PI852

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Trademark

Disclaimer

FCC Compliance Statement

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. However, there is no guarantee that interference will not occur in a particular installation.

CE Mark

The device is in accordance with 89/336 ECC-ENC Directive.

PI852

Intel® 852GM & ICH4
Support Socket 479
Intel® Mobile Celeron® Processor

User Manual

Dimensions (Mini-ITX form-factor):
✧ 170 mm x 170 mm (W x L)

Operating System:
✧ Windows® XP/ 2000

Ver: EG102

Things You Have To Know

- ☙ The images and pictures in this manual are for reference only and may vary from the product you received depending on specific hardware models, third party components and software versions.

- ☙ This mainboard contains very delicate IC chips. Always use a grounded wrist strap when working with the system.

- ☙ Do not touch any IC chip, lead, connector or other components.

- ☙ Always unplug the AC power when you install or remove any device on the mainboard or when confuguring pins and switches.

Packing List

- ❖ PI852 Mainboard
- ❖ I/O Bracket
- ❖ Mainboard Setup Driver & User Manual CD
- ❖ Mainboard Quick Installation Guide

Symbols

Attention- Important Information

Follow the procedures below…

Troubleshooting Tips

Refer to other sections in this manual…

Table of Contents

Chapter 1. Getting Started

Introduction

Thanks for choosing PI852 Mainboard. It is based on Intel® 852GM Northbridge chipset and Intel® ICH4 Southbridge chipset. It supports Intel® Mobile Celeron® processors with FSB (Front Side Bus) frequencies of 400 MHz.

The PI852 provides one DIMM (Dual In-Line Memory Modules) socket. It allows you installing 184-pin DDR 266/ DDR 200 SDRAM which supports a total memory capacity of 1GB.

This mainboard provides one VGA (=D-Sub) connector, one Printer port (Parallel port), and three COM ports (Serial ports) on the back panel for use.

The PI852 provides one IDE connector for IDE hard drives, and one Mini IDE connector for Mini IDE hard drives both supporting Ultra ATA 100/66/33. Moreover, this mainboard comes with the Silicon® Image chip supporting two SATA connectors which provide up to 1.5 Gbps data transfer rates. In addition, one standard PCI slots for use with standard PCI expansion cards is also allowed.

The onboard AC' 97 audio codec supports high quality 6-channel audio play (Super 5.1 Channel Audio Effect) **(See Appendix I)** and supports the Sony/Philips Digital Interfaces (SPDIF) specifications (Optional).

The PI852 also comes with an onboard 10/100 Mbps Ethernet LAN chip. There is a LAN port on the back panel of your case that you can directly plug into an Internet cable.

There are maximal six USB2.0/ 1.1 ports which can be set up on this mainboard.

All the information (including hardware installation and software installation) in this manual are for reference only. The contents in this manual may be updated without notice. The company will not assume any responsibility for any errors or mistakes within.

Specification

CPU:
✧ Support Socket 479

✧ Support Intel® Mobile Celeron® processors

✧ Support Hyper-Threading Technology

✧ Support 400 MHz FSB (Front Side Bus) Frequencies

Chipset:
✧ Northbridge Chipset – Intel® 852GM

✧ Southbridge Chipset – Intel® ICH4

✧ I/O Controller – Winbond® W83627UHG

✧ AC'97 Audio Codec – Realtek® ALC655

✧ LAN Controller – Realtek® RTL 8100C

✧ SATA Controller – Silicon® Image Sil3512

Memory:
✧ One DIMM socket

✧ Supports DDR 266/ DDR 200 SDRAM

✧ Supports a total memory capacity of up to 1 GB

Onboard AC' 97 Audio CODEC:
✧ High performance CODEC with high S/N ratio (>90 db)

✧ Compliant with AC' 97 2.3 specification

✧ Support 6-channel playback capability (Super 5.1 Channel Audio Effect)

✧ Support 3D stereo enhancement

✧ Support Sony/ Philips Digital Interfaces (S/PDIF) functionality

Slot:
✧ One standard PCI slot for PCI standard expansion card

✧ Supporting one-way bandwidth up to 133 MB/s

IDE Connectors:
✧ One IDE connector for two IDE devices

- ✧ One Mini IDE Connector for two Mini IDE hard disk drives
- ✧ Supports Ultra ATA 33/66/100
- ✧ Supports high capacity hard disk drives

Serial ATA Connectors:

- ✧ Two SATA connectors
- ✧ Supports SATA 1.0 specification and with 1.5 Gbps data transfer rates
- ✧ One SATA connector can only support one SATA HDD

Onboard LAN Chip:

- ✧ 10/ 100 Mbps Ethernet LAN supported

I/O facility Connectors

- ✧ Supports one PS/2 mouse port and one PS/2 keyboard port
- ✧ One multi-mode Parallel Port is capable to support as the following:
    1. Standard & Bi-direction Parallel Port
    2. Enhanced Parallel Port (EPP)
    3. Extended Capabilities Port (ECP)
- ✧ Supports one VGA port (=D-Sub)
- ✧ Supports three serial ports (COM ports)
- ✧ Supports one LVDS connector, one S/PDIF header and one COM port header to connect compliant devices for use

Universal Serial Bus:

- ✧ Four onboard USB 2.0/ 1.1 ports
- ✧ One front USB header comes with this mainboard for additional two USB ports
- ✧ Support a maximum of six USB ports to connect USB compliant devices

BIOS:

- ✧ Phoenix-Award™ BIOS
- ✧ Support APM1.2
- ✧ Support ACPI 2.0 power management

Green Function:

✧ Supports Phoenix-Award™ BIOS power management function
✧ Supports system-wake-from-power-saving-mode by keyboard or mouse touching

