Item Checklist

This item checklist is only available for retail market. Completely check your package,If you discover damaged or missing items, contact your retailer.

- ☑ P4I848P series mainboard
- ☑ QDI Utility CD
- ☑ 1HD ribbon cable
- ☑ 1 FDD cable
- ☑ User's manual
- ☐ I/O shield
- ☐ 1 10-pin ribbom cable with bracket for USB(option)
- ☐ Cable with bracket for 6CH_BRACKET(option)
- ☐ Signal cables for Serial ATA(option)
- ☐ Power cables for Serial ATA(option)

Notice

If you need any further information, please visit our web-site: "**www.qdigrp.com**".

Declaration of conformity

CE

QUANTUM DESIGNS(HK) LTD.
20th Floor, Devon House, Taikoo Place, 979 King's Road,
Quarry Bay, Hong Kong

declares that the product

Mainboard

P4I848P

is in conformity with
(reference to the specification under which conformity is declared in accordance with 89/336 EEC-EMC Directive)

☑ EN 55022	Limits and methods of measurements of radio disturbance characteristics of information technology equipment
☑ EN 50081-1	Generic emission standard Part 1: Residential, commercial and light industry
☑ EN 50082-1	Generic immunity standard Part 1: Residential, commercial and light industry

European Representative:

QDI COMPUTER (UK) LTD	QDI COMPUTER (SCANDINAVIA) A/S
QDI SYSTEM HANDEL GMBH	QDI EUROPE B. V.
QDI COMPUTER (FRANCE) SARL	QDI COMPUTER HANDELS GMBH
LEGEND QDI SPAIN S.L .	QDI COMPUTER (SWEDEN) AB

Signature : Xu Wenge Place / Date : HONG KONG/2003

Printed Name : Xu Wenge Position/ Title : Assistant President

Declaration of conformity

Trade Name:	QDI Computer (U. S . A.) Inc.
Model Name:	**P4I848P**
Responsible Party:	QDI Computer (U. S. A.) Inc.
Address:	41456 Christy Street Fremont, CA 94538
Telephone:	(510) 668-4933
Facsimile:	(510) 668-4966
Equipment Classification:	FCC Class B Subassembly
Type of Product:	Mainboard
Manufacturer:	**Quantum Designs (HK) Inc.**
Address:	20th Floor, Devon House, Taikoo Place 979 King's Road, Quarry Bay, HONG KONG

Supplementary Information:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Tested to comply with FCC standards.

Signature : _____ Date : 2003

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Layout

Caution

Be sure to unplug the AC power supply before adding or removing expansion cards, RAM or other system peripherals, otherwise your mainboard and RAM might be seriously damaged.

Caution

Be sure to add some Silicone Grease between the CPU and the heatsink to keep them fully contacted to meet the heat sink requirement.

Note:

This manual is suitable for P4I848P series of mainboards. Each mainboard is carefully designed for the PC user who wants different features.

-6A: with 6 channel Audio
-L: with onboard 10/100M LAN
-F: with IEEE 1394
-K: with onboard G-bit LAN
-R: with onboard SATA and RAID

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Chapter 1

Introduction

P4I848P series of mainboards utilize Intel® 848P + ICH5 (ICH5R) chipset, providing a fully compatible, high performance and cost-effective ATX platform. The new integrated technologies, together with AC'97 audio(2/6-channel), 8 USB, 2 SATA, and ATA100/66/33, give customers an advanced, multimedia solution at reasonable price. It provides 400/533/800MHz host bus speed to support Intel® Pentium 4 socket 478 processors and the DDR266/333/400 memory. It also provides advanced features such as Wake up by USB devices, Wake-on-Modem, ACPI and Keyboard Password Power-on functions. Suspending to RAM, the optimal implementation of the Advanced Configuration and Power Interface (ACPI) specification, makes the PC's power consumption drop to the lowest possible level and enable quick wakeup.

Key Features

Form factor

- ATX form factor of 305mm x 210mm

Microprocessor

- Supports Intel® Pentium 4 (Hyper-Threading) socket 478 processors
- Supports Intel® Pentium 4 (Northwood) socket 478 processors at 2.4/2.6/2.8/3.06/3.2GHz with 800 MHz FSB
- Supports Intel® Pentium 4 (Northwood) socket 478 processors at 1.8/2.0/2.2/2.26/2.4/2.53/2.66 /2.8/3.06GHz and above
- Supports 400/533/800MHz host bus speed

System memory

- Provides two 184-pin DDR SDRAM interfaces
- Supports DDR266/333/400 SDRAM
- Supports 64/128/256/512Mb technology up to 2GB

Onboard IDE

- Supports Independent timing of up to 4 drives
- Supports Ultra ATA 33/66/100, PIO mode
- Two fast IDE interfaces supporting four IDE devices including IDE hard disks and CD ROM drives

Onboard LAN(Available on -L, -K)(optional)

- 10/100/1000(available on -Kmainboard) Mbit/sec Ethernet support
- 10/100/1000M(available on -K mainboard) LAN interface built-in on board

Note: If the mainboard has onboard LAN, PCI1 slot only can connect to slave device.

USB 2.0

- USB 2.0 compliant, operates at 480Mbps, about 40X times faster than USB 1.1 which currently works at a snails pace of just 12Mbps
- Provides 8 USB 2.0 ports

Onboard I/O

- One floppy port supporting up to two 3.5″ or 5.25″ floppy drives with 360K/720K/1.2M/1.44M /2.88M format
- One high speed 16550 compatible COM with 16 byte send/receive FIFO
- One parallel port supports SPP/EPP/ECP mode
- Supports PS/2 mouse and PS/2 keyboard
- Provides one IrDA connector
- All I/O ports can be enabled/disabled in the BIOS setup

Onboard Audio

- AC'97 2.2 Specification Compliant
- Provides onboard Line-in Jack, Microphone-in Jack and Speaker-out Jack

6-channel Onboard Audio(available on -6A mainboard)

- AC'97 2.2 Specification Compliant
- Provides Front left&right, Rear left&right/Line-in Jack and Center&Woofer/Microphone-in Jack,which can be specified by software

Graphics Interface

- The AGP interface Supports 0.8V/1.5V signaling wih 8X/4X data transfer and 8X/4X AGP Fast Writes

Advanced features

- PCI 2.2 Specification Compliant
- Provides Trend ChipAwayVirus On Guard
- Supports Windows 98/2000/ME/XP soft-off
- Supports Wake-on-Modem
- Supports Keyboard Password Power-on function
- Supports system monitoring(monitors CPU and system temperatures, system voltages, fan speed)
- Supports CPU triple overheat protection

  1. If the temperature of the CPU reachs the CPU Warning Temperature set in BIOS, the buzzer will warn.
  2. At the same time, the CPU THER-Throttling will be slowed down to the setpoint in BIOS.
  3. If the temperature of the CPU reach the CPU Shutdown Temperature, the system will be shutdown automatically under the ACPI OS and the data will be saved before. (Reference to "PC Health Status" in BIOS)

Onboard SATA

- Supports hot-plug
- Two SATA devices including SATA HDD and CDROM/DVD ROM devices
- Supports 150Mbps transfer rate.

BIOS

- Licensed advanced AWARD(Phoenix) BIOS, supports flash ROM, plug and play ready
- Supports IDE CDROM/SCSI/USB boot up.

Green function

- Supports ACPI (Advanced Configuration and Power Interface) and ODPM (OS Directed Power Management)
- Supports ACPI power status: S0 (full-on), S1 (power on suspend), S3 (suspend to RAM), S4(suspend to Disk, depends on OS) and S5 (soft-off)

Main Expansion Slots and Connectors

Slot/Port (Quantity)	Description
PCI(5)	PCI slots
IDE(2)	IDE ports
FLOPPY(1)	Floppy Drive port
DDR(2)	DIMM socket
USB(8)	USB connectors
AGP(1)	AGP slot
LAN(1) (optional)	LAN connector
COM(1)	COM connectors
PARALLEL(1)	Parallel connector
IrDA(1)	IrDA connector

Chapter 2

Installation Instructions

This section covers External Connectors and Jumper Settings. Refer to the mainboard layout chart for locations of all jumpers, external connectors, slots and I/O ports. Furthermore, this section lists all necessary connector pin assignments for your reference. The particular state of the jumpers, connectors and ports are illustrated in the following figures. Before setting the jumpers or inserting these connectors, please pay attention to the direction.

External Connectors

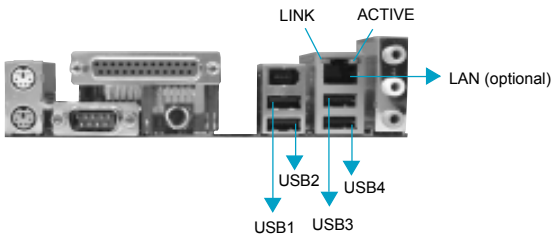
PS/2 Keyboard/Mouse Connector

PS/2 keyboard connector is for the usage of PS/2 keyboard. If using a standard AT size keyboard, an adapter should be used to fit this connector. PS/2 mouse connector is for the usage of PS/2 mouse.

USB1, USB2,USB3,USB4 and LAN Connectors(optional)

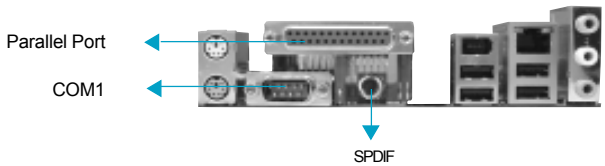
(LAN connector is only available on -L/-K mainboard)

Four USB ports are for connecting USB devices. The RJ-45 connector is for onboard LAN.



Parallel Port, Serial Port Connectors (COM1) and SPDIF OUT Connector

The parallel port connector can be connected to a parallel device such as a printer. The serial port COM1 connector can be connected to a serial port device such as a serial port mouse. You can enable/disable them and choose the IRQ or I/O address in “Integrated Peripherals” from AWARD BIOS SETUP. The S/PDIF (Sony / Philips Digital Interface) input allow your digital audio input from digital audio devices (optional). The S/PDIF output is capable of providing digital audio data or compressed AC3 data to an external Dolby digital decoder.

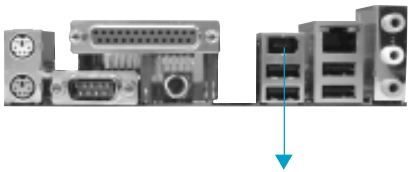


Warning:

Be sure to unplug the AC power supply before adding or removing expansion cards or other system peripherals, otherwise your mainboard and expansion cards might be seriously damaged.

1394 port(optional)

IEEE 1394 port is for connecting IEEE 1394 devices.



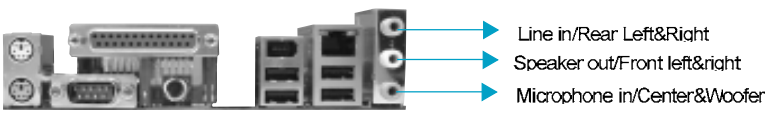
Line-in jack, Microphone-in jack and Speaker-out jack

The Line-in jack can be connected to devices such as a cassette or minidisc player to playback or record.
The Microphone-in jack can be connected to a microphone for voice input.
The Speaker-out jack allows you to connect speakers or headphones for audio output from the internal amplifier.

