

AGP Model	Vendor	AGP Mode	Dirver Version	3D MARK 2000 Bench Mode	Quake III Demo 001		
					frames	seconds	fps
GEFORCE 2 TI AGP	COLORFUL	4X	5.13.01.2183	4316	1346	7.0	191.7
GLADIAC 921	ELSA	4X	5.13.01.2183	8099	1346	7.0	193.6
RADEON 32M	ATI	4X	5.13.01.3102	2983	1346	12.5	107.3
GEFORCE 4 MX440	ASUS	4X	6.13.10.2720	6040	1346	7.3	184.9
GEFORCE 2 MX400	PROLINK	4X	5.13.01.2183	3696	1346	7.6	177.7

C. PCI/ISA Device Compatibility Test

Device Model	Slot	Vendor Model	O.S.	Driver Version	Result
All PCI/ISA	PCI	Creative Sound Blaster PC128	Win98 SE	4.12.01.2003	PASS
	PCI	ADAPTEC USB2.0(TAIWAN)	Win98 SE	4.1.2222	PASS
	PCI	BT 878	Win98 SE	4.1.8.8	PASS
	PCI	ESS ES2838S	Win98 SE	4.05.00.0001	PASS
Device Card	PCI	ACORP IEEE 1394	Win98 SE	4.10.2222	PASS
	PCI	INITIO IOI-9100UW	Win98 SE	2.14	PASS
All PCI/ISA	PCI	D-LINK DFE-550TX	Win XP	V2.5.4	PASS
	PCI	DOMEXDMX-5340	Win XP	5.1.2600	PASS
	PCI	TEKRAM DC-315U	Win XP	3.02	PASS
	PCI	ADAPTEC AUA3100LP USB2.0	Win XP	5.1.2600	PASS
Device Card	PCI	ESS ES1989S	Win XP	5.1.2526.0	PASS
	PCI	PCTEL PCT789T-A	Win XP	7.54.07	PASS

Device Model	BUS	Vendor Model	O.S.	Driver Version	Result
LAN Card	PCI	3 COM 3C905C-TX	WIN98SE	1.60.00.0000	PASS
	PCI	D-LINK DFE-530TX	WINXP	2.66	PASS
	PCI	D-LINK DFE-530TX	WINXP	V2.5.4	PASS
	PCI	MPX EN5038B	WINXP	5.396.0530.2001	PASS
	PCI	RTL8139B	WINXP	5.396.0530.2001	PASS
VGA Card	PCI	S3 375	WIN98SE	4.10.1681	PASS
	PCI	S3 375	WINXP	5.1024.329.0002	PASS
SCSI Card	PCI	TEKRAM DC-395U	WIN98SE	3.02	PASS
	PCI	INITIO IOI-9100UW	WIN98SE	2.14	PASS
	PCI	TEKRAM DC-315U	WINXP	3.02	PASS
	PCI	ADAPTEC ASC-29160	WINXP	V3.60	PASS
	PCI	TEKRAM DC-390U3W	WINXP	5.1.2409.1	PASS

Device Model	BUS	Vendor Model	O.S.	Driver Version	Result
Sound Card	PCI	Creative Sound Blaster PC128	WIN98SE	4.12.01.2003	PASS
	PCI	YAMAHA YMF754-R	WINXP	5.1.2501.0	PASS
	PCI	Creative Blaster live 5.1	WIN98SE	4.12.01.0905	PASS
	PCI	ESS SOLO-1 1989S	WINXP	5.1.2526.0	PASS
	PCI	GENUINE C-MEDIA 8737LX	WINXP	5.12.01.0630	PASS
MODEM Card	PCI	PC TEL PCT789T-A	WINXP	7.54.07	PASS
	PCI	F1156IV/A2A	WINXP	5.98A	PASS
	PCI	ESS ES 2838S	WIN98SE	4.05.00.0001	PASS
TV / FM Capture Card	PCI	BT 878	WIN98SE	4.1.8.8	PASS
IEEE1394 Card	PCI	ACORP IEEE1394	WIN98SE	4.10.2222	PASS
	PCI	DOMEX DMX-5340	WINXP	5.1.2600	PASS
USB 2.0 Card	PCI	ADAPTEC AUA3100LP USB2.0	WINXP	5.1.2600	PASS
	PCI	ADAPTEC USB2.0(TAIWAN)	WIN98SE	4.10.2222	PASS
IEEE1394 Device		FIREBOX 401			PASS
USB 2.0 Device		DEM-1341 CRYSTAL USB CASE			PASS

D. Other Peripherals Compatibility Test

Device Model	Windows 98SE	Windows ME	Windows 2000	Windows XP
USB Mouse	DEXIN	DEXIN	DEXIN	DEXIN
	A3U800A	A3U800A	A3U800A	A3U800A
USB Keyboard	Standard	Standard	Standard	Standard
	7932M	7932M	7932M	7932M
USB Modem	ACORP			
	HCF V90 Data Modem			
USB Print	HP			
	deskjet 930C			
USB ZIP	Iomega			
	ZIP 100			
USB SCANNER	ACER	UMAX	ACER	UMAX
	S2W 4300U	AstraSlim 600	S2W 4300U	AstraSlim 600
USB Joystick	Microsoft			
	P&P GamePad			
USB Digital	FUJIFILM	FUJIFILM	FUJIFILM	FUJIFILM
COMERA	FinePix 2400 Zoom	FinePix 2400 Zoom	FinePix 2400 Zoom	FinePix 2400 zoom