Shadow RAM:
✧ Integrated memory controller provides shadow RAM functionality and supports ROM BIOS

Flash Memory:
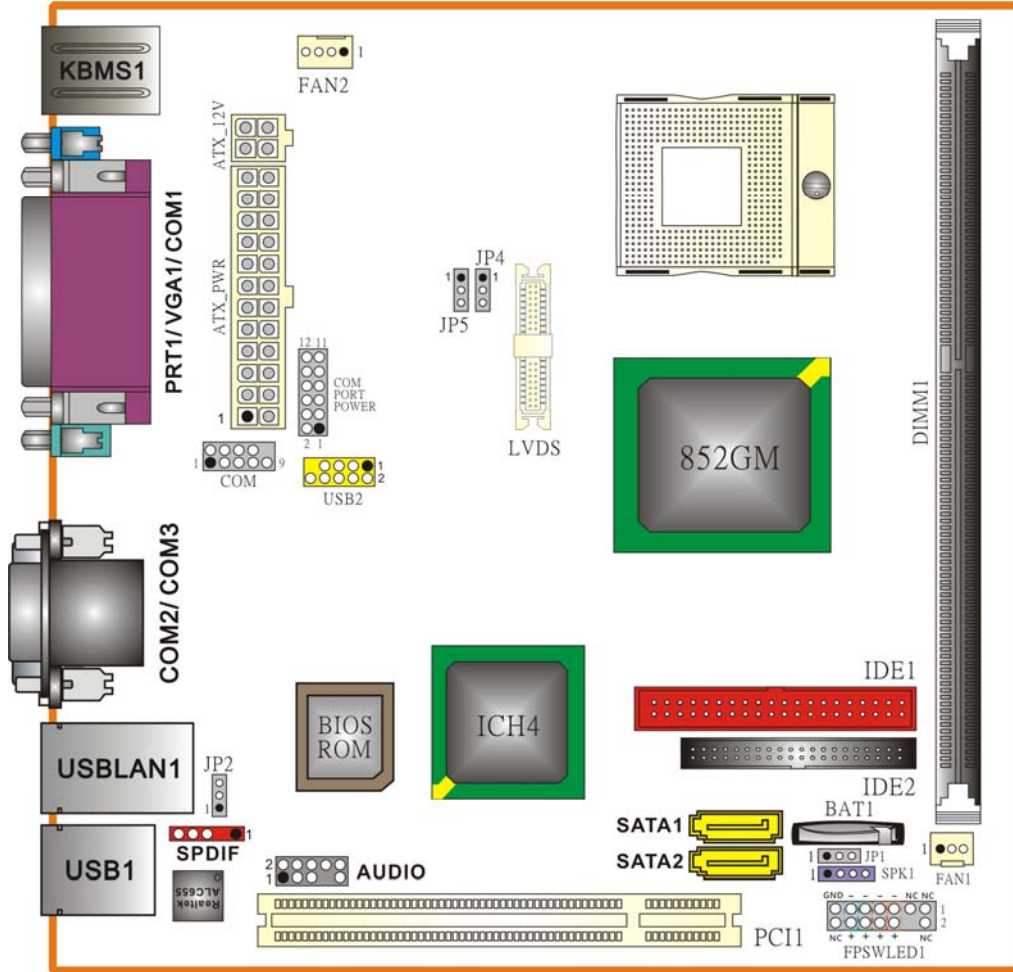✧ Supports flash memory functionality
✧ Supports ESCD functionality

Hardware Monitor Function:
✧ Monitors CPU/ Chassis Fan Speed
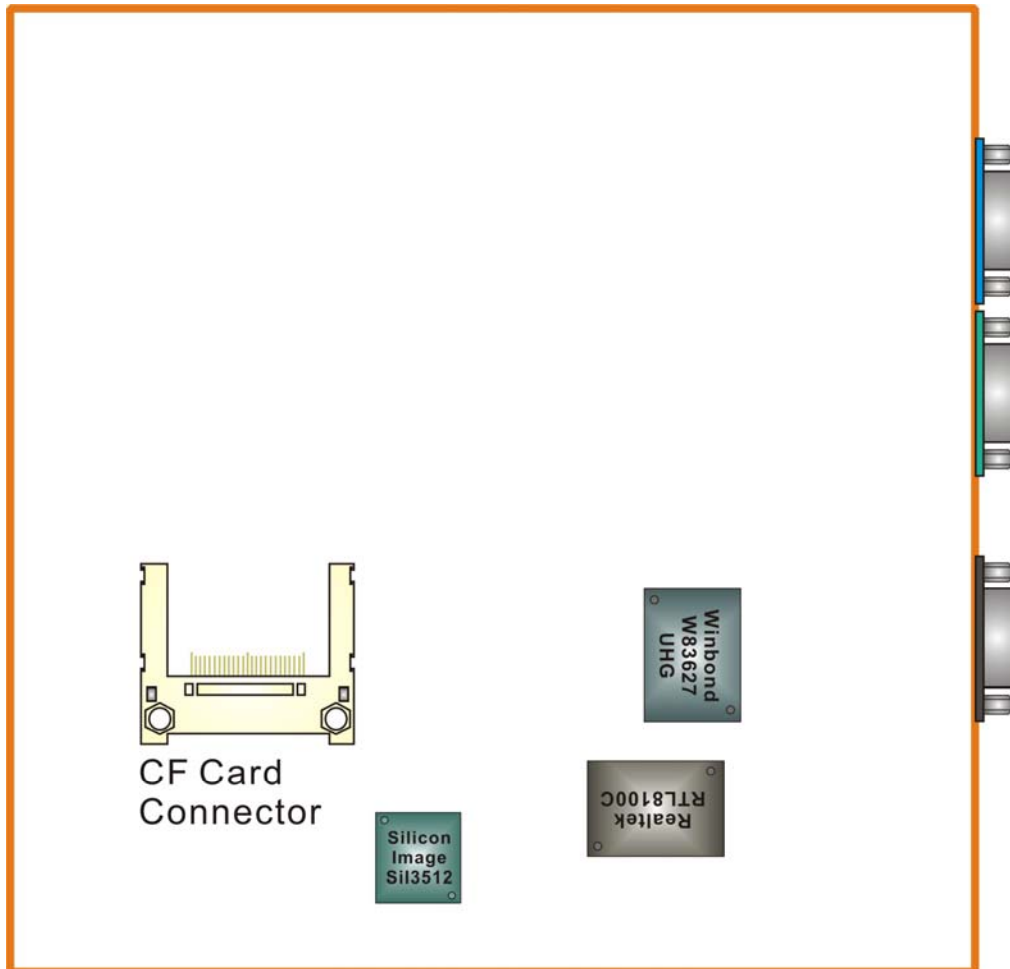✧ Monitors CPU and system temperature
✧ Monitors system voltages