6-Channel Audio

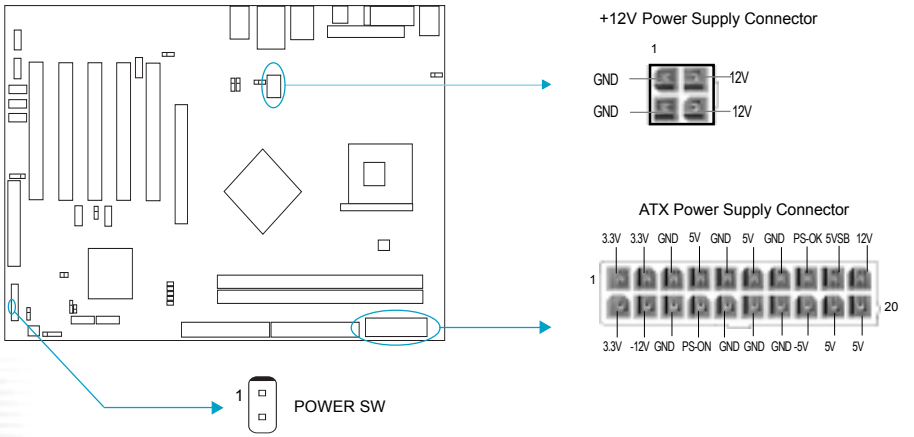
(Available on -6A mainboard)

This mainboard utilizes ALC655 chip providing 6-channel Audio, which consists of Front Left, Front Right, Rear Left, Rear Right, Center and Woofer for a complete surround sound effect. When 6-Channel audio is available, the front Left&Right jack can be connected to the Front speskers, the Back Left&Right jack can be connected to the rear speakers and the Center&Woofer jack can be connected to the center speaker and woofer.
Microphone function is offered by F_AUDIO Connector on the mainboard now.
If set 2-Channel Audio mode on -6A mainboard, you can connect two speakers to the Front Left&Right jack, at the same time use the Rear Left&Right jack as Line in jack, and use the Center&Woofer jack as Microphone in jack.



ATX 12V Power Supply Connector & Power Switch (POWER SW)

The power switch (POWER SW) should be connected to a momentary switch. When powering up your system, first turn on the mechanical switch of the power supply (if one is provided), then push once the power switch. When powering off the system, you needn't turn off the mechanical switch, just push once the power switch.



Note: If you change "Soft-off by PWR-BTTN" from default "Instant-off" to "Delay 4 Sec" in the "POWER MANAGEMENT SETUP" section of the BIOS, the power switch should be pressed for morethan 4 seconds before the system powers down.

Hard Disk LED Connector (HD_LED)

The connector connects to the case's IDE indicator LED indicating the activity status of IDE hard disk. The connector has an orientation. If one way doesn't work, try the other way.

Reset Switch (RESET)

The connector connects to the case's reset switch. Press the switch once, the system resets.

Speaker Connector (SPEAKER)

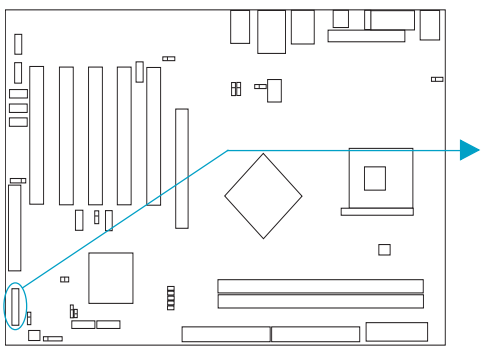
The connector can be connected to the speaker on the case.

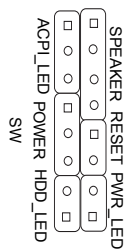
Power LED Connector (PWR_LED)

When the system is in S0 status, the LED is on. When the system is in S1 status, the LED is blink; When the system is in S3,S4, S5 status, the LED is off. The connector has an orientation.

ACPI LED Connector (ACPI_LED)

The ACPI LED is a dual-color light with three pins. Pin1and Pin2 drive different color lights. If Pin1 drives the orange light , then, Pin2 drives the green light, the following status will come out. When the system is in S0 status, the LED is green on. When the system is in S1 status, the LED is green blink. When the system is in S3 status, the LED is orange on. When the system is in S4, S5 status, the LED is off.

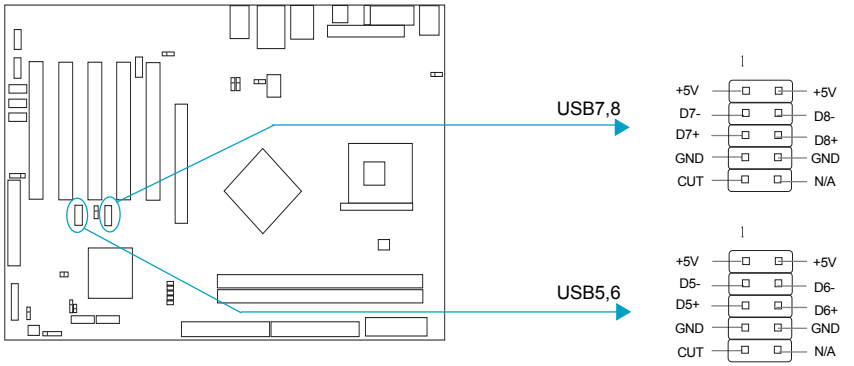




ACPI_LED	ORANGE(-)	VCC	SPEAKER
	GREEN(-)	GND	
	LED+(VCC)	NC	
	CUT	SPKDATA	
POWER SW	GND	RESET	RESET
	POWER	GND	
HDD LED	HDD LED(-)	LED-	PWR_LED
	HDD LED(+)	LED+	

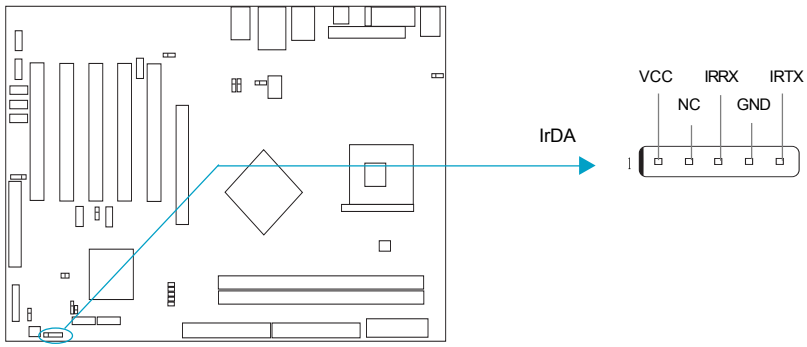
USB5,6; USB7,8

Besides USB1,2,3,4 on the back panel, P4I848P series of mainboards also have two 8-pin headers on board which may connect to front panel USB cable(optional) to provide additional four USB ports.



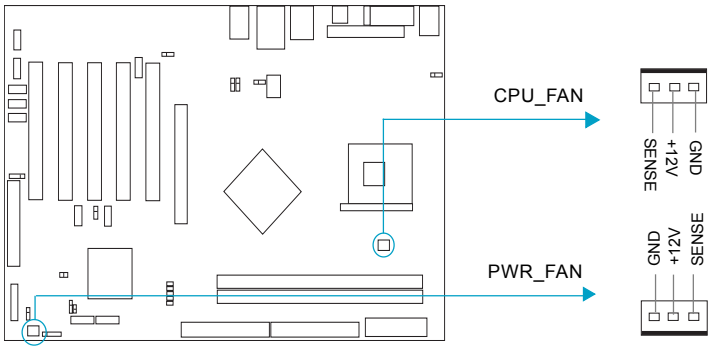
Infrared Header (IrDA)

This connector supports wireless transmitting and receiving device. Before using this function, configure the settings for IR Address, IR Mode and IR IRQ from the “INTEGRATED PERIPHERALS” section of the CMOS SETUP.



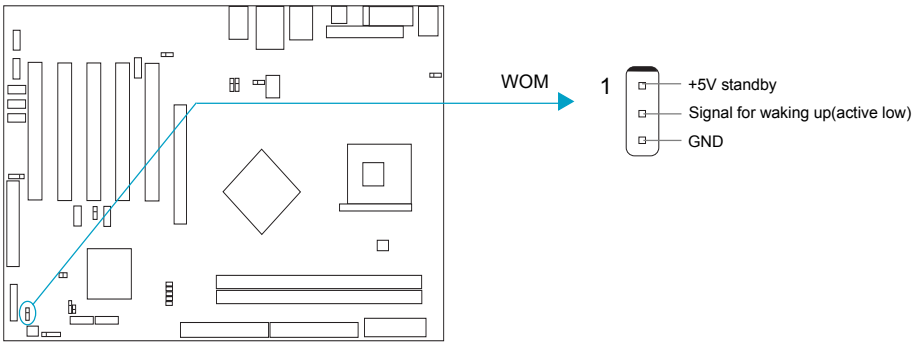
Fan Connectors (PWR_FAN, CPU_FAN)

The fan speed of these three fans can be detected and viewed in “PC Health” section of the CMOS SETUP.



Wake-Up On Internal Modem (WOM)

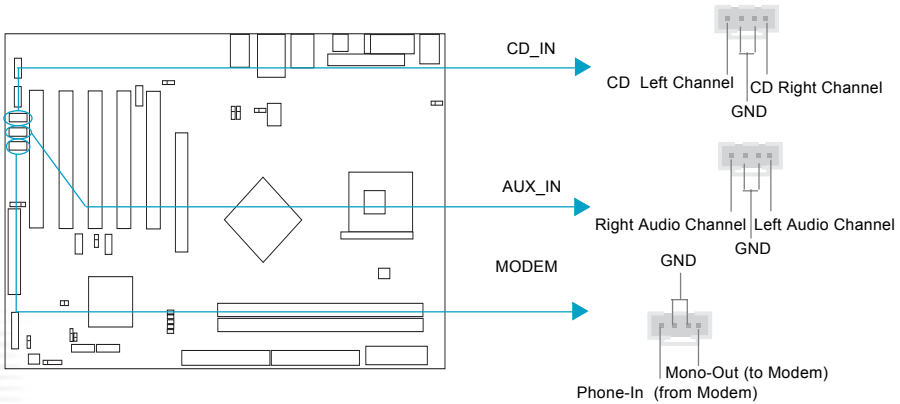
Through this function, the system which is in the suspend or soft-off status can be waked up by a ring signal received from the internal modem. When this function is used, be sure an internal modem card which supports this function is used. Then connect this header to the relevant connector on the modem card, set “Power on by Ring/LAN” as Enabled in the “Power Management Setup” section of the CMOS SETUP. Save and exit, then boot the operating system once to make sure this function takes effect.



Audio Connectors (CD_IN, AUX_IN, MODEM)

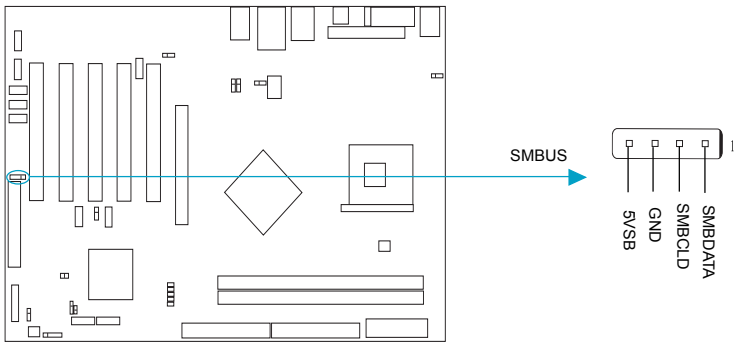
(Available on -6A mainboard)

CD IN is Sony standard CD audio connector, it can be connected to a CD-ROM drive through a CD audio cable. AUX IN allow you to receive stereo audio input from sound sources such as a TV tuner, or MPEG card. The MODEM connector allows the onboard audio to interface with a voice modem card with a similar connector. It allows connecting the mono in (such as a phone) or mono out (such as a speaker) between the onboard audio and the voice modem card.