Configuration
Layout of PI852 (Right Side)

Layout of PI852 (Back Side)

CF Card
Connector

Winbond
W83627
UHG

Realtek
RTL8100C

Silicon
Image
Sil3512

Hardware Installation

This section will assist you in quickly installing your system hardware. Wear a wrist ground strap before handling components. Electrostatic discharge may damage the system's components.

CPU Processor Installation

This mainboard supports Intel® Mobile Celeron® processors using a Socket 479. Before building your system, we suggest you to visit the Intel website and review the processor installation procedures. http://www.intel.com

CPU Socket 479 Configuration Steps:

1. Use a screwdriver to turn the screw counter-clockwise until the dot on the screw points to the "unlocked" sign. (3 o'clock position)
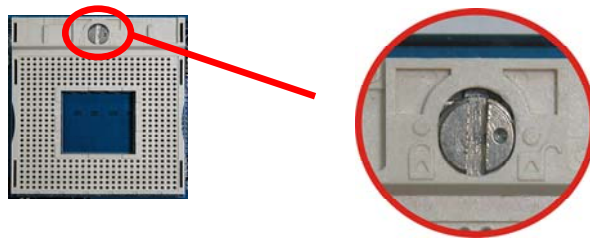
2. On the socket, locate the pin-1 receptor. Match the Pin-1 marker on the CPU with the pin-1 receptor of the socket and then gently lower the CPU onto the socket. Do not use force as it will result in bent pins.

Pin-1 Receptor

Pin-1 Marker

3. Next, turn the screw clockwise until it points to the "locked" sign (9 o'clock position) — this will lock the CPU into the socket.

7
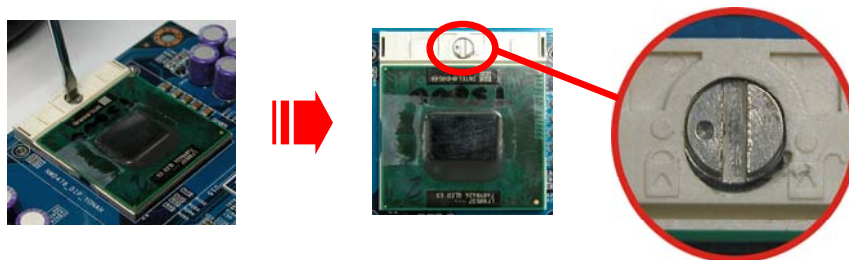
4. Smear thermal grease on the top of the CPU. Lower the CPU fan onto the CPU/ socket and secure it using the attachments or screws provided on the fan. Finally, attach the fan power cord to the **FAN2** header.
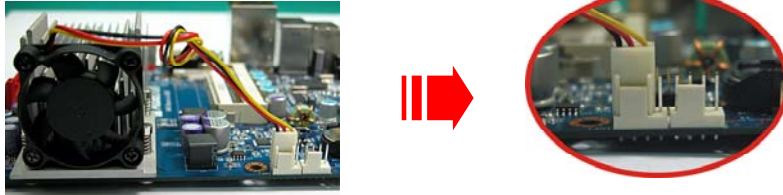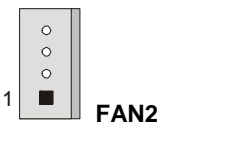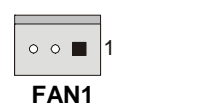

Attention

DO NOT touch the CPU pins in case they are damaged. Also, make sure that you have completed all installation steps before powered on the system. Finally, double-check that the cooling fan is properly installed and the CPU fan power cord is securely attached, in case your CPU and other sensitive components are damaged because of high temperatures.

FAN Headers: FAN1, FAN2

There are two fan headers available for cooling fans. These cooling fans play an important role in maintaining ambient temperatures in your system. The FAN2 header is attached with a CPU cooling fan. The FAN 1header is attached with another cooling fan.

Pin	Assignment
1	Ground
2	Power (+12V)
3	FAN RPM rate sense
4	Smart Fan Control

Pin	Assignment
1	Ground
2	Power (+12V)
3	FAN RPM rate sense

Attention

You can avoid damaging your CPU due to high temperatures with proper cooling equipment. It is recommended that attach a cooling fan on top of your CPU. Use the FAN2 header to attach the fan cord.

On most fan power cord, the black wire of the fan cable is the "Ground" and should be attached to pin-1 of the header.

Memory Installation: DIMM1

The PI852 provides one DIMM (Dual In-Line Memory Modules) socket. It allows you to install 184-pin DDR 266/ DDR 200 SDRAM that supports a total memory capacity of 1GB.

Memory Setup Steps:

1. Pull the white plastic tabs at both ends of the socket away.

2. Align a memory on the socket such that the notch on the memory matches the break on the socket.
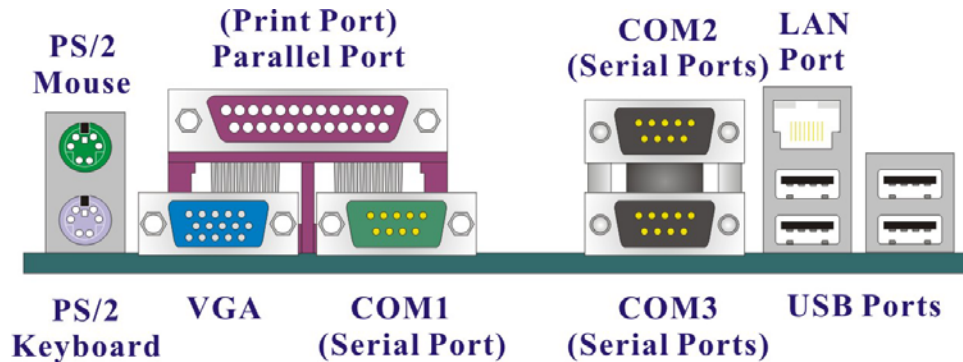

3. Lower the memory vertically into the socket and press firmly by using both thumbs until the memory snaps into place.

※   The pictures shown above are for reference only. The actual installation may vary depending on models.

Back Panel Configuration

PS/2 Mouse & PS/2 Keyboard Ports: KBMS1

This mainboard provides a standard PS/2 mouse port and a PS/2 keyboard port.

Serial and Parallel Interface Ports

The mainboard provides three serial ports and one parallel port on the back panel.

Parallel Interface Port: PRT1

The parallel port on your mainboard is a standard 25-pin one, and is used to connect a parallel printer.

The Serial Interface: COM1, COM2, COM3

This mainboard provides three serial ports (COM) on your back panel, and are used to connect mice, modem and other peripheral devices. Through these ports, you can also transfer data from your computer hard disk drive to other computers.

The VGA (D-SUB) Connector: VGA1

The mainboard provides one VGA connector (= D-Sub connector) on back panel.

VGA connector (= D-Sub connector) delivers the analogy signals, and is able to connect with traditional CRT display, flat display, or other display device which with the D-Sub interface compatible.

USB Ports/LAN Port: USB1, USBLAN1

There are four onboard USB 2.0/ 1.1 ports on the back panel. These USB ports are used to attach with USB devices, such as keyboard, mice and other USB supported devices. There is also a 10/100 Mbps Ethernet LAN port available for you to attach an Internet cable.

Front Panel Headers: FPSWLED1, SPK1

FPSWLED1

Pin	Assignment	Function	Pin	Assignment	Function
1	N/C		9	Power LED (-)	Power LED
2	N/C		10	Power LED (+)	(**ACPI_LED**)
3	N/C		11	Reset Control (-)	Reset Switch
4	Key		12	Reset Control (+)	(**RESET**)
5	Power Button (-)	Power-on Button	13	Ground	
6	Power Button (+)	(**PWR_BTN**)	14	N/C	
7	HDD LED (-)	Hard Drive LED			
8	HDD LED (+)	(**HD_LED**)			

Power-on Switch Header: PWR_BTN

This header can be attached to a power switch cable on your case front panel. You can turn your system on or off by pressing the button attached to this power switch cable.

Hard Drive LED Header: HD_LED

If your case front panel has a hard drive LED cable, attach it to this header. The LED will flicker when there is hard disk drive activity.

Power LED Header: ACPI_LED

These mainboards provide a 2-pin power LED header. If there is a 2-pin power LED cord on your case front panel, you can attach it to the 2-pin power LED header. Then the power LED will illuminate while the system is powered on.

Reset Switch Header: RESET

This header can be attached to a momentary SPST switch (reset button) cable on your case front panel. The switch is normally left open. When the switch closed, it will cause the mainboard to reset and run the POST (Power-On Self Test).

Speaker Header: SPK1

A speaker cable on your case front panel can be attached to this header. When you reboot the computer, this speaker will issue a short audible (beep). If there are problems during the Power On Self-Test, the system will issue an irregular pattern of audible beeps through this speaker.

Pin	Assignment	Pin	Assignment
1	PC_BEEP	2	N/A
3	Ground	4	+5V

Connectors

Hard Disk Drive Connectors: IDE1, IDE2

The mainboard provides one Mini IDE connector (IDE2) and one IDE connector (IDE1) that support Ultra ATA 100/ 66/ 33 IDE devices. You can attach a maximum of four IDE devices, such as hard disk drive (HDD), CD-ROM, DVD-ROM, etc. using IDE ribbon cables.

Standard IDE Connector: IDE1

In general, two IDE devices can be attached onto one IDE connector. If you attach two IDE HDD, you must configure one drive as the master and the other one as the slave.

Mini IDE Connector: IDE2

The IDE2 connector can also be attached with two Mini IDE HDD, and remember to configure one drive as the Master and the other one as the Slave as well.

Serial ATA Connector: SATA 1/2

The two SATA connectors support 1.5 Gbps data transfer rates, and one SATA connector only can attach one SATA HDD of each time using SATA cables.

CF Card Connector: CF Card Connector

This mainboard provides one CF Card (Compact Flash Card) connector. You can insert one CF Card as the mass storage devices for your computer system.