4-pin SMBus Connector(SMBUS)

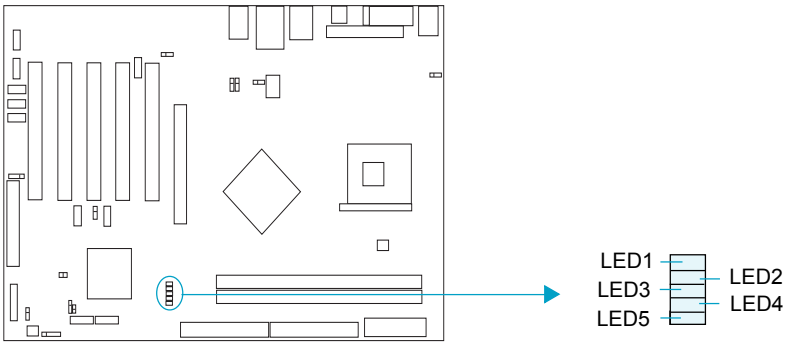
This connector allows you to connect SMBus devices. SMBus devices communicate through the SMBus with a SMBus host and/or other SMBus devices. The SMBus or System Management Bus is a specific implementation of I^2C bus, which is a multi-master bus, that is, multiple devices can be connected to the same bus and each one can act as a master by initiating data transfer.



Diagnosis LED(Optional)

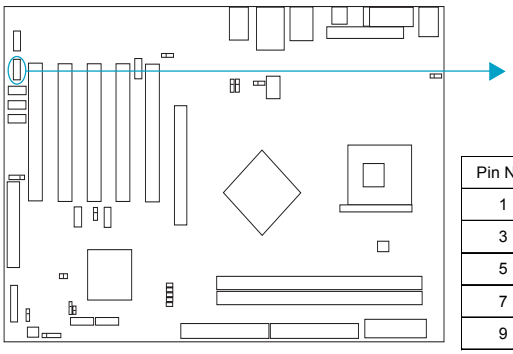
During the POST , the LED1~LED5 representing POST steps will light up in turn. During the POST,If use the CPU of Hyper-Threading and Hyper-Threading is enable in the BIOS,the LEDs will light up in turn, then blink together. please refer to the following table to learn the POST status:

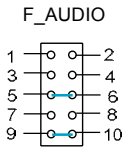
LED1	LED2	LED3	LED4	LED5	status
blink	off	off	off	off	CPU damaged , BIOS chip absent or damaged
on	off	off	off	off	system detect CPU and initialize chipset
off	on	off	off	off	system detect memory
off	off	on	off	off	system initialize PCI
off	off	off	on	off	system initialize clockgen
off	off	off	off	on	system detect Video and invoke Video BIOS
on	on	on	on	on	Hyper-Threading OK



Front Audio Interface(F_Audio)

The audio interface provides two kinds of audio output choices: the FrontAudio, the RearAudio. Their priority level is as sequence. When the FrontAudio is available, the RearAudio will be cut off. An onboard amplifier is provided for the earphone. When the FrontAudio is absent, Pin9 and Pin10, Pin5 and Pin6 must be short connected.

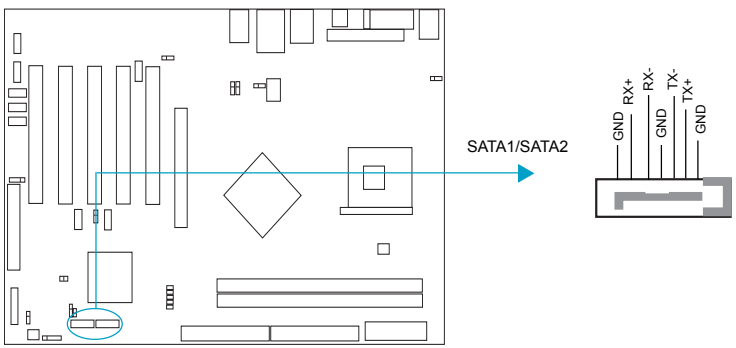




Pin No.	Symbol	Pin No.	Symbol
1	AUD_MIC	2	AUD_GND
3	AUD_MIC_BIAS	4	ADU_VCC
5	AUD_FPOUT_R	6	AUD_RET_R
7	NC	8	(Cut away)
9	AUD_FPOUT_L	10	AUD_RET_L

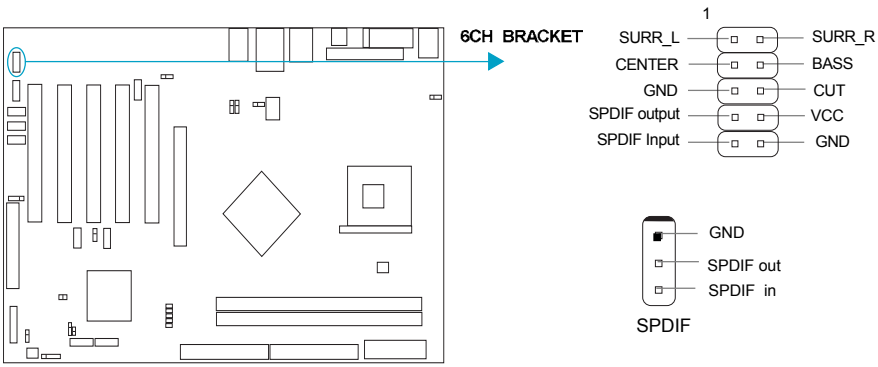
Onboard SATA

The mainboard provides two Serial ATA connectors, SATA is a storage interface that is compliant with SATA 1.0 Specification. With speed of up to 150Mbps. you can connect Serial ATA cable to Serial ATA hard disk.



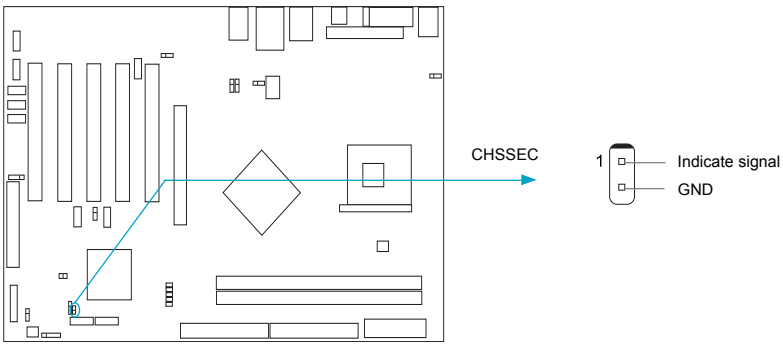
6CH-BRACKET Connector(optional)

The SPDIF input allow your digital audio input from digital audio devices.(optional) The 6CH_BRACKET output is capable of providing digital audio data or compressed AC3 data to an external Dolby digital decoder.



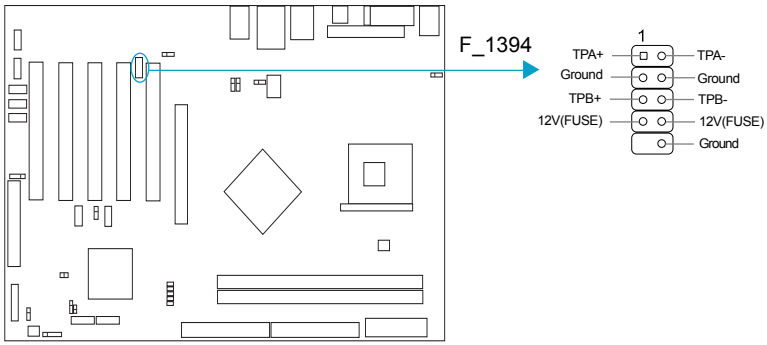
Chassis Security Switch (CHSSEC)

The connector connects to the chassis security switch on the case. The system can detect the chassis intrusion through the status of this connector. If the connector has been closed once, the system will record the status and indicate the chassis has been opened. You can monitor or check this information from some software.



Front IEEE 1394 port(F_1394)

Besides one 1394 port on the back panel, the mainboard also have one 10-pin headers on board to provide additional IEEE 1394 port.



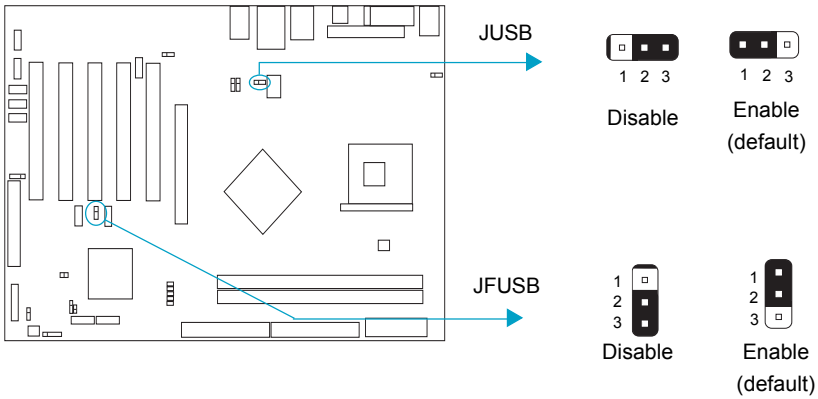
Jumper Settings

Jumpers are located on the mainboard, the clear CMOS jumper CLR_CMOS, enable keyboard password power-on function jumper JKB etc. Pin 1 for all jumpers are located on the side with a thick white line (Pin1→ ), referring to the mainboard's silkscreen. Jumpers with three pins will be shown as  to represent pin1 & pin2 ("1-2") closed and  to represent pin2 & pin3 ("2-3") closed.

Jumper	Symbol	Description	Represent
		1–2	set pin1 and pin2 closed
		2–3	set pin2 and pin3 closed
		close	set the pins closed
		open	set the pins opened

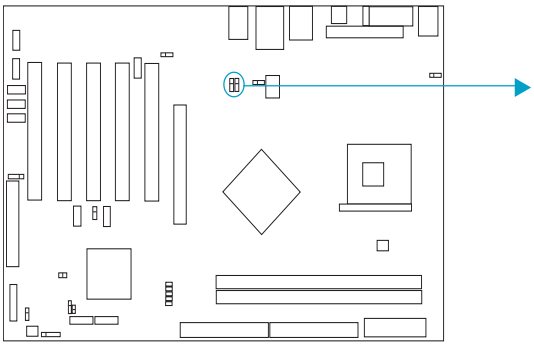
Enable Front/Back Panel USB Device Wake-up Function (JFUSB/JUSB) (optional)

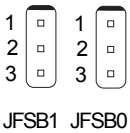
The mainboard provides the advanced USB device wake-up function. The system can be waked up from its power saving status including ACPI S3 by activating USB device. Before using this function, set JFUSB/JUSB with pin1 & pin2 closed. Otherwise, set JFUSB/JUSB with pin2 & pin3 closed for disabling. Furthermore, the item "Wake-Up From S3 by USB"in Power Management Setup should also be set correspondingly to enable or disable this function.



Overclocking Jumper Setting (JFSB0,JFSB1)(optional)

Jumpers JFSB0 and JFSB1 provides users with CPU overclocking feature. The host bus speed can be set as 100x4/133x4/166x4/200x4MHz or AUTO. If CPU FSB(front side bus) is set as auto, the system detects the CPU FSB automatically. The table below is for your reference.





FSB	AUTO	100MHz	133 MHz	166 MHz	200 MHz
JFSB0	1-2	2-3	OPEN	OPEN	2-3
JFSB1	1-2	2-3	2-3	OPEN	OPEN

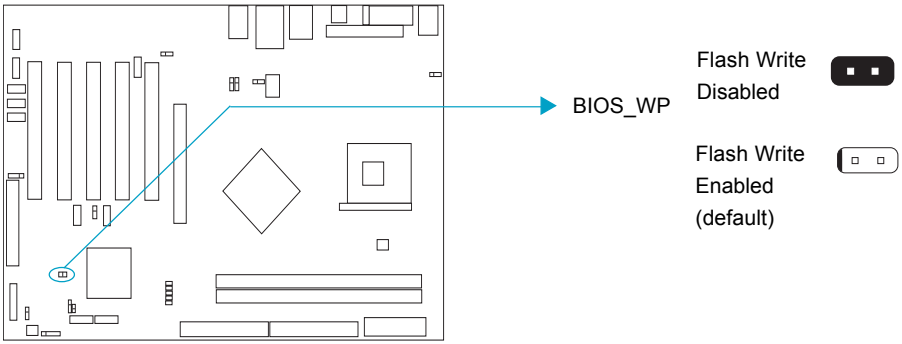
"1-2": pin1 & pin2 closed "2-3": pin2 & pin3 closed OPEN: all pins opened

Whether or not your system can be overclocked depends on the capability of your processor and memory. Whether the processor is bus ratio locked or unlocked should also be taken into account. For bus ratio unlocked processor, this overclocking feature can be implemented by setting FSB as 100x4/133x4/166x4/200x4MHz, meanwhile adjusting the bus ratio (multiplier) in "QDI Innovation features" in AWARD BIOS CMOS Setup and memorry.

Warning: Be sure your selection is right. CPU over speeding is dangerous! We will not be responsible for any damages caused.

BIOS-Protection Jumper (BIOS_WP)

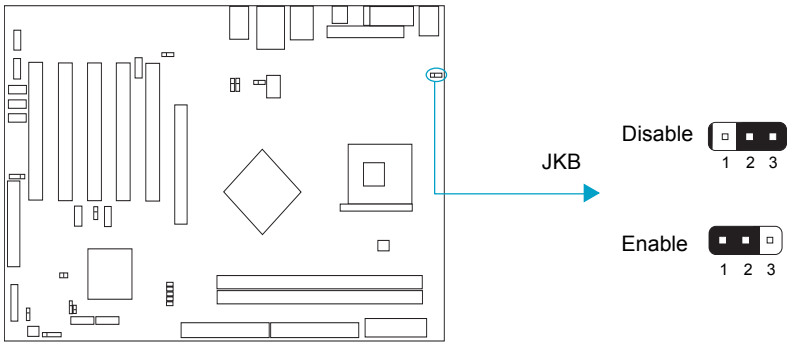
The BIOS of the mainboard is inside the FWH. If the jumper BIOS_WP is set as closed, the system BIOS is protected from being attacked by serious virus such as CIH virus, you will be unable to flash the BIOS to the mainboard in this status.



The DMI (Desktop Management Interface) system information such as the CPU type/speed, memory size, and expansion cards will be detected by the onboard BIOS and stored in the flash ROM. Whenever the system hardware configuration is changed, DMI information will be updated automatically. However, setting jumper BIOS_WP as closed makes flashing BIOS and updating DMI information impossible. Therefore, set BIOS_WP as open when changing the system hardware configuration, or the error message “Unknown Flash Type” will be displayed on the screen, and DMI information may not be updated.

Enable keyboard password power-on function (JKB)

The mainboard provides the advanced keyboard password power-on function. Before using this function, set JKB with pin1 & pin2 closed. Otherwise, set JKB with pin2 & pin3 closed for disabling.



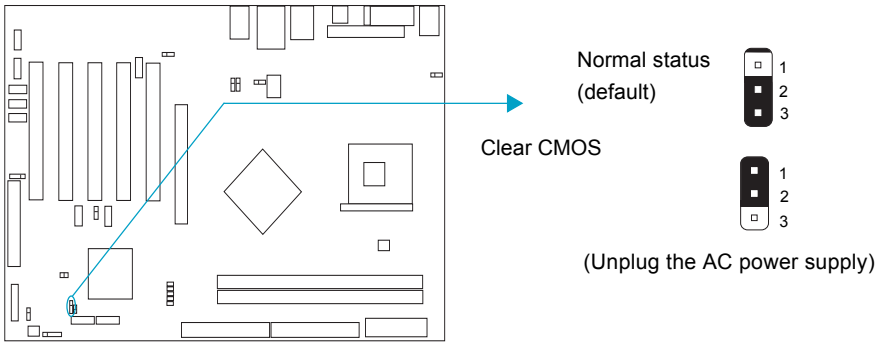
Furthermore in order to implement this function, set “POWER ON Function” to “Password” and enter the keyboard power-on password in the “INTEGRATED PERIPHERALS” section of the CMOS SETUP. Save and exit, then power off your system. In this case, the power button’s power-on function is disabled.

Note:

1. If using this function, 5VSB line of the power supply should be capable of delivering enough current for all the devices con nected to the keyboard port, if not, you will be unable to power up the system using the keyboard.
2. If you set JKB with pin2 & pin3 closed, set “POWER ON Func tion” to BUTTON ONLY, don’t set it to Password, or you’ll be unable to power up your system by the keyboard or the power button.
3. If you encounter the above problems, clear CMOS and set the jumper pin2 and pin3 closed to disable the function,them power on the system by pushing the power button,and set “power on Fuction” back to “Button Only”.

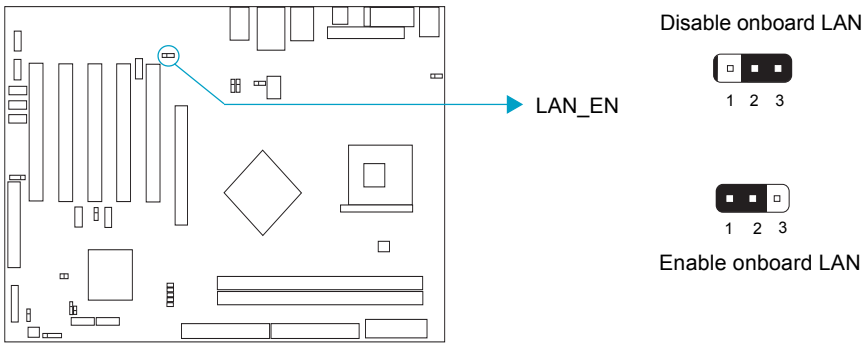
Clear CMOS (CLR_CMOS)

If you want to clear CMOS, unplug the AC power supply first, close CLR_CMOS (pin1 & pin2) once, set CLR_CMOS back to the normal status with pin2 & pin3 connected, then power on the system.



Onboard LAN (LAN_EN)

If you want to use the onboard LAN, set LAN_EN with pin1&pin2 closed, Otherwise, set LAN_EN with pin2&pin3 closed for disable this fuction.



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Chapter 3

BIOS Description

The mainboard uses AWARD BIOS Setup program that provides a Setup utility for users to modify the basic system configuration. The information is stored in CMOS RAM so it retains the Setup information when the power is turned off. This chapter provides you with the overview of the BIOS Setup.

AWDFLASH.EXE

This is a flash memory write/read utility used for the purpose of upgrading your BIOS when necessary. Before doing so, please note:

- **We strongly recommend you only upgrade BIOS when encounter problems.**
- **Before upgrading your BIOS, review the description below to avoid making mistakes, destroying the BIOS and resulting in a non-working system.**

When you encounter problems, for example, you find your system does not support the latest CPU released after our current mainboard, you may therefore upgrade the BIOS, please don't forget to set BIOS_WP as open and disable the "Flash Write Protect" item in AWARD BIOS CMOS Setup first .

Follow the steps exactly for a successful upgrade.

1. Create a bootable system floppy diskette by typing Format A:/s from the DOS prompt under DOS6.xx or Windows 9x environment.
2. Copy AWDFLASH.EXE(version>=8.24q) from the directory \Utility located on QDI Driver CD to your new bootable diskette.
3. Download the updated BIOS file from the Website (http://www.qdigrp.com). Please be sure to download the suitable BIOS file for your motherboard.
4. Decompress the file download, copy the BIOS file (xx.bin) to the bootable diskette, and note the checksum of this BIOS which is located in readme file.
5. Reboot the system from the bootable diskette created.
6. Then run the AWDFLASH utility at the A:\ prompt as shown below:

   A:\AWDFLASH xxxx.bin

   Follow the instruction through the process. Don't turn off power or reset the system until the BIOS upgrade has been completed.

If you require more detailed information concerning AWDFLASH Utility, for example, the different usage of parameters, please type A:\>AWDFLASH /?

Note: Because the BIOS Software will be updated constantly, the following BIOS screens and descriptions are for reference purposes only and may not reflect your BIOS screens exactly.

AWARD BIOS Description

Entering Setup

Power on the computer, when the following message briefly appears at the bottom of the screen during the POST (Power On Self Test), press <Del> key to enter the AWARD BIOS CMOS Setup Utility.

Press <Del> to enter SETUP

When you have entered, the Main Menu (Figure 1) appears on the screen. Use the arrow keys to select among the items and press the <Enter> key to accept or enter the sub-menu.

Figure-1 Main Menu

Load Optimized Defaults

The Optimized Defaults are common and efficient. It is recommended users load the optimized defaults first, then modify the needed configuration settings.

Standard CMOS Features Setup

The basic CMOS settings included in “Standard CMOS Features” are Date, Time, Hard Disk Drive Types, Floppy Disk Drive Types, and VGA etc. Use the arrow keys to highlight the item, then use the <PgUp> or <PgDn> keys to select the value desired in each item.

Figure-2 Standard CMOS Setup Menu

For the items marked, press enter, a window will pop up as shown below. You can view detailed information or make modifications.

Figure-2-1 IDE Primary Master Setup Menu

Hard Disk

Primary Master/Primary Slave/Secondary Master/Secondary Slave

These categories identify the HDD types of 2 IDE channels installed in the computer system. There are three choices provided for the Enhanced IDE BIOS: None, Auto, and Manual. 'None' means no HDD is installed or set; 'Auto' means the system can auto-detect the hard disk when booting up; by choosing 'Manual', the related information should be entered regarding the following items. Enter the information directly from the keyboard and press < Enter>:

CYLS	number of cylinders	HEAD	number of heads
PRECOMP	write pre-compensation	LANDZ	landing zone
SECTOR	number of sectors	MODE	HDD access mode

The Award BIOS supports 3 HDD modes: CHS, LBA and LARGE.

CHS

Generic access mode in which neither the BIOS nor the IDE controller will make any transformation during accessing. The maximum number of cylinders, heads and sectors for CHS mode are 1024,16 and 63.

If the user sets his HDD to CHS mode, the maximum accessible HDD size will be 528 megabytes even though its physical size may be greater than that.

LBA (Logical Block Addressing) mode

A new HDD accessing method to overcome the 528 Megabyte bottleneck. The number of cylinders, heads and sectors shown in setup may not be the number physically contained in the HDD.

During HDD accessing, the IDE controller will transform the logical address described by sector, head and cylinder number into its own physical address inside the HDD.

LARGE mode

Some IDE HDDs contain more than 1024 cylinder without LBA support (in some cases, users do not want LBA). The Award BIOS provides another alternative to support these kinds of HDD.

BIOS tricks DOS (or other OS) into divising the number of cylinders is less than 1024 by dividing it by 2. At the same time, the number of heads is multiplied by 2. A reverse transformation process will be made inside INT13h in order to access the right HDD address.

If using Auto detect, the BIOS will automatically detect the IDE hard disk mode and set it as one of the three modes.

Remark

To support LBA or LARGE mode of HDDs, there must be some softwares involved which are located in Award HDD Service Routine(INT13h).It may fail to access a HDD with LBA (LARGE) mode selected if you are running under an Operating System which replaces the whole INT 13h.

Video

Set this field to the type of video display card installed in your system.

EGA/ VGA	Enhanced Graphics Adapter / Video Graphic Array. For EGA, VGA, SEGA, SVGA or PGA monitor adapters.
CGA 40	Color Graphic Adapter, powering up in 40 column mode.
CGA 80	Color Graphic Adapter, powering up in 80 column mode.
MONO	Monochrome adapter, including high resolution monochrome adapters.

Halt On

This category determines whether or not the computer will stop if an error is detected during powering up.