Attention

The Standard IDE Connector (IDE1) and the CF Card Connector (CF Card Connector) share one channel, so you cannot use both connectors simultaneously.

LVDS Connector: LVDS

This mainboard supports one 18-bit LVDS (Low Voltage Differential Signaling) connector. You can attach one flat panel display or other compatible display device.

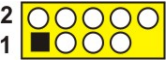| Assignment	Pin		Assignment
	LVDS		
12/5V	2	1	12/5V
GND	4	3	GND
3.3V	6	5	3.3V
GND	8	7	GND
BCKLITE_ON	10	9	BRIGHTNESS
LVDS_GND	12	11	LVDS_GND
CHB_TX0+	14	13	CHA_TX0+
CHB_TX0-	16	15	CHA_TX0-
LVDS_GND	18	17	LVDS_GND
CHB_TX1+	20	19	CHA_TX1+
CHB_TX1-	22	21	CHA_TX1-
LVDS_GND	24	23	LVDS_GND
CHB_TX2+	26	25	CHA_TX2+
CHB_TX2-	28	27	CHA_TX2-
LVDS_GND	30	29	LVDS_GND
CHB_TXC+	32	31	CHA_TXC+
CHB_TXC-	34	33	CHA_TXC-
LVDS_GND	36	35	LVDS_GND
CHB_TX3+	38	37	CHA_TX3+
CHB_TX3-	40	39	CHA_TX3-

Headers & Jumpers

Front USB Headers: USB2

These mainboards provide four onboard USB 1.1/2.0 ports (back panel) that attach to USB devices. There is one additional USB header that can be connected by cables to two more USB ports on the front panel of your case giving you a possible six USB ports.

Pin	Assignment	Pin	Assignment
1	+5V	2	+5V
3	USB-	4	USB-
5	USB+	6	USB+
7	Ground	8	Ground
9	Key	10	N/C

USB2

Attention

If you are using a USB 2.0 device with Windows 2000/XP, you will need to install the USB 2.0 driver from the Microsoft® website. If you are using Service pack 1 (or later) for Windows® XP, and using Service pack4 (or later) for Windows® 2000, you will not have to install the driver.

Serial Port Header: COM

This mainboard provides a COM header for you to connect an additional serial connector on your case back panel. Attach the cable of serial connector (Optional) onto this header, and then you can use the serial connector connecting with a mic, modem or other peripheral device.

Pin	Assignment	Pin	Assignment
1	Data Carry Detect	2	SerialIn or Receive Data
3	SerialOut or Transmit Data	4	Data Terminal Ready
5	Ground	6	Data Set Ready
7	Request To Send	8	Clear To Send
9	Ring Indicate	10	N/C

COM

Power for Back Panel Serial Port Headers: COM PORT POWER

This mainboard provides three COM Ports on the back panel. You can adjust the jumper caps on the COM PORT POWER header to +5V or +12V depending on the power requirements of the devices connected to the serial ports.

Port	Pin	Assignment
COM3 Power Header	Pin 1-2 Closed	+5V (Default)
	Pin 3-4 Closed	+12V
COM2 Power Header	Pin 5-6 Closed	+5V (Default)
	Pin 7-8 Closed	+12V
COM1 Power Header	Pin 9-10 Closed	+5V (Default)
	Pin 11-12 Closed	+12V

Power for LVDS Connector Header: JP4, JP5

When you connect one LVDS flat panel or other compatible devices, you must adjust the jumper caps on the JP4 and JP5 headers to enable this functionality. Please refer to the table below.

JP4	Assignment
Pin 1-2 Closed	LVDS Power +12V (Default)
Pin 2-3 Closed	LVDS Power +5V

JP5	Assignment
Pin 1-2 Closed	LVDS Power +5V
Pin 2-3 Closed	LVDS Power +3.3V (Default)

Note: "Closed" means putting a jumper cap onto two adjacent header pins.

USB Power On function Header: JP2

USB devices attached to the back panel USB ports can awaken the system from sleep mode. In order to enable this functionality, you must adjust the jumper cap on JP2 header for +5V or +5VSB mode depending on which USB port that the USB device is attached to.

JP2	Assignment	Assignment
Pin 1-2 Closed	+5V	USB Power On Disable (Default)
Pin 2-3 Closed	+5VSB	USB Power On Enabled

Note: "Closed" means putting a jumper cap onto two adjacent header pins.

Clear CMOS Jumper: JP1

The "Clear CMOS" function is used when you are unable boot your system and need to reset the BIOS settings (CMOS settings) back to the manufacturer's original settings. This is also a way to reset the system password if you have forgotten it.

JP1	Assignment
1 ▣ ○ ○ **Pin 1-2 Closed**	Normal (Default)
1 ■ ○ ○ **Pin 2-3 Closed**	Clear CMOS Data

Note: "Closed" means putting a jumper cap onto two adjacent header pins.

> The following steps explain how to reset your CMOS configurations when you forgot a system password.

1. Turn off your system and disconnect the AC power cable.
2. Set JP1 header to OFF (2-3 Closed).
3. Wait several seconds.
4. Set JP1 header to ON (1-2 closed).
5. Connect the AC power cable and turn on your system.
6. Reset your new password.

Audio Configuration

Audio Header: AUDIO (Optional)

This mainboard provides one Audio Port header which provides the basic audio capabilities; Mic-in, Line-in and Line-out.

Pin	Assignment	Pin	Assignment
1	SPEAK_OUT_R	2	MIC1
3	SPEAK_OUT _L	4	LFE_OUT
5	Ground	6	Ground
7	Key	8	LINE_IN_R
9	Ground	10	LINE_IN_L

SPDIF Header: SPDIF (Optional)

S/PDIF is a recent audio transfer file format, which provides high quality audio using optical fiber and digital signals. This mainboard is capable to deliver audio output and receive audio input through a SPDIF Card (Optional) with this header attached. You can just simply set the SPDIF Card on your case back panel, and attach the SPDIF cord and FRONT AUDIO cord onto specific headers on the mainboard. The RCA or TOS-Link connectors will be provided on the SPDIF Card and which are convenient you to output or input audio format files between your system and the SPDIF styled devices.

	SPDIF		
Pin	**Assignment**	**Pin**	**Assignment**
1	+5V	2	Key
3	SPDIF out	4	Ground
5	SPDIF in		

Slot

PCI Interface Slot: PCI1

PCI stands for Peripheral Component Interconnect, which is a bus standard for installing expansion cards such as network card, SCSI card, etc. to these PCI slots.

PCI1
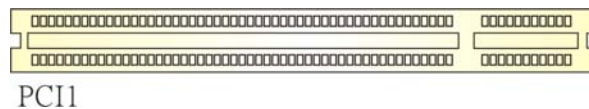
Power Supply Attachments
ATX Power Connector: ATX_PWR, ATX_12V

This mainboard provides two ATX power connectors, a 24-pin ATX_PWR connector and a 4-pin ATX_12V connector. You must use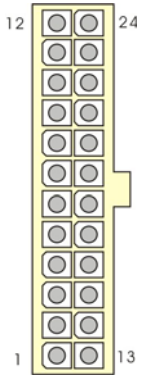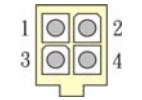 a power supply that has both of these connectors and both connectors must be attached before the system is powered on. These power connectors support several power management functions such as the instant power-on function.   The connector pins are described below.

Pin	Assignment	Pin	Assignment
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	Ground	15	Ground
4	+5V	16	PS_ON
5	Ground	17	Ground
6	+5V	18	Ground
7	Ground	19	Ground
8	PW_ON	20	-5V
9	+5V standby voltage	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	Ground
Pin	Assignment	Pin	Assignment
1	Ground	3	+12V
2	Ground	4	+12V

ATX_PWR

ATX_12V

Attention
In general, power cords are designed and should be attached with a specific direction. The black wire of the power cord is Ground and should be attached onto the header location of Ground.

Chapter 2. BIOS Setup

Introduction

This section describes PHOENIX-AWARD™ BIOS Setup program which resides in the BIOS firmware. The Setup program allows users to modify the basic system configuration. The configuration information is then saved to CMOS RAM where the data is sustained by battery after power-down.

The BIOS provides critical low-level support for standard devices such as disk drives, serial ports and parallel ports. As well, the BIOS control the first stage of the boot process, loading and executing the operating system.

The PHOENIX-AWARD™ BIOS installed in your computer system's ROM is a custom version of an industry standard BIOS. This means that it supports the BIOS of Intel® based processors.

This version of the PHOENIX-AWARD™ BIOS includes additional features such as virus and password protection as well as special configurations for fine-tuning the system chipset. The defaults for the BIOS values contained in this document may vary slightly with the version installed in your system.

Key Function

In general, you can use the arrow keys to highlight options, 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 within the BIOS Setup program.

Keystroke	Function
Up arrow	Move to previous option
Down arrow	Move to next option
Left arrow	Move to the option on the left (menu bar)
Right arrow	Move to the option 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 the option you desire
PgUp key	Increase the numeric value or enter changes
PgDn key	Decrease the numeric value or enter changes
+ Key	Increase the numeric value or enter changes
- Key	Decrease the numeric value or enter changes
Esc key	Main Menu – Quit and do 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

Keystroke	Function
F5 key	Load previous values from CMOS
F6 key	Load the defaults from BIOS default table
F7 key	Load the turbo defaults
F10 key	Save all the CMOS changes and exit

Main Menu
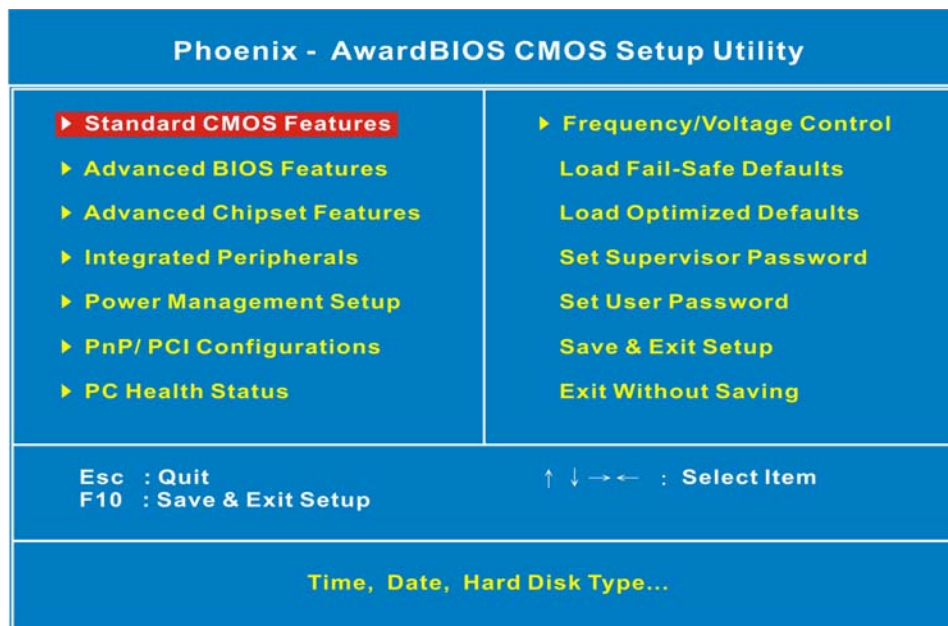
Standard CMOS Features

Include all the adjustable items in standard compatible BIOS.