No errors	The system boot will not stop for any errors detected.
All errors	Whenever the BIOS detects a non-fatal error, the system will stop and you will be prompted.
All, But Keyboard	The system boot will not stop for a keyboard error; but it will stop for all other errors.
All, But Diskette	The system boot will not stop for a disk error; but it will stop for all other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error, but it will stop for all other errors.

Memory

This is a Display-Only Category, determined by POST (Power On Self Test) of the BIOS.

Base Memory	The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.
Extended Memory	The BIOS determines how much extended memory is presented during the POST.
Total Memory	Total memory of the system.

QDI Innovation Features

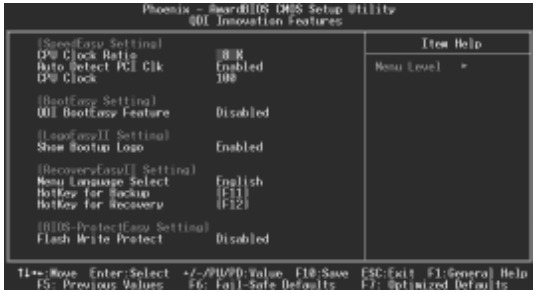


Figure-3 QDI Innovation features Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
[SpeedEasy setting]		
◦ CPU Clock Ratio	*Min=8* *Max=50*	Select the multiplication of processor core frequency. If a Ratio locked processor is installed, this item will be hidden. This item is only for users understanding all the CPU parameters.
◦ Auto Detect PCI Clk	*Enabled* *Disabled*	Close empty PCI clock to reduce EMI. Do not close empty PCI clock.
◦ CPU Clock	*Min=100* *Max=165*	Set CPU frequency.
[BootEasy setting]		
◦ QDI BootEasy feature	*Enabled* *Disabled*	PC boot in rapid speed, without any redunant feature waiting for the displaying of starting OS. PC boot in the legacy BIOS way.
[LogoEasyII setting]		
◦ Show Bootup Logo	*Enabled* *Disabled*	The EPA logo can be shown when system boots show up. Close this function.

[RecoveryEasyII setting]

Menu language Select	*English* *Chinese*	Select RecoveryEasyII Interface Menu language.
Hotkey for Backup/Recovery	*NULL*	Backup/Recovery interface can not be used by Pressing Hotkey.
	F2~F12	Select Hotkey to enter Backup/Recovery interface during POST.

[BIOS-protectEasy setting]

Flash Write Protect	*Enabled* *Disabled*	This option is for protecting the system BIOS, when enabled, writing to BIOS area is to be discarded.

Warning:

Be sure your selection is right. CPU over speed will be dangerous! We will not be responsible for any damages caused.

Advanced BIOS Features Setup

Figure-4 Advanced BIOS Features Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
Hard Disk Boot Priority	*Press Enter*	Press Enter to set Hard Disk Boot Priority.
CPU L1&L2 Cache	*Enabled* *Disabled*	Enable CPU L1/L2 cache. Disable CPU L1/L2 cache.
Hyper-Threading Technology	*Enabled* *Disabled*	Enable Hyper-Threading. Disabled Hyper-Threading.
Quick Power On Self Test	*Enabled* *Disabled*	Allow the system to skip certain tests while booting. This will decrease the time needed to boot the system. Normal POST.
First (Second, Third) Boot Device Boot Other Device	*Disabled* *Floppy* *LAN*	Select Your Boot Device Priority. It could be Disabled, Floppy, LS200, Hard Disk, CDROM, ZIP100, USB-FDD, USB-ZIP,USB-CDROM,LAN
Swap Floppy Drive	*Enabled* *Disabled*	If the system has two floppy drives, choose enable to assign physical drive B to logical drive Aand vice-versa.
Boot Up Floppy Seek	*Enabled* *Disabled*	Tests floppy drives to determine whether they have 40 or 80 tracks.

Boot Up NumLock Status	*On* *Off*	Keypad is used as number keys. Keypad is used as arrow keys.
Gate A20 Option	*Normal* *Fast*	The A20 signal is controlled by the keyboard controller. The A20 signal is controlled by Port92.
Typematic Rate Setting	*Enabled* *Disabled*	Keystrokes repeat at a rate determined by the keyboard controller - when enabled, the typematic -ate and typematic delay can be selected.
Typematic Rate (chars/sec)	*6-30*	The rate at which character repeats when you hold down a key.
Typematic Delay (Msec)	*250-1000*	The delay before keystrokes begin to repeat.
Security Option	*Setup* *System*	Select whether the password is required every time the system boot or only when you enter setup.
APIC Mode	*Enabled* *Disabled*	Enable the APIC mode(Advanced Programmable Interrupt Controller). Disabled the APIC mode.
MPS Version Control for OS	*1.1/1.4*	Set the MPS Version Control for OS
OS Select For DRAM>64MB	*Non-OS2* *OS2*	Select OS2 only if you are running OS/2 operating system with more than 64MB of RAM.
HDD S.M.A.R.T. Capability	*Enabled* *Disabled*	Enable hard disk S.M.A.R.T. support. Invalidate this feature.
Report NO FDD for WIN 95	*Yes* *No*	Report NO Floppy Disk Drive for WIN 95 to release IRQ6. Do not report No Floppy Disk Drive for WIN 95.

Advanced Chipset Features Setup

Figure-5 Advanced Chipset Features Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
DRAM Timing Selectable	*Manual* *By SPD*	DRAM timing is defined by user. DRAM timing is defined by SPD.
CAS Latency Time	*2~3*	Set CAS latency time.
Active to Precharge Delay	*5,6,7,8*	Set precharge delay time.
DRAM RAS# to CAS# Delay	*2,3,4*	Set DRAM RAS# to CAS# delay 2 SCLKs,3 SCLKs or 4 SCLKs.
DRAM RAS#Precharge	*2,3,4*	Set DRAM RAS# precharge as 2,3 or 4.
Memory Frequency For	*Auto* *DDR266* *DDR320* *DDR333* *DDR400*	Set Memory Frequency

System BIOS Cacheable	*Enabled*	Besides conventional memory, the system BIOS area is also cacheable.
	Disabled	System BIOS area is not cacheable.
Video BIOS Cacheable	*Enabled*	Besides conventional memory, video BIOS area is also cacheable.
	Disabled	Video BIOS area is not cacheable.
Memory hole at 15M-16M	*Enabled*	Memory hole at 15-16M is reserved for expanded ISA card.
	Disabled	Do not set this memory hole.
Delay Prior to thermal	*4/8/16Min 32Min*	Setting time for CPU automatically enters thermal mode
AGP Aperture Size	*4/8/16/32 64/128 256MB*	Set the effective size of the Graphics Aperture to be used in the particular GART Configuration.
Init Display First	*PCI Slot*	Initialize the PCI VGA first.
	Onboard/AGP	Initialize the onboard/AGP first.

Power Management Setup

Figure-6 Power Management Setup Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
ACPI function	*Enabled*	Enable ACPI function.
ACPI Suspend Type	*S1(POS)* *S3(STR)* *S1&S3*	Select the ACPI suspend type.
Run VGABIOS if S3 Resume	*Auto* *Yes/No*	Select to Run VGABIOS after the system be waked up.
Power Management	*User Define*	Users can configure their own Power Management Timer.
	Min Saving	Pre - defined timer values are used. All timers are in their MAX values.
	Max Saving	Pre - defined timer values are used. All timers are in their MIN values.
Video Off Method	*Blank Screen*	The system BIOS will only blank off the screen when disabling video.
	V / H SYNC + Blank DPMS	In addition to Blank Screen, BIOS will also turn off the V-SYNC & H - SYNC signals from VGA card to monitor. This function is enabled only for VGA cards supporting DPMS. **Note: When the green monitor does not detect the V/H-SYNC signals, the electron gun will be turned off.**

Video Off In Suspend	*Yes*	The system will disable video when entering suspend mode.
	No	Do not turn off video when entering suspend mode.
Suspend Type	*Stop Grant*	Select the Suspend type.
	PwrOn Suspend	
MODEM Use IRQ	*3,4,5,7,9,10,11*	Special Wake-up event for Modem.
	NA	This function is not applied.
Suspend Mode	*Disabled*	The system never enter Suspend mode by timer.
	1Min ~ 1Hour	Define the continuous idle time before the system enters Suspend mode. If any items defined in “PM Events” are on and activated, the system will be woken up.
HDD Power Down	*Disabled*	HDD’s motor will not be off by timer.
	1 - 15 Min	Define the continuous HDD idle time before the HDD enters power saving mode (motor off).
Soft-Off by PWR-BTTN	*Instant-Off*	The system will immediately power off once the power button is pressed.
	Delay 4 sec	The system will power off when power button is pressec for 4 seconds.
CPU THRM-Throttling	*12.5%, 25%, 37.5%, 50%, 62.5%, 75%, 87.5%*	Select the duty cycle of the STPCLK signal, slowing down. the CPU speed when the system enters green mode.
Wake-Up by PCI card	*Enabled*	Allow the system to be waked up by PCI card.
	Disabled	Do not allow the system to be powered on by PCI card.
Power on by Ring	*Enabled*	Allow the system to be powered on when a Ring indicator signal comes up to COM1 or COM2 from external modem
	Disabled	Do not allow Ring wake up.

USB KB Wake Up From S3	*Enabled*	The system could be waked up by USB devices from the S3 status.
	Disabled	The system cannot be waked up by USB devices from the S3 status.
Resume by Alarm	*Enabled*	RTC alarm can be used to generate a wake-up event to power up the system.
	Disabled	RTC has no alarm function.
Date(of Month) Alarm		Sets the date of RTC.
Time Alarm		Sets the resume time of RTC.
Primary/Secondary IDE 0/1	*Enabled*	Reload global timer, when there's an IDE event.
	Disabled	Do not reload global timer.
FDD/COM/LPT Port	*Enabled*	Reload global timer, when there's a FDD/COM/LPT event.
	Disabled	Do not reload global timer.
PCI PIRQ[A - D] #	*Enabled*	Reload global timer, when there's a PCI event.
	Disabled	Do not reload global timer.

PNP/PCI Configurations Setup

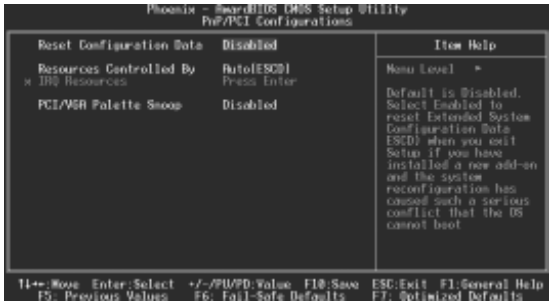


Figure-7 PNP/PCI Configurations Setup Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
Reset Configuration Data	*Enabled*	The system BIOS will reset configuration data once then automatically set this item as disabled.
	Disabled	Disable this function.
Resources Controlled By	*Manual*	Assign the system resources manually.
	Auto(ESCD)	Assign system resources automatically by BIOS.
PCI/VGA Palette Snoop	*Enabled*	Enable PCI/VGA Palette Snoop.
	Disabled	Disable PCI/VGA Palette Snoop.

Integrated Peripherals

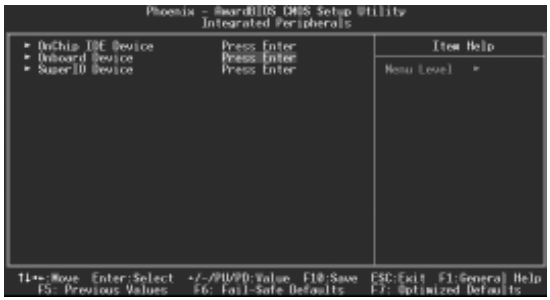


Figure-8 Integrated Peripherals Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
OnChip IDE Device[Press Enter]		
◦ IDE HDD Block Mode	*Enabled*	Allow IDE HDD to read/write several sectors once.
	Disabled	IDE HDD only reads/writes a sector once.
◦ IDE DMA transfer access	*Enabled*	IDE DMA transfer access is enabled.
	Disabled	IDE DMA transfer access is disabled.
◦ On-Chip Primary/ Secondary PCI IDE	*Enabled*	On-Chip Primary/Secondary PCI IDE is enabled.
	Disabled	On-Chip Primary/Secondary PCI IDE is disabled.
◦ IDE Primary/ Secondary Master/Slave PIO	*Mode 0 - 4*	Define the IDE primary/secondary master/slave PIO mode.
	Auto	The IDE PIO mode is defined by auto -detection.