Advanced BIOS Features

Include all the adjustable items of Award special enhanced features.

Advanced Chipset Features

Include all the adjustable items of chipset special features.

Integrated Peripherals

Include all onboard peripherals.

Power Management Setup

Include all the adjustable items of Green function features.

PnP/PCI Configurations

Include all configurations of PCI and PnP ISA resources.

PC Health Status

It is for monitoring the system status such as temperature, voltage, and fan speeds.

Frequency/Voltage Control

It is for you to specify settings for Frequency and Voltage Control, such as the CPU's clock and frequency ratio.

Load Fail-Safe Defaults

It can load Fail-Safe defaults except standard CMOS setup.

Load Optimized Defaults

It can load the preset system parameter values to set the system in its best performance configurations.

Set Supervisor Password

Set change or disable password. It allows you to limit access to the system and/or BIOS setup.

Set User Password

Set change or disable password. It allows you to limit access to the system.

Save & Exit Setup

Save CMOS value settings to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

Chapter 3: Software Setup

Software List

Category	Platform
Intel® Chipset INF	Windows XP/ 2000
Intel® VGA Driver	Windows XP/ 2000
Realtek® Lan Driver	Windows XP/ 2000
Realtek® Audio Driver	Windows XP/ 2000
Silicon® Image Sil3512 Driver	Windows XP/ 2000
Microsoft® DirectX9.0c	Windows XP/ 2000

Attention

You don't need to install the driver for USB 2.0 version if you are using Windows® XP with Service Pack 2 (or more advanced), or Windows® 2000 with Service Pack 4 (or more advanced).

Software Installation

Place the Driver CD into the CD-ROM drive and the Installation Utility will auto-run. You can also launch the Driver CD Installation Utility manually by executing the Intel.exe program located on the Driver CD. (For more details, please refer to the Readme.txt files that in each folder of the Driver.)

1. When you insert the driver CD into the CD-ROM, you'll see the screen as the picture below. There are several driver buttons displayed in the "Driver Menu" screen, and you can click on the drivers to install.
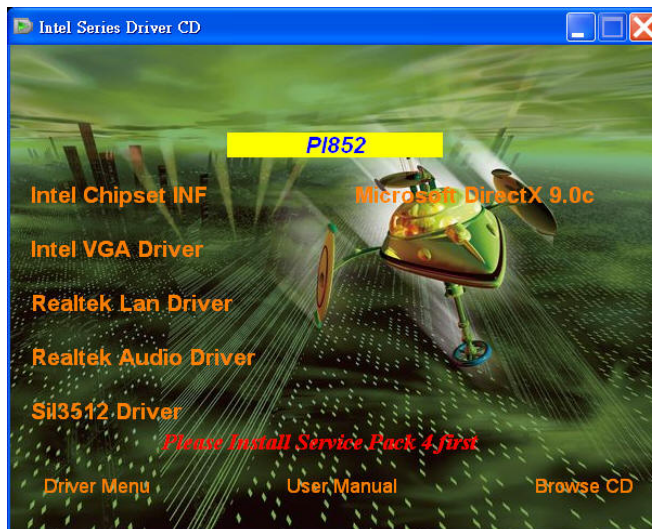
◎ The screen and images are only for general reference. The version of the screens you received with your software may vary slightly.

For Windows XP Driver
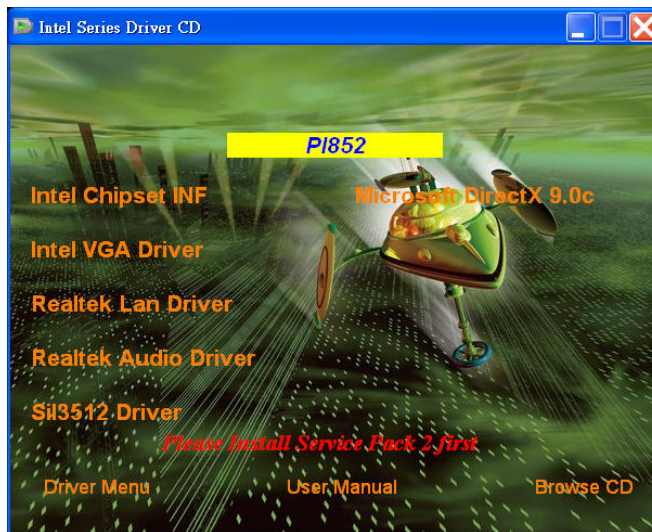
For Windows 2000 Driver

✦ **Intel Chipset INF** – It provides all drivers for the functions which built in both the Northbridge/ Southbridge.

✦ **Intel VGA Driver** – It provides the driver of Intel VGA.

✦ **Realtek LAN Driver** – It provides the driver of Realtek Network.

✦ **Realtek Audio Driver** – It provides the driver of Realtek AC'97 Audio CODEC.

✦ **Sil3512 Driver** – It provides the driver of Serial ATA controlled by Silicon Image chip.

✦ **Microsoft DirectX 9.0c** – It provides the software of Microsoft DirectX9.0c.