*** On-Chip Serial ATA Setting ***

On-Chip Serial ATA	*Auto*	The Serial ATA is enabled.
	Combined Mode	
	Enhanced Mode	
	SATA Only	
	Disabled	Disable this function.
Serial ATA Port0/Port1 Mode	*Primary Master*	Set SATA Port0/1 Mode as PrimaryMaster/Slave, Secondary Master/Slave,SATA0/SATA1 master.

Onboard Device[Press Enter]

USB/USB2.0 Controller	*Enabled*	Enable onchip USB controller.
	Disabled	Disable onchip USB controller.
USB Keyboard/ Mouse Support	*Enabled*	Support USB Keyboard under legacy OS.
	Disabled	Do not support USB Keyboard under legacy OS.
AC97 Audio	*Auto*	If audio codec was installed on board, the AC97 Audio function can be used. otherwise, the function is disabled.
	Disabled	Disable the AC97 Audio onboard.
AC97 Modem	*Auto*	If modem codec was installed on board, the AC97 modem function can be used. otherwise, the function is disabled.
	Disabled	Disable the AC97 Modem onboard.

SuperIO Device[Press Enter]

Power On Function	*Button only*	Power on by power button.
	Password	Power on with keyboard password.
KB Power ON Password	*Enter*	Enter keyboard password.
Onboard FDC Controller	*Enabled*	Onboard floppy disk controller is enabled.
	Disabled	Onboard floppy disk controller is disabled.

Onboard Serial Port 1/2	*3F8/IRQ4* *2F8/IRQ3* *3E8/IRQ4* *2E8/IRQ3* *Auto* *Disabled*	Define the onboard serial port address and required interrupt number. Onboard serial port address and IRQ are automatically assigned. Onboard serial port is disabled.
UART Mode Select	*Normal, IrDA* *ASKIR*	Set UART mode.
RxD, TxD Active	*Hi, Lo/Lo, Hi* *Lo, Lo/ Hi, Hi*	Default is recommended.
IR Transmission Delay	*Enabled* *Disabled*	Enable IR Transmission delay function. Disable IR Transmission delay function.
UR2 Duplex Mode	*Half* *Full*	Default is recommended.
Use IR Pins	*IR-Rx2Tx2* *RxD2, TxD2*	Default is recommended.
Onboard Parallel Port	*378/IRQ7* *278/IRQ5* *3BC/IRQ7* *Disabled*	Define parallel port address and IRQ channel. Onboard parallel port is disabled.
Parallel Port Mode	*SPP* *EPP* *ECP* *ECP+EPP* *Normal*	Define the parallel port mode.
EPP Mode Select	*EPP1.7* *EPP1.9*	Set EPP Mode as EPP 1.7 or EPP1.9 Version.
ECP Mode Use DMA	*3* *1*	Set ECP Mode Use DMA 1 or 3.

PWRON After PWR-Fail	*OFF,ON Former-Sts*	The system remains OFF/ON/Former state when the AC power supply resumes.

PC Health Status

Figure-9 PC Health Status Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
CPU Warning Temperature	*50°C/122°F* *53°C/127°F* *56°C/133°F* *60°C/140°F* *63°C/145°F* *66°C/151°F* *70°C/158°F* 75°C/167°F *80°C/176°F* *85°C/185°F* *90°C/194°F* *95°C/205°F* *Disabled*	An alarm will beep when the CPU temperature reaches the previous setting, 50°C/122°F, 53°C/127°F,56°C/133°F, 60°C/140°F, 63°C/145°F, 66°C/151°F,70°C/158°F, 75°C/167°F, 80°C/176°F, 85°C/185°F,90°C/194°F, 95°C/205°F. No alarm beep.
Current System Temp.		The temperature inside the chassis.
Current CPU Temperature		The temperature of CPU.

• Current PWRFAN Speed • Current CPUFAN Speed		RPM (Revolution Per Minute) Speed of fan which is connected to the fan header, CPUFAN or PWRFAN. Fan speed value is based on an assumption that tachometer signal is two pulses per revolution. In other cases, you should regard it relatively.
• Vcore(CPU) Voltage, +3.3V +5 V +12 V -12 V VBAT Voltage 5V Standby Voltage		Display current voltage value including all significant voltages of the mainboard. +3.3V, +5V, +12V, -12V are voltages from the power supply. Vcore (CPU) Voltage is the CPU core voltage from the on board switching Power Supply. The VBAT Voltage is the voltage of battery.
• Shutdown Temperature	*60°C/140°F* *65°C/149°F* *70°C/158°F* 75°C/167°F *Disabled*	The system will shut down automatically under the ACPI OS when the CPU temperature reaches the previous setting. The system remains on regardless of how much the CPU temperature is.

Password Setting

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.

ENTER PASSWORD

Type the password, up to eight characters, and press <Enter>. The password typed 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.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter BIOS Setup freely.

PASSWORD DISABLED

If you have selected "**System**" in "Security Option" of "BIOS Features Setup" menu, you will be prompted for the password every time the system reboots or any time you try to enter BIOS Setup.

If you have selected "**Setup**" at "Security Option" from "BIOS Features Setup" menu, you will be prompted for the password only when you enter BIOS Setup.

Supervisor Password has higher priority than User Password. You can use Supervisor Password when booting the system or entering BIOS Setup to modify all settings. Also you can use User Password when booting the system or entering BIOS Setup but can not modify any setting if Supervisor Password is enabled.

Boot with BIOS defaults

If you have made all the changes to CMOS values and the system can not boot with the CMOS values selected in setup, clear CMOS after power-down, then power on again. System will boot with BIOS default settings.

Appendix

QDI Utility CD

A QDI Utility CD is supplied with this mainboard, the contents contained in it are showed as below:

1. Driver Install

Using this choice, you can install all the drivers for your mainboard . You should install the drivers in order, and you need to restart your computer until all the drivers are installed.

A. Chipset software
B. Network Driver(optional)
C. Audio Driver(optional)
D. USB2.0 Driver(optional)
E. DirecrX
F. IAA Setup

2. Accessory

A. Norton AntiVirus 2003
B. QFlashV1.0

3. Browse CD

You could read all the contents contained in this CD, including Utility and Documents.
The files included in Utility are:

A. Awdflash.exe
B. Cblogo.exe
C. Lf.exe

The files included in Documents are:

A. Adobe Acrobat Reader V5.0

Norton AntiVirus

When you install Norton AntiVirus and accept options, your computer is safe. Norton AntiVirus automatically checks boot records for viruses at system startup, checks programs for viruses at the time you use them, scans all local hard drives for viruses once per week, and monitors your computer for any activity that might indicate the work of a virus in action. It also scans files you download from the internet and checks floppy disks for boot viruses when you use them.
The list below shows the most important tasks Norton AntiVirus helps you perform:Scan for viruses on your computer;Remove viruses from your computer;Update your virus protection with LiveUpdate;Quarantine an infected file. you can go to the Symantec Web site to view an online tutorial: http://www.symantec.com/techsupp/tutorial

LogoEasy II

Thank you for using QDI upgraded innovation--- LogoEasy II, which is completely compatible with LOGOEASY. LOGOEASY II can be easily operated in a Windows environment, following in steps with the trend. It has added the functions of supporting JPEG images and true color display of 64K and 16M colors with regard to JPEG-format graphics files and the high-precision display equipment, which are now widely used.

LOGOEASY II supports the high-resolution 640x480 or 800x600 image display and full-screen, top right corner or bottom right corner display. It also supports simultaneous display of logo and sign-on message of the BIOS testing system. LOGOEASY II is a tool that can be operated in multi-platforms to refresh and change LOGO graphics including DOS, WINDOWS 9X, WINDOWS NT, WINDOWS ME and WINDOWS XP. In particular, the tools under the interface of WINDOWS are simple and easy to operate. It teaches you by taking your hand how to change LOGO.

ITEM		LogoEasy II	LogoEasy
Colors	16 colors	not support	not support
	256 colors	support	support
	16M colors	support	not support
Resolution	640*480	support	support
	800*600	support	not support
Display Self-test message at the same time		support	support
Full Screen Logo		support	support
Display logo on corners		support	support

When you power on or reset your system, the picture shown below will be displayed on the screen.

You can use "**LogoEasy II**" to replace it by any other logo which you want.

We provide two Utilities in the QDI Driver CD , which bring user the following two means to select:

A. Using CBLOGO.EXE Utility (Under DOS):

1. Copy “CBLOGO.EXE”and “AWDFLASH.EXE” from the directory \Utility located on QDI Driver CD to your hard disk.
2. Get the BIOS file from “AWDFLASH.EXE” or Download the BIOS file from the Website (http://www.qdigrp.com) and copy the BIOS file(xxxxxx.bin) to your hard disk.
3. Boot the system into DOS environment, Put your favor picture into BIOS file by “CBLOGO. EXE” command. For example: CBLOGO.EXE xxxxxx.bin myphoto.bmp
4. Flash the BIOS to motherboard by “AWDFLASH.EXE”. For example: AWDFLASH xxxxxx. bin

B. Using QFlash (Under Windows):

1.Download the QFlash Utility from the Website (http://www.qdigrp.com) or get it fromQDI Driver CD.
2.Run QFlash program step by step, following the directions until complete it .
3.Reboot the system, you can see the new picture displayed on the screen.

Note: If you require more parameters information concerning “CBLOGO.EXE”, please refer to the online help. If you don’t prefer the logo displayed on the screen during bootup, set the “Show Bootup Logo” option as Disabled in CMOS Setup.

BIOS_ProtectEasy

The BIOS of the mainboard is contained inside the Flash ROM. Severe viruses such as CIH virus are so dangerous that it may overwrite the BIOS of the mainboard. If the BIOS has been damaged, the system will be unable to boot. We provide the following solution which protects the system BIOS from being attacked by such viruses.

There are two choices which implements this function.
1.Set the jumper (BIOS_WP) as closed, the BIOS can not be overwritten.
2.Set the jumper (BIOS_WP) as opened, meanwhile set “Flash Write Protect” as Enabled in CMOS Setup.In this way, the BIOS can not be overwritten, but the DMI information can be updated.

RecoveryEasy II

Introduction:

RecoveryEasy II — the latest edition of RecoveryEasy, providing a more easy-tooperate and more secure and reliable tool for backing up and recovering the hard disk data. It will make your data on the hard disk more secure, and make your computer more reliable. RcoveryEasy II will bring you invaluable experiences. It allows you to experience unprecedented security and reliability with its one-hotkey backup, one-hotkey recovery and powerful virus-free functions.

Features:

RcoveryEasy II has the following features:

⇨ **Secure Backup**

(1) Backup area can be reserved automatically in the High Memory Block (HMB) and all of partitions can be adjusted automatically .

(2) Backup area is invisible to any operating system and its upper software, making it impossible to be attacked completely.

⇨ **Ease to Operate**

(1) RcoveryEasy II is supported in both Chinese and English. You can easily enter Backup or Recover interface by simply pressing hotkeys. Backup or recover operation can be done with simple choices.

(2) User are not required to define the size of backup area. When backup start, it will automatically allocate an area in the High Memory Block (HMB) of hard disk as backup area upon the necessity of data storage, so as to improve the utilization of hard disk space.