2. Click on the "User Manual" button, you can choose the manual to read.
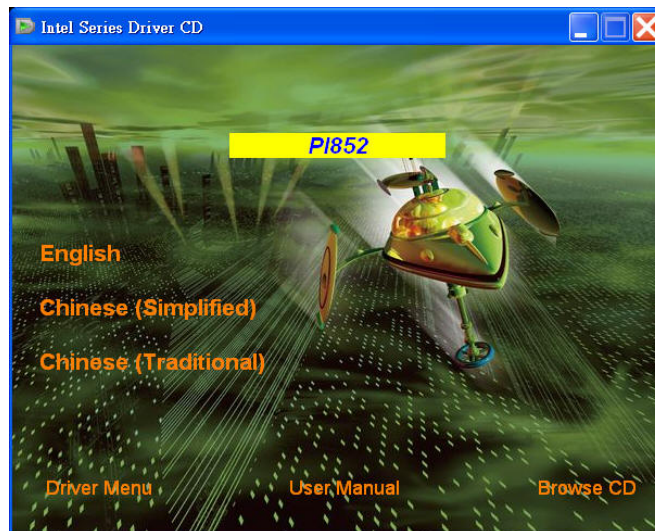
Attention:

Before you read manuals, you must install the driver of Adobe Acrobat Reader 6 to browse PDF files.

3. If you click the "Browse CD" button, you can browse all the files in the Driver CD.

Chapter 4: Troubleshooting

Problem 1:

No power to the system. Power light does not illuminate. Fan inside power supply does not turn on. Indicator lights on keyboard are not lit.

Causes:

1. Power cable is unplugged.

2. Defective power cable.

3. Power supply failure.

4. Faulty wall outlet; circuit breaker or fuse blown.

Solutions:

1. Make sure power cable is securely plugged in.

2. Replace cable.

3.Contact technical support.

4.Use different socket, repair outlet, reset circuit breaker or replace fuse.

Problem 2:

System inoperative. Keyboard lights are on, power indicator lights are lit, hard drive is active but system seems "hung"

Causes: Memory DIMM is partially dislodged from the slot on the mainboard.

Solutions:

1. Power Down

2. Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.

Problem 3:

System does not boot from the hard disk drive but can be booted from the CD-ROM drive.

Causes:

1. Connector between hard drive and system board unplugged.

2. Damaged hard disk or disk controller.

3. Hard disk directory or FAT is corrupted.

Solutions:

1. Check the cable running from the disk to the disk controller board. Make sure both ends are securely attached. Check the drive type in the standard CMOS setup.

2. Contact technical support.

3. Backing up the hard drive is extremely important. Make sure your periodically perform backups to avoid untimely disk crashes.

Problem 4:

System only boots from the CD-ROM. The hard disk can be read and applications can be used but booting from the hard disk is impossible.

Causes: Hard Disk boot sector has been corrupted.

Solutions: Back up data and applications files. Reformat the hard drive. Re-install applications and data using backup disks.

Problem 5:

Error message reading "SECTOR NOT FOUND" displays and the system does not allow certain data to be accessed.

Causes: There are many reasons for this such as virus intrusion or disk failure.

Solutions: Back up any salvageable data. Then performs low level format, partition, and then a high level format the hard drive. Re-install all saved data when completed.

Problem 6:

Screen message says "Invalid Configuration" or "CMOS Failure."

Causes: Incorrect information entered into the BIOS setup program.

Solutions: Review system's equipment. Reconfigure the system.

Problem 7:

The Screen is blank.

Causes: No power to monitor.

Solutions: Check the power connectors to the monitor and to the system.

Problem 8:

Blank screen.

Causes:

1. Memory problem.

2. Computer virus.

Solutions:

1. Reboot computer. Reinstall memory. Make sure that all memory modules are securely installed.

2. Use anti-virus programs to detect and clean viruses.

Problem 9:

Screen goes blank periodically.

Causes: Screen saver is enabled.

Solutions: Disable screen saver.

Problem 10:

Keyboard failure.

Causes: Keyboard is disconnected.

Solutions: Reconnect keyboard. Replace keyboard if you continue to experience problems.

Problem 11:

No color on screen.

Causes:

1. Faulty Monitor.

2. CMOS incorrectly set up.

Solutions:

1. If possible, connect monitor to another system. If no color appears, replace monitor.

2. Call technical support.

Problem 12:

The screen displays "C: drive failure."

Causes: Hard drive cable not connected properly.

Solutions: Check hard drive cable.

Problem 13:

Cannot boot the system after installing a second hard drive.

Causes:

1. Master/slave jumpers not set correctly.

2. Hard drives are not compatible / different manufacturers.

Solutions:

1. Set master/slave jumpers correctly.

2.Run SETUP program and select the correct drive types. Call drive manufacturers for possible compatibility problems with other drives.

Problem 14:

Missing operating system on hard drive.

Causes: CMOS setup has been changed.

Solutions: Run setup and select the correct drive type.

Problem 15:

Certain keys do not function.

Causes: Keys jammed or defective.

Solutions: Replace keyboard.

Appendix I: Super 5.1 Channel Audio Effect Setup

Channels Setup

1. After starting your system, click the Sound Effect Manager icon [icon] from the tool bar on the desktop. You can also find the icon by going to Start-> Setting -> Control Panel.

2. Click the Speaker Configuration button. One of the screens will display as shown below.

3. You can choose a 2, 4 or 6 channel (speaker) system.

2 Channels	4 Channels	6 Channels

Super 5.1 Channel Audio Effect

This mainboard comes with an ALC655 Codec which supports high quality 5.1 Channel audio effects. With ALC655, you are able to use standard line-jacks for surround audio output without connecting to any auxiliary external modules. To use this function, you have to install the audio driver in the bonus Pack CD as well as an audio application supporting 5.1 Channel audio effects. See the audio Port Connectors in the Hardware Installation section for a description of the output connectors.

Speaker Test

Make sure the cable is firmly into the connector.

1. Click the audio icon [icon] from the Windows screen.

2. Click Speaker Test button, you can see the screen like the pictures below.

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

2 Channels	4 Channels	6 Channels