⇨ **Adavantage Function**

(1) Multiform partition format can be supported in RecoveryEasy II, including FAT16, FAT32, NTFS etc.

(2) The capability of supportable Hard Disk is up to 137GB.

⇨ **Flexible Combination**

The hard disk data can be choosed to be protected and restored as required.

The following attachment is Backup and Recovery Function table:

Backup	Backup content	Restore content
Partition Table	Partition Table	Partition Table
System Partition	System Partition+Partition Table	System Partition, PartitionTable
Whole Disk	All Partitions+Partition Table	System Partition, PartitionTable, Whole Disk
CMOS Setup	CMOS Setup	CMOS Setup

Menu Language and Hotkey Selection

Please press “DEL” key to enter CMOS setup during the POST(Power On Self Test), then user can see [RecoveryEasyII Setting] items of the “QDI Innovation features” menu, in which the language on RecoveryEasyII interface and hotkey could be selected .

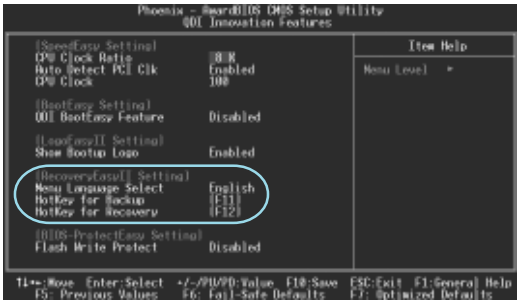


figure-1 QDI Innovation Features

1. Menu language Select

We provide two menu language for user to select, English is the default.

2 . Hot key for Backup

There are 12 options, including NULL and F2~F12. Key F11 is default. If NULL is selected, Backup interface can not be used with pressing hotkey. If you select one key of the rest 11options, you can enter Backup interface by pressing the hotkey you setup during POST.

3. Hot key for Recovery

There are 12 options, including NULL and F2~F12. Key F12 is default. If NULL is selected, Restore interface can not be used with pressing hotkey. If you select one key of the rest 11 options, you can enter Recover interface by pressing the hotkey you setup during POST.

Note: If the Backup hotkey and Recover hotkey have been set with the same key, the default will be Backup hotkey.

Hard Disk Selection Menu

If you installed the system with several IDE hard disks, and you have pressed the backup or restore hotkey during POST, hard disk selection menu will popup before you enter backup or recovery interface, in which all of the IDE hard disks installed on your system will be listed. You can scroll the high-light bar to the hard disk you want to work with using arrow key. Press ENTER to confirm, and the following operation will be performed on the selected hard disk:

figure-2 Hard Disk Select

Backup Function Introduction

Press Backup Hotkey to enter Backup Interface during the POST(Power On Self Test), then the follwing interface will appear. You can scroll the highlight bar to the option you want to work with using arrow key. Press ENTER to confirm.

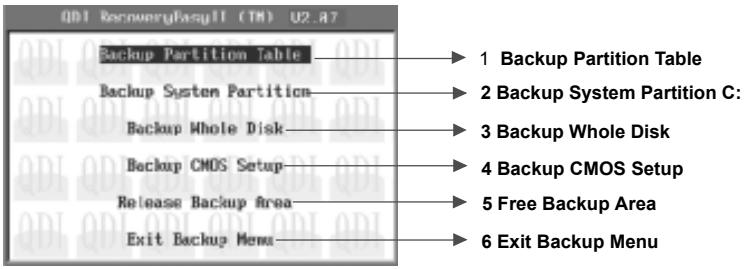


figure-3 Backup Interface

1 Backup Partition Table

It is used to backup partition table of current hard Disk. A partition table keeps the status of the hard disk partitions, such as the number of partitions, the type and size of each partition, etc. It is the most important information of the hard disk data structure. The incorrectness or loss of the table will result in the failure of reading data from the hard disk partitions.

2 Backup System Partition

It is used to backup the system partition of current hard disk. It makes a backup of the data in the bootable partition (actived partition) of current hard disk, as well as the partition table.

3 Backup Whole Disk

It makes a backup of all the useful data on the hard disk, including partition table and the data in all partitions.

4 Backup CMOS Setup

It is used to backup the settings you have made in the CMOS Setup.

5 Release Backup Area

It is used to unload the backup data on the hard disk, freeing the hard disk space.

6 Exit Backup Menu

It is used to Exit Backup Interface.

figure-4 Backup process

Recovery Function Introduction

Press Recovery Hotkey to enter Recovery Interface duringthe POST(Power On Self Test), then the follwing interface will appear. You can scroll the highlight bar to the option you want to work with using arrow key. Press ENTER to confirm.

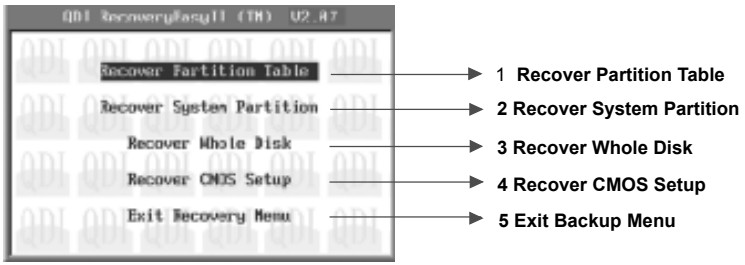


figure-5 Recover Interface

1.Recover Partition Table

It used to restore the partition table data stored in backup area to current Hard Disk.

2.Recover System Partition

It used to restore the system partition data stored in current backup area to current system partition. If current system partition doesn't match the backup system partition, a warning will be displayed indicating the recovery fails. This feature will only restore the bootable partition and contents in other partitions will be untouched.

3.Recover Whole Disk

It used to restore all the Hard Disk data stored in current backup area to current Hard Disk. This operation will restore the partition table and data in all partitions, as a result, existing data in current Hard Disk will be overwritten.

4.Recover CMOS Setup

This will restore the latest backup of the CMOS Settings you have made to the current CMOS.

figure-4 Recover process

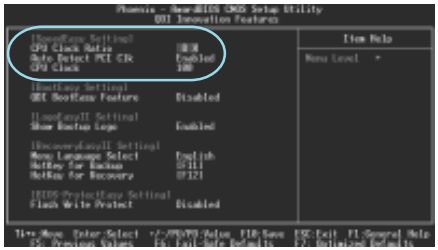
SpeedEasy

Procedures:

1. Correctly insert the your CPU.
2. Plug in other configurations and restore the system.
3. Switch on power to the system and press the <Del> key to enter BIOS Setup.
4. Enter “QDI Innovation features” menu to set up the CPU speed.
5. Save and exit BIOS Setup, your system will now boot successfully.

CPU SpeedEasy Setup Menu

Select <QDI Innovation features> item from the main menu and enter the sub-menu:



QDI Innovation features Menu

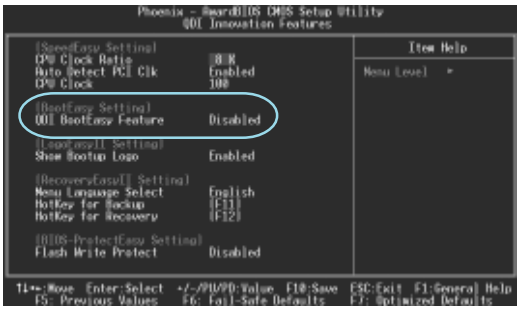
BIOS provides you with a set of basic values for your processor selection instead of the jumper settings. The processor speed can be manually selected on the “QDI Innovation features” menu screen.

Warning:

Do not set CPU frequency higher than its working frequency. If you do, we will not be responsible for any damages caused.

BootEasy

BootEasy technology enormously improves the long BOOT process time of computers. Reducing the wait time every user has to suffer when starting their computer. BIOS without BootEasy has to perform many routines every time when the system starts, such as checking system core of the computer and initializing system peripherals. Now with the BootEasy, BIOS will not run these repetitive Processes any longer , PC can boot-up without any redundant waiting for the displaying of starting OS. BootEasy is quite easy to use , choose the right option in CMOS SETUP, (refer to QDI Innovation features) it can be easily booted quickly. BootEasy save all the information when PC first normally boot-up, and it restores all the parameters for the system and thus let the PC boot freely and rapidly.



Note:

1. Under the following conditions, PC will boot-up in normal way.
   (1) PC boot-up for the first times after set option as Enabled.
   (2) The system information saved by BIOS was damaged.
   (3) PC fail to boot-up continually over three times.
   Setting the jumper BIOS_WP as open if you encounter the above conditions.
2. Don't power off or reset system while BootEasy initializing.
3. Set "QDI BootEasy Feature" as "Disabled" before you replace system equipment.set "QDI BootEasy Feature" as "Enabled" after you accomplished replacing.

Using 4/6-Channel Audio

The motherboard is equipped with Realtek ALC655 chip, which provides support for 6-channel audio output, including 2 Front, 2 Rear, 1 Center and 1 Subwoofer channel. ALC655 allows the board to attach 4 or 6 speakers for better surround sound effect. The section will tell you how to install and use 4/6-channel audio function on the board.

Installing the Audio Driver

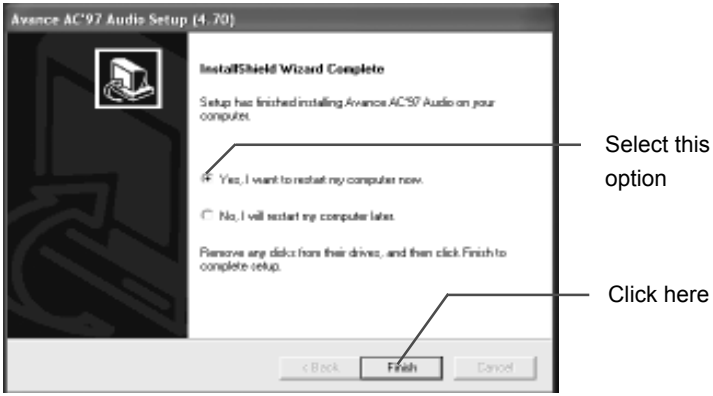
You need to install the driver for Realtek ALC655 chip to function properly before you can get access to 4-/6-channel audio operations. Follow the procedures described below to install the drivers for different operating systems.

Installation for Windows 98SE/ME/2000/XP

The following illustrations are based on Windows ® XP environment and could look slightly different if you install the drivers in different operating systems.

1. Insert the companion CD into the CD-ROM drive. The setup screen will automatically appear.
2. Select the Sound Driver.
3. Click **Next** to start installing files into the system.

4. Click **Finish** to restart the system.



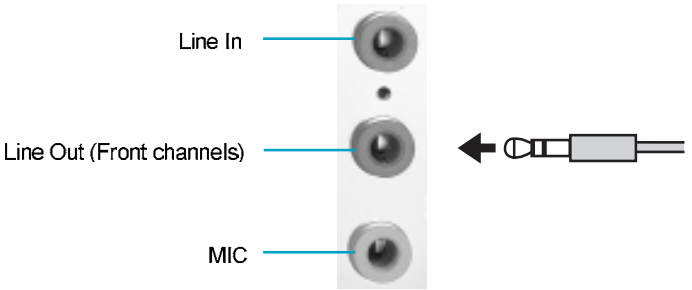
Attaching speakers

To perform multichannel audio operation, connect multiple speakers to the system. You should connect the same number of speakers as the audio channels you will select in the software utility.

2-Channel Analog Audio Output

The audio connectors on the back panel already provide 2-channel analog audio output function. The back panel's audio connectors can be transformed to 4/6-channel analog audio connectors automatically when you select correct setting in the software utility. For information about the setting, refer to Selecting 4- or 6-Channel Setting later in the section.

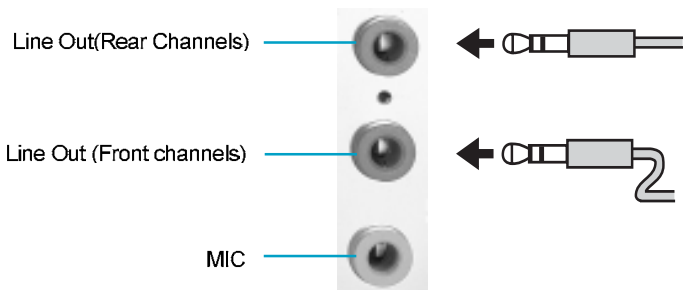
Make sure all speakers are connected to Line Out connectors. Diverse connector configurations for 2-, 4- and 6-channel using back panel connectors are described below:



Description:

Line Out, Line In and MIC functions all exist under 2-channel configuration.

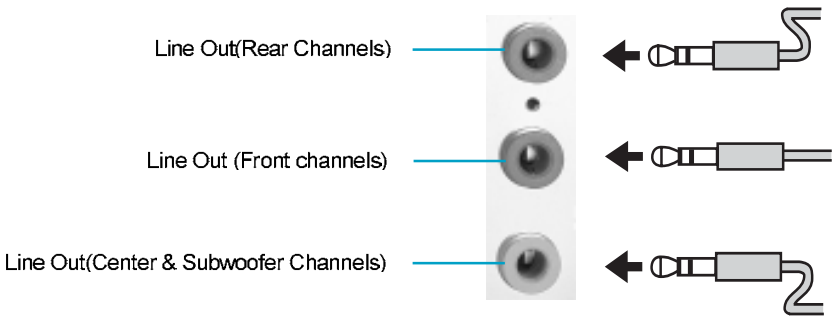
4-Channel Analog Audio Output



Description:

Line In is converted to Line Out function under 4-channel configuration.

6-Channel Analog Audio Output



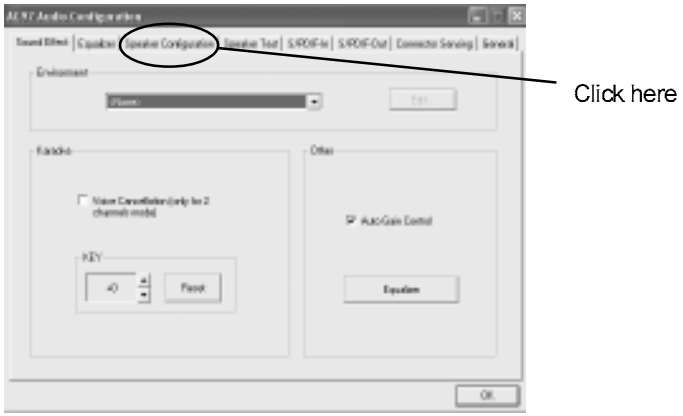
Description:

Both Line In and MIC are converted to Line Out function under 6-channel configuration.

Selecting 4- or 6-Channel Setting

1. Click the audio icon from the window tray at the bottom of the screen.
2. Select any surround sound effect you prefer from the “Environment” pull-down menu under the **Sound Effect** tab.

3. Click the **Speaker Configuration** tab.



4. The following window appears.

5. Select the multi-channel operation you prefer from **No. of Speakers.**
6. Click **OK**

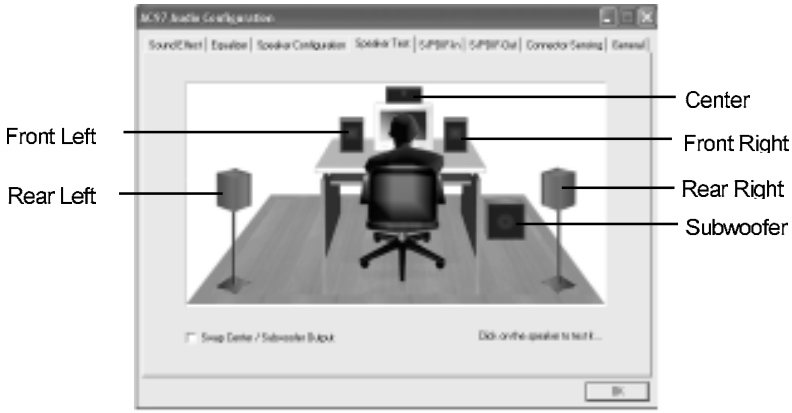
Testing the Connected Speakers

To ensure 4- or 6-channel audio operation works properly, you may need to test each connected speaker to make sure every speaker work properly. If any speaker fails to sound, then check whether the cable is inserted firmly to the connector or replace the bad speakers with good ones.

Testing Each Speaker

1. Click the audio icon from the window tray at the bottom of the screen.
2. Click the **Speaker Test** tab.

3. The following window appears.



4. Select the speaker which you want to test by clicking on it.

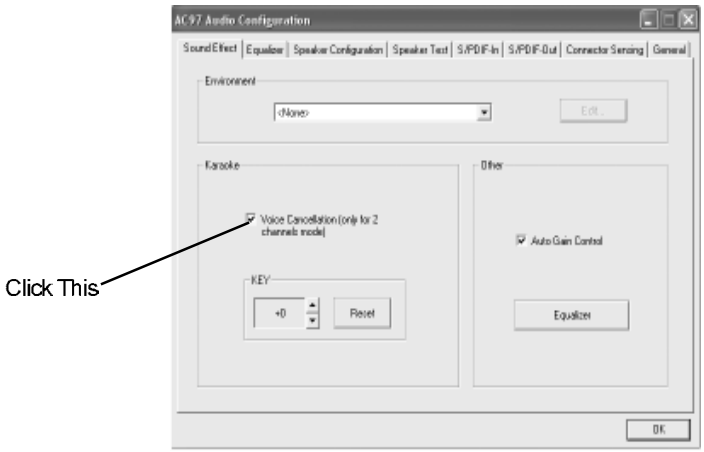
Playing KaraOK

The KaraOK function will automatically remove human voice (lyrics) and leave melody for you to sing the song. **The function is applied only for 2-channel audio operation,** so make sure "2 channels mode" is selected in the "No. of Speakers" column before playing KaraOK.

Playing KaraOK

1. Click the audio icon from the window tray at the bottom of the screen.
2. Make sure the **Sound Effect** tab is selected.

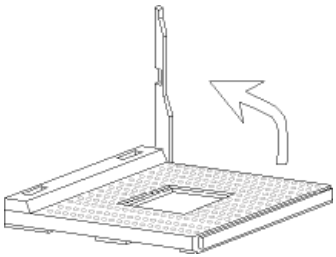
3. Select **Voice Cancellation** in the “Karaoke” column.



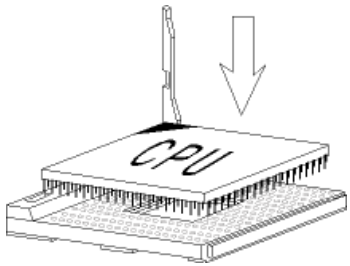
4. Click **OK**.

CPU Installation Procedures

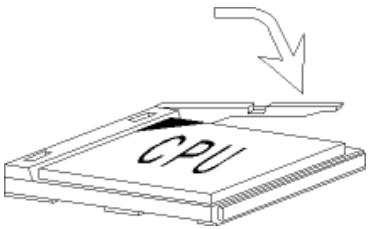
1. Pull the lever sideways away from the socket. Then, raise the lever up to a 90-degree angle.



2. Look for the cut edge. The cut edge should point towards the lever pivot. The CPU will only fit in the correct orientation. If the CPU is correctly installed, the pins should be completely embedded into the socket and can not be seen.



3. Hold the CPU down firmly, and then close the lever to complete installation.

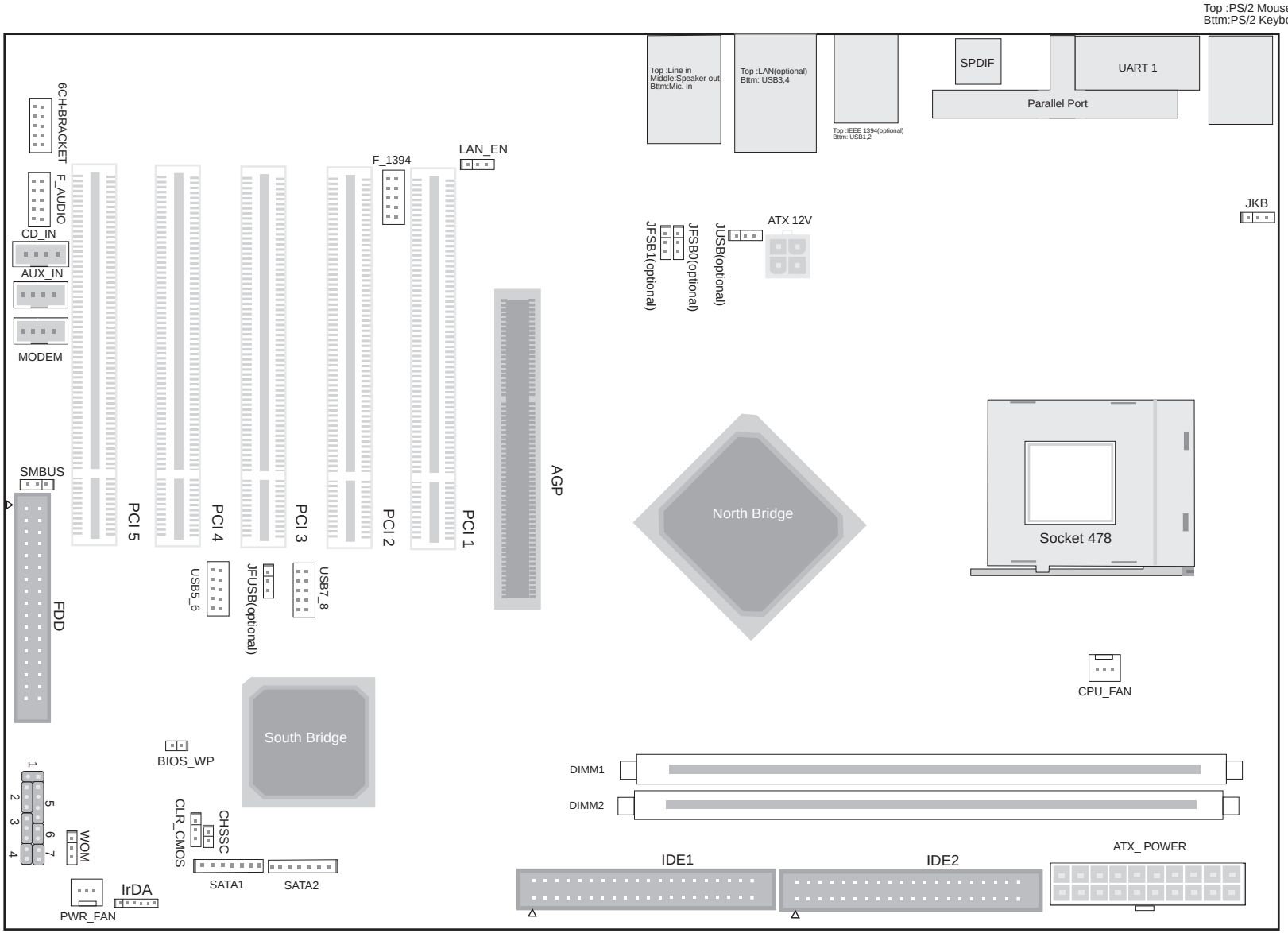


Warning: *Overheating will seriously damage the CPU and system, always make sure the cooling fan can work properly to protect the CPU from overheating.*

Mainboard Layout

P4I848P

Note:
The layout includes all options.
It is for your reference only.



Note: Pin1 for all jumpers are located on the side with black line.
1. HDD_LED 2. ACPI_LED 3. POWER SW 4. HDD-LED 5. SPEAKER 6. RESET 7.POWER LED